



The Spanish Flu – Part I: the first wave

Španska groznica – I deo: prvi talas

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Introduction

The Spanish Flu is a term which denotes an influenza pandemic which emerged in 1918. This disease has numerous synonyms: the Spanish Flu, La Grippe espagnole, the Spanish Influenza and it is also possible to encounter throughout the world such names as the Spanish Lady or the Purple Death. The latter name resulted from the specific skin colour in the most severe cases of the diseased, who by the rule also succumbed to the disease, and is also at the same time the only one which does not link this disease with the Iberian peninsula. This name is actually the most correct.

The disease was named Spanish due to the complex war circumstances. Spain was not a participant in the war, thus “the new disease” was written about freely in that country. On the contrary, due to the strong censorship of the press of the warring sides, very little was written about this disease. Therefore, a wrong impression resulted from reading the Spanish press, that the disease had emerged there first. It was mentioned in Spain on May 22, 1918 for the first time¹. The “ABC” Madrid journal published that a disease similar to influenza had been present in the country since the beginning of May. A week later, the Spanish king Alfonso XIII, the Spanish prime minister and some other members of the government got sick and the pandemic was named Spanish for good^{*}.

The Spanish Flu was also written about in the Serbian press in May 1918. “The Serbian Newspaper” which was

published on Corfu, conveyed in the period May 15/28, 1918[†] the writings of the French press, which discussed the reasons for the lessening in intensity of the German offensive: “In discussing the anticipated German offensive, papers ascertain that the German infantry is still not making any attempts and believe that the cause of this is either a drop in the morale in the German army, which has already lead to riots, or an influenza epidemic, for which there are proofs that it is strongly raging in the German army.”³

The information about the presence of influenza in the German army was correct and later, even Erich Ludendorff (1865–1937), a German military commander, wrote about the negative impact of this disease on the German offensive⁴.

„The Serbian Newspaper“ wrote in the period October 23 / November 5, 1918 at the peak of the second, deadliest wave of the pandemic:

„Various countries have been assigning the origin of this imposing guest to each other for quite some time, and at one point in time they agreed to assign its origin to the kind and neutral Spain, which had been fighting off this honour just as much as German submarines, so imposing in their search for hospitality off Spanish shores. Finally and with great difficulty, they freed Spain from this stain, as it was ascertained that the flu had existed in Germany before it appeared in Spain. Besides, it is absolutely not unnatural that a world war should give a world disease, nor illogical that this disease be started by the country which had also started the war“⁵.

It would also have been wrong to name the disease as German. The world war brought a world disease, which

^{*} Giving wrong names to diseases is not a novelty in the history of pandemics. A syphilis epidemic broke out in Naples in 1494 which was transmitted from the New World. The French named it the Italian, and the Italians the French disease and only some time later did Fracastoro name it syphilis².

[†] It should be borne in mind that the Julian calendar was used in the Kingdom of Serbia also during World War One. The use of the Gregorian calendar (only for secular purposes) began on January 23, 1919 in the newly formed state of the Kingdom of Serbs, Croats and Slovenes.

started on the territory of another power which was to have a determining impact on the outcome of World War One. It is believed today that the Spanish Flu originated in the United States of America⁴. Only nowadays do we know that this disease was caused by the influenza virus A of H1N1 antigenic characteristics.

The spread and consequences of the Spanish Flu

The first pandemic wave appeared in the spring of 1918, and is usually described as a mild one because of the rare deaths. The second wave, extremely deadly, came in the autumn of 1918. The third wave took place in the winter of 1919. The disease did not spare any part of our planet. The disease caused death on all meridians, destroying complete families, leaving indelible wounds on the souls of the survivors. It is believed that a third of the world's population of that time, around five hundred million people, had a clinically expressed disease. Around fifty million people died⁶. The Spanish flu claimed five times more lives than World War One!

When American authors wish to make a striking illustration of the number of victims of this pandemic just in their country, then they say that the Spanish flu claimed more lives than was the total of the war losses of the American army in World War One, World War Two, the Korean and Vietnam wars altogether⁷. The high death rate was to be the basic characteristic of the second wave. The number of deaths is in itself scary, but the most susceptible age group makes this disease particularly tragic. People at the height of their vitality, aged between 20 and 40 died most frequently of the Spanish Flu! The American neurosurgeon Harvey Williams Cushing (1869–1939), who himself had the Spanish Flu, described its victims as „doubly dead in that they died so young“⁴.

