



One hundred and thirty years from the birth of a medical lieutenant colonel and academician Kosta Todorović: warrior, physician, scientist... humanist

Stotrideset godina od rođenja sanitetskog potpukovnika i akademika Koste Todorovića: ratnik, lekar naučnik... humanista

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“I admit that I am very sorry and will regret the departure of Dr. Kosta Todorović from the Army, but I will bewail as the soldier and his former chief; but as a Serbian and physician, I may not be sorry just because I am convinced that Dr. Kosta at this Serbian pet child – our young Faculty of Medicine, will be the honor and pride of our complete medical branch, that he will from that position even more be useful for the general cause and his own war fellows, among whom he has been such nicely nurtured”¹.

Introduction

At the beginning of July 2017, one hundred and thirty years passed from the birth of a founder of the Yugoslav infectious disease, a participant in the Balkans War and the First World War, a medical lieutenant colonel and an academician, but above all a patriot and humanist, Prof. Dr. Kosta P. Todorović. The subject of the paper is an attempt to indicate his scientific contribution, especially as a member of military medical corps, in the field of infectious illness, epidemiology and bacteriology, but also regarding his pioneer contribution to the foundation of the sociology of health and diseases, not only with us. The scientific goal is the more comprehensive perception of the personality and work of this great scientist, physician, humanist and war medical officer, contributing to studies in the field of history of medicine and history of sociology of health and illness.

The historical approach was implemented primarily in this research. Regarding the operational method, a quantitative content analysis was used both for the archive material and original works of professor Todorović, but also for the works which others wrote about him.

Growing up, education, idealism formed at the period

The academician Kosta Todorović was born in Belgrade, on 5 July 1887, from the father Pavle, a veterinarian and the mother Brigitte de Piliány, a Viennese by birth, as the third child in the family with thirteen children born, of which nine survived. Due to his father's profession, who was transferred from the place to place according to the needs of the service, he finished the primary school in Vranje and he attended the first two grades of the grammar school in Knjaževac (there was no grammar school with all grades at the time in this city), then in Zaječar, where he graduated in 1906. He was excused from the final examinations since he was an excellent pupil during his schooling. He had to live alone in Zaječar for some time, separated from the family, subsisting by teaching German². He had a rather clear picture of the ideals he stood up for already as a secondary school leaver, which is obvious from his speech at the St. Sava School Leaving Ball held in the Guildhall in Zaječar on 27 January 1906: “It is an undeniable truth that the future of a nation is reflected in its youth and if the youth is more prepared for the life, if it is animated with a national feeling, then it will bet-

ter understand the hard task awaiting them in future life...". The Ball also had a humanitarian character, since assets for the school leaving trip should be gathered, and its goal could be seen in the words of the secondary school leaver Todorović: "Even the smallest sacrifice from your side is given for the noblest deed: for meeting our landscapes, saturated with blood and seeded with bones of our forefathers. How big a fire will make the damped spark of patriotism when they see: Mostar, Deligrad, Varvarin, Ravnje, Ljubić, Dublje, sad Kosovo, proud Bosnia, rugged Herzegovina, oppressed Macedonia and old Serbia? All that will surely influence the gentle soul of a young man, feeding it with self-confidence and enthusiasm, so much needed in these gloomy days for our Serbian cause, because Serbia may not expect a smile of a ruddy dawn and a clear sky over the agonized Serbs until it started to grow such sons"³. In the self-analysis of his speech, 63 years later, academician Todorović indicated to the agony of the Serbian people under the Ottoman authority, as well as the fact that under such hard circumstances the people had preserved a freedom-loving spirit and belligerence, concluding that these were "the basic elements for establishing a life philosophy of our men of that region and time"³. He simultaneously indicated to the ignorance ruling the society, to the lack of contacts of broad masses with developed countries of the world, as well as that "literacy during the slavery had been kept only in churches and monasteries, were not only the preserved monuments of the previous power and greatness of the Serbian state, but also the strongholds of the national consciousness and pride"³. In this work, he pointed out that his generation had suffered great temptations and had achieved their ideals through the foundation of Yugoslavia, the common state in which all South Slavs were united. We can notice in this autobiographic contribution of the academician Todorović several of his virtues manifested already in this period of being a secondary school leaver, faithful to them to the end of his life. These were: feeling of national ties in the moments when the Serbian people was oppressed (not only in the sense of political oppression but also socially oppressed: kept illiterate, ignorant, in general misery and poverty) and patriotic feelings for his country¹, Yugoslavianism as an orientation and a great confidence in the youth as bearers of its future and progress, visionary encouraging and supporting them to specialize in various fields of infectious disease, especially those that were risky, because these were absent for a long time and had not enough attention in education. Due to this characteristic of the academician Todorović, Yugoslavia was able to face readily the epidemic of smallpox in 1972.⁴⁻⁸

Ready to serve to his people and the Homeland, young Kosta Todorović became a scholarship holder of the Ministry of Military in 1906 and graduated from the studies of medicine in Graz, where he was promoted to the physician of general practice on 23 March 1912. Just in time to become involved in the

wars ensued for Serbia and to help his people in the best possible manner – by curing them. During the studies in Graz, he participated in the foundation of the Association of Yugoslav Medical Students in 1909. According to the Todorović's testimony, the association was founded on one hand as a reaction to discrimination of German students concerning the others, and on the other hand, as the need that students – Slovenians, Croats and Serbs - felt for mutual rapprochement in the professional field, but with clear presence of the idea of Yugoslavianism⁹. Between the two World Wars, Dr. Kosta Todorović also took part in establishing a joint Yugoslav Physician Society, the president of which was Dr. Milan Jovanović Batut. He considered that it presented accomplishment of the "a long standing wish of Serbian physicians, members of the Serbian Physician Society, to unite in their noble work with the members of existing physician societies in Croatia, Slovenia, Bosnia and Herzegovina, Montenegro, Macedonia and Dalmatia", but also indicating that "this idea existed before, even before the Balkan Wars, obtaining its form even in 1909 when the Association of Yugoslav Physicians was established from the physicians' progeny – the Yugoslav medical students in Graz"⁷.

Participation in wars, suppression of great national plagues, scientific works conceived at front

In the First Balkan War, he was allocated as the physician of the Third Field Hospital of the Timok Division of the first requisition. Since then, he participated in all the wars that Serbia fought for liberation and unification in various medical posts – the regimental physician of the Timok horse regiment of the first requisition, the physician of the Timok permanent military hospital, the regimental physician of the XVIII infantry regiment, the Danube horse regiment of the first requisition, XIII infantry regiment "Hajduk Veljko", the physician in the Central Military bacteriological laboratory in Thessaloniki, founded and managed by the famous Polish scientist Dr. Ludwik Hirszfild (1884–1954), the chief of the Bacteriological Laboratory of the II Army, at service in the I and the II bandage place of Sumadija regiment and the II bandage place of the Timok regiment, the director of Dubrovnik temporary military hospital, the acting Chief of the Timok permanent military hospital and the Chief of the Internal Department of the same hospital. In 1924, on his personal request, he was transferred from his last post with a rank of medical lieutenant colonel to civilian medical service¹⁰.

A year before the end of his life, summarizing the influences shaping him as the person, the academician Todorović pointed out: "The Army had an unusual positive influence on me... the Army thought me a disciplined work, appropriate fulfillment of obligations, complete and conscious surrender to a task. The Army relies on a healthy and useful principle: it can only help a smart person. I should thank a great deal to this self-discipline gained in the Army for the later results in my work, as a clinical physician, as a University professor and as a scientist-researcher"¹¹. This statement of Dr. Todorović is certainly sincere and truthful. If his early works published in the "Serbian Archive" are viewed, they are mainly the result of his work as a physician and simultaneously scientific-research work during the First World War. In that sense, the statement is correct but

¹According to the judgement of the author, three categories of individual's feelings for the community should be distinguished, one of them being very harmful – chauvinism, and the other two are not harmful, but may be very beneficial⁴. At that, nationalism is the love for the nation and patriotism is the love for the country⁵ and here congruency may or may not exist, depending if the issue is the identity state-nation or multinational state.