However, despite such a high death rate, there is practically nothing left of the memory of the Spanish Flu in the collective memory of humankind. This pandemic is therefore often called the forgotten pandemic.

The American historian Alfred W. Crosby, the author of the book „America's Forgotten Pandemic“ (1990), states how many details on the Spanish Flu could be found in the most renowned world encyclopedias. He found three sentences in the Encyclopedia Britannica. In the Encyclopedia Americana one, indicating only that the disease had killed 21 million people. The information on the number of victims given there, is significantly below the actual number.

The 1918–1919 flu pandemic had also some other specificities. One of them was already the three pandemic waves in the course of just one year. It is not known which features of the virus of that time made this possible. Another one is the struggle of the scientists of that time to find an efficient vaccine against the Spanish Flu. Medicine had advanced tremendously following the discoveries made by Pasteur and efficient vaccines existed already against various other diseases, thus the hope of scientists that the discovery of a vaccine would defeat the pandemic was not altogether groundless.

It was believed that the flu was caused by the Pfeiffer bacillus – *Haemophilus influenzae*. This wrong view about the cause of the disease made the efforts of scientists vainly. The suspicion about the Pfeiffer bacillus causing the pandemic occurred already while it lasted. Dr. Aleksa Savić (1878–1928), wrote in 1918 about the experiments made by the team of the French scientist Charles Jules Henri Nicolle (1866–1936):

„By experiments made on monkeys and humans, they determined that the disease is transmitted exclusively by secretions from lungs and lung ducts of the diseased, and that the disease is not transmitted by injecting blood taken from patients. According to their view, the cause of the flu is such a tiny microorganism, that it cannot be seen by the currently available methods of observation“⁸.

Scientists were full of energy, fortitude and good intentions in 1918, but also not aware of their practically hopeless position. There are even today numerous difficulties in the production of a vaccine against the influenza virus, which is antigenically unstable. The present day science has advanced so much, that the remaining genetic material of the virus was looked for and found in the preserved tissues of the Spanish Flu victims. The virus was then put together and finally even made alive! Every fragment of the Spanish Flu virus genome is known today, each one of its nitrogenous bases! However, the virus itself, is still a mystery. It is still not completely clear, which of its features enabled it to kill millions of people at the height of their vitality. The present day scientists are trying to understand the genetic basis of the contagiousness and deadliness of the influenza virus, in order to protect humankind with this knowledge against similar future pandemics. Thus, the enlivening of the Spanish Flu virus represents another specificity.

The Spanish Flu pandemic is a subject which is not easy to investigate. On one hand there is a shortage of sources, which is the consequence of the reality of war of that time. Not much was written about the disease while Great War lasted and even if it was, only favourable reports about the reduction in the number of deaths or about some efficient vaccines were highlighted. The presentation of the actual situation was avoided (and even forbidden). It is therefore difficult to reconstruct the events of that time, particularly in the war stricken environments. On the other hand, people were dying throughout the world, there are graves of the Spanish Flu victims everywhere, which speak a lot for themselves, but even they cannot fully present the time itself, when the pandemic lasted. There is another difficulty. Although many people survived the Spanish Flu pandemic, they in particular are the one who said almost nothing about the disease. This is a world phenomenon. The pain caused by the loss of the dearest ones remains in the soul, it is not even talked about. Nothing can bring back the dead. Thus, what presents a particular difficulty in studying the Spanish Flu pandemic is the general oblivion, so we can quote here the sentence from the novel „Fortress“ by Meša Selimović: „What is not written does not exist. It is dead and gone.“

Medical statistics in war conditions could not have been precise enough, therefore there is not a complete statistic

presentation of the pandemic. However, there is a certain number of documents left, based on which it is possible to conclude indirectly what was happening throughout the world at that time. Thus the combination of the preserved medical records, statistical data, photos, noted down memories and newspaper articles collected from various parts of the world, present today a reliable manner of getting the right picture of the Spanish Flu pandemic.

The records made by Serbian doctors, newspaper articles, photographs with some later writings, were used in this paper. A particularly important source was the book by John M. Barry „The Great Influenza: The Story of the Deadliest Pandemic in History“⁴.

The author of this paper made his contribution to the reconstruction of the picture of the Spanish Flu pandemic, by noting down the memories of the pandemic in the Tovariševo village in Vojvodina.

However, it must be said straight away that even the oldest residents of the above mentioned village, born only a few years after the pandemic, did not know much about the pandemic. They were told that a „terrible disease“ raged at that time, that people just „dropped dead“ of it, that „six coffins were taken out of one street in one day“. A man whose father had died of the Spanish Flu, did also not say more than a few sentences about the disease.

It is possible to find data in church books about tens of very young people having died of this disease in Tovariševo. This village is certainly a miniature example that the mortality caused by the Spanish Flu can still be investigated even today. Church and municipal books are a valuable source of data.

The first wave

There are several theories about where the pandemic influenza virus from 1918 appeared first. Many scientists looked for the pandemic source in China, because earlier experience showed that flu mainly came from the Far East. However, epidemiological data did not confirm such assumptions. Olson et al.⁹ believe that there are strong proofs that an early pandemic wave was present in New York already in February 1918. These explorers found that a greater death rate was observed in this very period among young people, caused by flu, which is already a feature of the pandemic virus. According to them, the virus came onto the American soil from Europe. The British scientist John S. Oxford, believes that the disease appeared first in a big British military base in the north of France already back in the winter of 1916.¹⁰ This assumption is based on the appearance of severe respiratory infections in this base, which were recorded under the name of „purulent bronchitis“. The disease was followed by high temperature, coughing, and the presence of heliotrope cyanosis and a high death rate made the „purulent bronchitis“ very similar to the most severe form of the Spanish Flu. Signs of bronchopneumonia were found by clinical examination, whereas histological research confirmed „acute purulent bronchitis“. A similar appearance of the purulent bronchitis was noted down in

March 1917 also among British soldiers in a base near London. The disease would appear all of a sudden, followed by a high temperature, rapid breathing and heliotrope cyanosis of the face, lips and ears, a sign which was to be an indication to doctors during the Spanish Flu pandemic, that death was near. The author of this hypothesis believes that it took more than two years for this disease to start spreading throughout the planet, because of the lack of intensive transport during World War I, and that the demobilization in the autumn of 1918 created ideal conditions for the flourishing of the pandemic. Many scientists consider this kind of explanation as unconvincing. Oxford included also in his work the photographs of the soldiers on the Western Front, showing them plucking turkeys and feeding swine, which indicates the closeness of people and animals, which had a big role in the appearance of pandemic flu viruses.

The American author John M. Barry, who studied the 1918 flu pandemic for years, presented the hypothesis about the appearance of the disease at the beginning of 1918 in the Haskell County in Kansas⁴. People and animals were in close contacts in this extremely rural area. Dr. Loring Miner was a doctor in this spacious, sparsely inhabited area. At the end of January 1918 patients started calling on him, complaining of strong headaches, muscle pain, high temperature and unproductive cough. Dr. Miner knew well the flu symptoms, but he noticed in all these cases an expressed intensity of the symptoms. His patients started dying in this isolated area. Miner informed the competent health authorities about this, but the answer was not adequate.

The local newspaper „The Santa Fe Monitor“ brought numerous news in the course of the first half of February 1918 about the Haskell County inhabitants falling ill with pneumonia or about their recovery. The names and surnames of the diseased were given. For example this paper wrote on February 14, 1918:

„Mrs. Eva Van Alstine is sick with pneumonia. Her little son Roy is now able to get up ... Ralph Lindeman is still quite sick... Mertin, the young son of Ernest Elliot, is sick with pneumonia ... We are pleased to report that Pete Hesser's children are recovering nicely...“.

„The Santa Fe Monitor“ wrote on February 21, 1918: „Most everybody over the country is having lagrippe or pneumonia“.

It is possible to follow the data about the infrequent but existing transport between the Haskell County and the American military base Camp Funston, to which the recruited young men went in this County. Names are given of the soldiers who went home from this base for a visit, only to return to Funston at the end of February 1918. There were around 56,000 soldiers in that camp at the time. The first case of a diseased suffering from the flu was registered on March 4, 1918. In the following three weeks 1,100 soldiers were so ill, that they had to be admitted to hospitals for treatment, whereas thousands of others had the disease and recovered without being admitted to hospitals. Pneumonia developed in 237 soldiers, and the number of deaths amounted to 38. This was a far greater number of deaths,

than was expected from a „common“ influenza epidemic, yet still insufficient to be given attention to, in that significant war year (Figure 1).

Allies to resist German attacks and then win the war. However the pandemic influenza virus strain came along with the American soldiers into Europe.