incomplete in that that Kosta Todorović “designed his works standing by sick-bed”¹². It should be added – at the front also. He gained his first war experience in the First Balkan War. The Timok Division, where he was the physician in the third field hospital as a medical captain of the 2nd class, was facing different infectious diseases during the siege of Adrianople, mostly with epidemics of dysentery, typhoid fever and cholera that reigned in Bulgarian and Turkish armies “which were very soon transferred to Serbian divisions. Objectively, poor dwelling conditions facilitated the appearance of the diseases (weather conditions and accommodation), but a part of the problem was in the unpreparedness of medical corps to fight the challenges in such a complex situation in which it was. Negligence regarding the development of military prophylaxis that lasted for decades, burdened the Serbian Army even in the peacetime, emerged for the first time in war conditions in its full actuality”¹³. Dr. Kosta Todorović pointed out this just after the end of the Second Balkan War in the questionnaire of the Serbian Red Cross regarding the role of that organization in Balkan Wars: “When dangerous infectious diseases appeared (especially cholera, Typhus exanthematicus), the help of the Red Cross was arriving late. It would be good to have a considerable number of Deker’s barracks and the complete hospital accessory (beds, blankets, warm socks) in order to be able to subvene immediately. The fast help – is the double help”¹⁴. Zealously performing his duty in very complex epidemic conditions, young Dr. Todorović had two roles in one moment – he was a physician and a patient. Healing others, he went down with Typhus exanthematicus. “When I came home for recovery, even my own mother did not recognize me, it was such an illness”¹¹. This experience directed him to study infectious diseases.

In his first work published in the referred magazine just after the end of the First World War in 1919, Todorović presented conclusions that he reached regarding the epidemic of cholera among the Serbian army in the Rrashbull Camp at the beginning of 1916, where his unit was located. “Rrashbull Camp provided a picture of a filthy and a polluted place. Apart from the wasted food, clothes and footwear, the whole camp was polluted with human feces. The troops were located there for a short period, ready to start for Durres as soon as a transport vessel arrives. The smallest attention was not paid to the cleanliness of the camp. Several fresh barrows and crosses marked graves of soldiers that had died in the camp. The troops of a new echelon arrived to such polluted camp. The soldiers of the 9th, 18th and horse regiment occupied all the places and tented, like the troops before them. There was no place for chambers of this echelon in the meadow. They had to be located in a field, where no one before had camped...”¹⁵.

Todorović in his text then indicated that after three days the soldiers started to go down with Asian type of cholera. However, he noticed that only the soldiers located in the meadow went down, the same space where the earlier troops were located, while no-one went down among the soldiers located in the field that had not been used for camping before. Considering what might be the source of the plague, he excluded both the food and drinking water, although he considered that drinking water was “much more suspicious”. “Muddy, due to intensive pumping, polluted with mud and surface water with alot of

scraps and distasteful – water was rightfully considered to be dangerous. Was it polluted in this case, was it the cause of going down with cholera? The answer to this question with a great probability would be yes. However, if the drinking water was the source of the plague, would not there appear many cases of cholera among the soldiers? If not all, but the majority of soldiers should go down since they all had drank water from the same well”. Considering the referred facts, he concluded that the illness was transferred “indirectly, from the polluted soil”, warning on the differences regarding the (not) going down of the soldiers that were located in the previously used space and in the space that was not used before for camping, “although that part of the echelon had the same food and water, lived under the same circumstances, endured the same efforts as the others. Pollution of the Rrashbull Camp by human feces was an obvious danger to the health of soldiers and fresh barrows indicated that there were soldiers dying in the camp in the previous echelons. If we connect these two and add a sporadic appearance of cholera – we shall get a clear picture of the infection from the polluted terrain”. This was a decisive conclusion about the polluted terrain and location of troops “that had to camp in the same place where other troops had camped before them, in spite of the known principles of military sanitation”¹⁵. He admitted that he could not make a bacteriological test for this diagnosis, but the clinical picture was completely clear. Since Todorović had graduated at one of the most prestigious medical faculties of the period, he was familiar with the work of Louis Pasteur (1822–1895) regarding anthrax and his famous neologism *les champs maudits* regarding the grazing land previously infected with anthrax bacillus, where infected cattle had dunged, or infected animals were dying and were left to rotten, so that the disease was transferred to healthy cattle and from them to people. Todorović considered that Pasteur was a “genius”, holding that “infectious diseases became the subject of thorough discussions only after Pasteur”⁸. It is no wonder that he reasoned the conclusion about cholera in the Rrashbull Camp by the implementation of analogy concerning the Pasteur’s argumentation regarding the spreading of anthrax.

Kosta Todorović was a regiment physician who was able to treat a huge number of Serbian soldiers diseased from malaria during 1916–1917. He applied the quinine therapy, not only in treatment but also in prophylaxis, testing how much it would be successful. He published the results of his researches after the end of the war¹⁶, establishing the prophylactic use of quinine as beneficial, “when it is performed properly”. In the already mentioned letter to Prof. Dr. Dj. Nešić about the success of Kosta Todorović in the treatment of diseased from tropical malaria, Dr. S. Popović wrote among other things: “the vast number of our agonized healed after injections of Dr. Kosta and were again ready to fight. You also, Mr. Nešić, together with me, as well as many of our colleagues, were coming to Novoselce, to the troop physician of the XIII infantry regiment, to the captain Dr. Kosta Todorović, to get informed about the famous training work of Kosta, regarding suppression and treatment of tropical malaria, which choked us in those swamps of Moglen... All these people, almost without exemption, were successfully treated only in the front in our famous bandage places according to the instructions of Dr. Kosta Todorović, which he was giving in silence from

Novoselce”¹. Certainly, Todorović’s credit reflects also on the fact that he created or systematically was taking a series of preventive and anti-epidemic measures regarding the improvement of soldiers’ hygiene, control of water that soldiers were drinking, suppression of lousiness, etc.. Everything was done in almost impossible conditions in which the Serbian army was on the Thessaloniki Front. In his explanation of malaria epidemic in the Serbian Army located near Topcin, he provided a “good description of Moglen valley”¹⁷, considering geographical, hydrological and vegetational conditions at that place to be extremely favorable for the development of the epidemic. This epidemic, in the suppression of which he directly participated, left a deep trace in his life and research work, so that he remembered it for decades. Not only he was gathering medically relevant knowledge on the basis of the acquired empirical insights, but also he left valuable evidence on the heroism of a small, brave nation, outcast from the country, fighting to return to it and liberate it from the conquerors. “Let us mention only the number of diseased from malaria. It was so great during summer and in autumn that in companies, batteries and other units only a dozen of healthy soldiers remained, while diseased – expressing this as a personal experience – did not leave their units and their arms would be engaged in their combat functions as soon as fever stopped”^{11, 18}. He did not exclude his evidence on the fallen was comrades and their ideals, “the scene experienced at Kajmakčalan after the end of the battle”¹⁹, while the description of the tenacity in motives and character and the resolution in accomplishing the goal of regaining the freedom for their own country and liberation of enslaved Serbs, the modesty of Serbian soldier, the gusle-instrument transferring a “distant message”, he left for Raoul Labry, the administrative officer of the French army, who retreated with the Serbian army across Montenegro and Albania, keeping a diary starting from March 1915. Todorović translated and published an abstract from that diary²⁰.

Todorović pointed out in both his works^{15, 16} to the social factors contributing to the outburst of infectious disease epidemics. In the first case, they were military rules for choosing a camping site, in the second case these are, among others, zoning reasons: insanitary dwellings (e.g., absence of sewerage), their proximity, both mutual and with the Serbian army troops; low level of health organization reflected in the fact that the inhabitants of those places at Moglen field were chronically untreated malaria sufferers (“Locals are the main source of the infection, mosquitoes are transmitters”¹⁶); the professions of the people requiring increased physical efforts – inhabitants were predominantly farmers, while soldiers were exposed to great efforts in combats, especially during the summer months and in autumn, when the number of diseased was increasing; lack of medical and culture in general. The inclusion of social factors into the consideration of the problem of epidemics of the infectious diseases was not by accident for Dr. Todorović. He pointed out their importance also in his inaugural when taking over the Department for infectious diseases at the newly founded Belgrade Medical Faculty and when he was appointed the director of the Infectious clinic in 1926. “Transfer of infectious diseases was supported by a close contact of certain communities, especially by movement of greater masses, like migrations or wars. War luck was often determined by losses due to war infections and

until recently war infections were causing much greater losses than combat weapons”^{21, 22}. He considered them to be so important that in his famous textbook he explicitly stated that a contemporary physician may not lose sight of the “influence of social factors on the emergence of acute infectious diseases”. He rated among those factors “various customs, superstitions, habits”, “profession of the diseased” that “often gives the reason for infection and for the disease”^{8, 15}, “social position” that had an “undeniable influence to the outbreak of certain infectious diseases. Some of them occurred more often among the poor, other ones among the wealthy. Certain diseases were rare among village people, more often among citizens. Homeless people and people without a profession, without the most required conditions for a sanitary life, more often went down due to acute infectious diseases than other people. People that did not pay enough attention to body cleanliness, changing clothes and bedding, and people that came in contact with such people, were more exposed to the danger of getting infected and going down with various infections, transmitted by lice, fleas, bedbugs and other insects (Typhus exanthematicus, Typhus recurrens and others)”^{8, 15}. With such attitudes, Dr. Kosta Todorović is certainly the founder of medical sociology (sociology of health and disease) with us, significantly before this discipline is considered to be established in the world. He was among the first who noticed and clearly showed the influence of social factors on the health of and illness in people²³.

From the infantry regiment “Hajduk Veljko”, Dr. Kosta Todorović was transferred to the Central Military Laboratory in Thessaloniki, managed by Dr. Hirszfeld. Namely, the decision was to make a central laboratory at the level of the complete military medical corps, then one within each army. However, it was necessary to provide staff for their functioning. Therefore, Dr. Todorović was transferred to the Central Military Laboratory. Dr. Hirszfeld evidenced that. “We decided, together, military medical chief Colonel Stajic and me, to educate Serbian bacteriological staff and add a laboratory to each army... Colonel Stajić told me that he had met a young physician who was studying tropical medicine while sitting in a trench during bombarding. – ‘Colonel, that is our man, send him to me, please’ – It was Doctor Kosta Todorović”²⁴. In the foreword of the Serbian edition of Hirszfeld’s book “The Story of One Life”, writing about his war medical teacher, Dr. Todorović summarized the results that this laboratory, in extremely improvised conditions, owing to Hirszfeld’s “talent for improvisations” (Todorović), acquired in the production of anti-typhoid-paratyphoid vaccine, which Dr. Hirszfeld tested firstly on himself, then on his associates and finally on soldiers. “This vaccine was used on 100,000 Serbian soldiers at Thessaloniki front and successfully protected them from enteric typhoid and paratyphoid. The result was that Serbian army returned to the homeland after the end of the First World War without single typhoid and paratyphoid diseased among the vaccinated soldiers”^{10, 25}. There is no need to point out how big success it was, especially considering that in Serbia, according to Todorović, during the winter 1914 and spring 1915 between 500 and 600 thousand people went down with Typhus exanthematicus. “Serbia met the World War completely military and medically unprepared... Typhus exanthematicus soon joined the war misery. The more we were approaching Valjevo, once

progressive and festive small town, the more often we could see the great misery... There was no house without a diseased in the town (Lazarevac, author's remark). Apart from measles, whooping cough, scarlatina, diphtheria, Typhus recurrens and enteric typhoid, the Typhus exanthematicus had the greatest number of diseased. Indescribable fear spread around, especially when frantic diseased in delirium started to run away and attack. A poor man from Podrinje, in his delirium, jumped into a well in open sight of haggard refugees... One artillery sergeant, lying with complete armament in the coffee house 'Plow', swept out to the railway station, started to throw bombs around, believing that he was in a combat with the enemy, until his power failed and one activated bomb exploded in his hand, pacifying this sergeant-fighter for good... The diseased were lying densely in a room of the Bank of Požarevac, almost one across another. While one of them was easing himself at the door and could not find his bed like he was lost, there were dying people in the room. In a dark corner, a candle was fuming in the hand of a diseased dressed in new farmer's clothes, with a new belt, his hands folded on his chest. He and his parents were expecting the last moment. Death was salvation"²⁶. Todorović indicated that in the Danube horse regiment of the I call, with the aim to suppress the epidemic of the Typhus exanthematicus, "it seemed" that "Serbian barrel" for disinfection had been designed, "even before Hunter"²⁶. In explanation of spreading epidemic of Typhus exanthematicus also, Todorović insisted on social factors. "Progress of enemy army, movement of great military masses and refugees were convenient for spreading epidemic... Huge traffic, inevitable during the war, contributed to spreading of Typhus exanthematicus even to the most outlandish regions and entangling the whole country"²⁶. Contemporary physicians add to these factors also the fact that Serbia, after the Balkan wars, extended to regions of Sandzak around Novi Pazar, Kosovo and Metohija and Macedonia, endemic seats of Typhus exanthematicus at the period²⁷, which also represented a confirmation of findings about the influence of social (political) factors on spreading epidemics, especially. However, regarding the suppression of epidemics, Todorović indicated the importance of creativity, innovation and the ability for improvisation, due to which individuals gifted with these abilities, in almost impossible conditions, managed to save many lives. One of the most skilled people was Todorović's chief at that period, Dr. Hirsfeld, who not only managed to make a successful antityphoid-paratyphoid vaccine in an improvised laboratory, but he also discovered the bacillus of paratyphoid C later named after him, and achieved a great success in the field of transfusion medicine on the basis of the immunobiological research of blood types with different nations, contributing to the successful implementation of blood transfusion in the Serbian army with a control of blood types of donors and recipients. His findings in the field of transfusion medicine regarding the "implementation of serological methods in studying human races" were the most significant^{12,25}.

*Civil physician, founder of Yugoslav infectious disease,
professor, academician, scientist*

After the end of the First World War, Dr. Kosta Todorović remained in active military service until 1924, when he resigned

and left for specialization in infectious diseases to Paris hospital "Claude Bernard", and to attend a bacteriological-epidemiological course at the Pasteur Institute in Paris.

After finished specialization in infectious diseases, Kosta Todorović was appointed an associate professor of acute infectious diseases at the Faculty of Medicine in Belgrade and the director of the Infectious Diseases Clinic in 1926. Eight years later, he was appointed a full professor. In his paper "Nos recherches et nos expériences dans la question du virus scarlatin" presented at the convention of French physicians at Montpellier in 1929, based on his own research of "blood, blood plasma, pharyngeal mucus and urine of patients with scarlet fever, professor Todorović pointed out that he could never raise a single visible virus from that material nor to generate an experimental scarlet fever with it. On the basis of his research, supported by the experiments on humans, he claimed that there was no visible or invisible germs in blood plasma, but only toxins"²⁸. These findings confirmed the etio-pathogenesis of scarlatina based on toxic nature of this disease, with pathogenic hemolytic streptococcus taking "place of the main etiologic factor for scarlatina"²⁹. This verified the results of previous researches of the disease, especially of the so-called "American school" guided by the Dick couple. Since then, this issue was considered to be solved, bringing to Dr. Todorović an international scientific affirmation. Professor Todorović, probably due to his war experience, dedicated a great part of his scientific career to the researches of typhoid and paratyphoid diseases, publishing more than 30 scientific works. "The referred matter was elaborated studiously and documentary, during a series of years, from all aspects, making, we may say, a world contribution to the research of typhoid diseases"³⁰. During the Second World War, when he was made available both as the professor of the Faculty of Medicine in Belgrade and as the physician at the Infectious Diseases Clinic, defending his ethics and patriotic feelings, he refused to sign the disgraceful "Appeal to Serbian People" organized by the minister of education Velibor Jonić in collaborating government of Nedić, but he accepted to go to Bajina Bašta in May 1942 and face the epidemic of Typhus exanthematicus and enteric typhoid there caused by the surge of refugees from Bosnia, Kosovo and other regions of occupied Yugoslavia to that small place in the Western Serbia³¹. After the end of the Second World War, although he was not a member of the party, the academician Todorović continued to be the director of the Infectious Diseases Clinic until his retirement in 1957. Just after the liberation, he was also the rector of the Great Medical School (1950–1951), then the chief of the Department of Internal Medicine (1951–1957). His professional reputation with all physicians surely contributed to his election, especially internists, electing him also the president of the Internist Association of Yugoslavia (1956)³². According to the social-political system of the period, party organizations and their representatives were giving characteristics about everyone, therefore about the academician Todorović. As a historical source, these surely must be taken with a certain reserve, regarding the significant ideological-party position from which these were given, especially for nonmembers as professor Todorović was. However, we consider justified to cite some of the statements, not only for the purpose of understanding the personality and for the purpose of actions of this acade-

mician, who rose the Yugoslav infectious diseases to such significance that his students with good reason declared the whole period of his practice as the “medical epoch of Kosta Todorović in this country. He became a living medical legend, the legend of knowledge and the legend of humanity”³³. “The most famous physician in Yugoslavia in the 20th century certainly was and remained Dr. Kosta Todorović”¹¹. We mention abstracts from these characteristics in order to enable a reader in the present period to make conclusions about the social context after the end of the Second World War in the socialist Yugoslavia, where the scientist and physician of such a format successfully performed his job. In one of them, it was stated, among other things: “He is an expert. The best clinician with huge experience and knowledge. He is the professor and the physician with the greatest reputation of all the physicians of the PR Serbia”³⁴. In another: “He is the best expert on infectious diseases in our country”³⁵. Although the characteristics were very positive, in the later it animadverted that “one of his very serious oversight was that he did not gather around him a suitable staff, nor did he create his school at the clinic. At the clinic, there was no unity of method and work, both in practice and in teaching... he often takes care not to antagonize, acts opportunistically, often in the Department and in the Faculty Council”³⁵. The “serious oversight” from this characteristic was denied by the time, since after him and just because of him, which we mentioned at the beginning of this paper, a constellation of experts remained, who had the most important place in the Yugoslav infectious diseases and successfully struggled with the most complex problems, like caring for diseased from highly contagious diseases, e.g., smallpox. Great number of them remained devoted personally, proudly considering him to be their teacher. His patriotism was determined in both notes, it was established that he had never been politically active and only one political attitude was mentioned, which we may understand to be literal since it was mentioned in the direct speech. Regarding the Resolution of Cominform, the academician stated that it was “misfortune of our nations”³⁴.

Streptomycin was discovered in these years and the academician Todorović ventured to its therapeutic implementation, publishing a series of works on that subject, “making solid foundations for the therapy of tuberculous meningitis with us”³⁰, but obliged also the world medical science. The World Health Organization (WHO) helped him with that, “placing at his disposal great quantities of streptomycin, the medication that was lacking at that time, for the research and scientific experiments. The trust shown to a Serbian scientist by the highest medical forum was a great recognition for our young medical science”². Besides, he was dealing also with other forms of infectious meningitis, and the results published in the works about meningoencephalitis had a consequence that in 1960, the Ciba Foundation from London organized in his honor a scientific gathering, where the works about this disease were presented from various countries of the world³⁶.

According to the evidence of his students, “working day of professor Todorović lasted at least 12 to 14 hours. The job was very extensive, starting from every day the examinations of seriously diseased, always very patiently and very precisely. On the way, he never refused to examine someone and to give advice, regardless the social status; a minister had no privileges, a

beggar was never rejected. Only a more serious disease had an advantage in the effort and exertion to get help”¹². However, those efforts must not be assigned to the “notorious enthusiasm and partly fanaticism”. He was “accomplishing even the impossible because he was an excellent organizer, who subordinated everything to the treatment of diseased”¹², with good mental and physical health even in the old age. As an influential factor to origination and maintenance of such a zeal, it surely should be considered that “his obligations of a military physician in war implied superhuman efforts”¹².

Humanist

He died in his 88th year, in 1975. At that time, he was actively working on the organization of celebrating the half of a century from the foundation of the Infectious Diseases Clinic, which bears his famous name since then.

Academician Kosta Todorović was trying to solve by himself some issues from his life and work that he considered important. One of the facts is his direct report about the influence of the army to his life and work¹¹. Secondly, it is the explanation of how he had determined to deal with infectious diseases. “Actually, I opted for infectious diseases in wars”¹¹, referring to the epidemic of Typhus exanthematicus during the First Balkan War, when he himself went down with this dangerous national plague. Todorović mentioned the epidemic of cholera in Rrashbull camp as “one of the crucial moments” in his interest for infectious diseases, while he was definitely determined to study these diseases. He said: “at the Thessaloniki front. I encountered an unbelievable epidemic of malaria”¹¹. Thirdly, it is his definition of a diseased “It is a miserable, helpless man expecting... help”¹¹. Fourthly, he discovered the ideal organization of a clinic at the Paris Clinic Claude Bernard. “I was with the famous expert for infectious diseases professor Tessier, I saw what they were doing and what importance they were giving to scientific research. Everything at professor Tessier’s clinic was so organized to be for the benefit of a diseased”¹¹. Todorović found his personal model at scientific researches in Dr. Ludwik Hirszfild, who “was accessing the scientific work with such an enthusiasm that was able to inspire others”¹¹. On his behalf, Hirszfild recorded that from all of his Thessaloniki students “for me Kosta was my favorite student, not only because of his extraordinary ability but also because of the enthusiasm and virtues of his character”²⁴. Dr. Kosta Todorović insisted very much on the general education of a physician and his general culture that “had to be an inherent part of the personality of a contemporary physician”¹¹. Therefore, his companionship with respectable writers like Ivo Andric is no wonder, but also the friendship with his “war buddy”, Prince Djordje Karadjordjević, who often visited him at the Infectious Disease Clinic. The seventh is the belief of Todorović regarding the relationship physician-patient: “a physician must get close to a patient so that he is sure that you are his friend and not a clerk that approached him to feel his pulse and ask if he had a temperature. If a patient has no confidence in his physician, everything goes much harder”¹¹. “We are here for patients; they are not here for us. Therefore, treat them like everyone of them is your child, mother, father, sister, brother”, he was advising – we would say a moral impera-

tive – his students and younger colleagues, were not allowed to awake a sleeping patient during his examinations, “because patient’s sleep is more important than any examination, which we can do later”³⁷.

Conclusion

The love for the country, libertinism and praxis patriotism were among the motives on which the academician Todorović insisted the most. He was a Serbian physician and Yugoslav patriot in the literal sense of the words. Reasons that predestined him for the professional military service were just those that we mentioned in the previous conclusion, while the reasons that predestined him to study medicine might be found in a deep establishment in the social environment from where he emanated and in his wish to be of general social service to his nation. His dealing with infectious diseases was connected with the determination to face the most serious diseases, and in that way, to serve the nation to which he belonged, which he clearly explained in the manner as presented in the paper. Just the sense of understanding the consequences of poverty and ignorance, understanding the greatness of the suffering of the Serbian nation, not only in war but also in the period under occupation, his ability to recognize that as the factor of influence to development of diseases in people, resulted in the scientific contribution, not only in the field of the basic science that he was interested in – the infectious diseases but also in the field of the sociology of health and illness, and finally, in the field of the history of medicine,

especially in the history of the Serbian military medical corps, leaving the valuable evidence on various infectious diseases and his medical experience of them during the Balkan wars and during the First World War. The fact that he was the founder and the president of the Association of Recipients of the Albanian Commemorative Medal 1915–1916, whose goals were taking care and improvement of the social position of old warriors-heroes, his fellow-soldiers, and then cherishing the memory of their past and glorious history of the Serbian army, all that is the best evidence about how much he insisted on his fellow soldiers and the memory of those who gave their lives for the freedom of the Homeland as well as on heritage of the historical truth about their unprecedented heroism. The highest ideal of the academician Todorović was to help a man with a disease. In that sense, one may say that an innate humanism was on the pedestal of his values which was leading him throughout his life and work.

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