Fig. 1 – The ill-stricken with the influenza in Camp Funston in the US state Kansas (the photo was probably taken in the course of the first wave of the Spanish Flu)

While the flow of people between the Haskell County and the Funston base was relatively weak, the transport among individual American military bases, or between them and Europe, was very lively. Railway transport was dominant on the American continent and between America and Europe ship transport. The latter was so intensive in that war year that, judging by the number of passengers, it could be compared with the present day air transport!

Contacts between the military and civil population were also numerous. That is the reason why influenza appeared rapidly in 24 of the 36 major military bases in the country, and 30 of 50 major American towns, mainly those which were in the vicinity of military bases, had an increased number of death cases. Since the entry of the United States in the war (1917) the influx of American soldiers into Europe increased. At the beginning of 1918 Germany was preparing a big spring offensive on the Western Front. Hundreds of thousands of soldiers were withdrawn from the preceding Eastern Front, since they were not needed there, considering the fall of the Russian empire. At the same time, hundreds of thousands of American soldiers were arriving into Europe. They were supposed to be the turning point factor, enabling the

The French town Brest was the first place in Europe where the flu caused by this virus appeared. The disease appeared in that port on the coast of the Atlantic already at the beginning of April. Tens of thousand of American soldiers who disembarked in Brest, brought to Europe, besides faith in allied victory, without intending to do so, the tiny „weapon“, which was to prove more efficient in destroying human lives than all technical wonders, brought already by World War One. The flu spread rapidly from Brest onto its surroundings in concentric circles. It should be pointed out, however, that the disease manifested itself everywhere at this stage in a mild form. There were death cases, but they were very rare.

The disease appeared in the Serbian army on Corfu. Dr. Aleksandar Radosavljević (1877–1956) states:

„At the beginning of April in 1918 some sudden diseases appeared in a bakers troop of our army. About 150 people fell ill in two days, 95 of which were bedridden with a high temperature, headache, pain throughout the body, sweating and coughing. The disease appeared due to a contact of our soldiers with French bakers, who had arrived by ship from Thessaloniki. This severe condition lasted 3–4 days, followed by recovery or death. The epidemic struck

soon also the other military units, even the civilians, with complications of pneumonia. In May 1918 the epidemic flourished in even greater proportion and the death rate caused by this disease was even greater.¹¹

It is possible to find information in „The Serbian Newspaper“ about one Serbian soldier, a conscript of the craftsmen and bakers troop on Corfu, dying on April 7/20 in 1918 in the French Naval Hospital „Achileon“¹². The cause of death was not indicated, although the circumstances indicate that it was most likely the Spanish Flu. The disease appeared in the Serbian army, thus, very early, before it even got the Spanish name, even before it spread from Brest to Paris.

The influenza was present in Paris already at the end of April, and it arrived in Italy at just about the same time. The first cases were found in the British army mid April. Then, the disease started intensifying.

The same disease appeared in German troops, also at the end of April. It had an impact on the combat power of German forces, just as was the case with the Allies, which had a particular significance, if we bear in mind that that was a period of an extremely strong German offensive, which even threatened to make Germany the winner of the Great War. The famous American doctor Harvey Cushing wrote in his diary directly from the frontline:

„The expected third phase of the great German offensive gets put off from day to day... When the next offensive will come off no one knows. It probably won't be long postponed. I gather that the epidemic of grippe which hit us rather hard in Flanders also hit the Boche worse, and this may have caused the delay.“⁴

Erich Ludendorff, the chief commander of the German forces, blamed also the flu for the failure of the German offensive, pointing out that: „It was a grievous business having to listen every morning to the chiefs of staff's recital of the number of influenza cases, and their complaints about the weakness of their troops“⁴.

The disease appeared in the neutral Spain only in May. It was most likely brought by Spanish and Portuguese workers, who travelled by train to France and back. The first news on the epidemic appeared in the „ABC“ Madrid Journal on May 22, 1918. The journal wrote about the presence of a disease similar to influenza, which was spreading from the beginning of May. A large number of people gathered on squares in the course of the third week of May for the traditional Madrid annual festivities (Fiesta de San Isidro Labrador), which was favourable for the spread of the infection. The disease was still presented as a two-or three-day fever, with gastrointestinal symptoms, weakness, but very low mortality. An announcement was made on May 28, 1918 about king Alfonso XIII falling ill, followed by the prime minister and several other members of the government cabinet. Many workers were absent from work because they were ill, and some public services, like the post office and banks, were forced to shut down¹.

The new disease was openly written about in Spain, whereas war practice in the countries participating in the war imposed that weaknesses of the countries were not to be brought out in the press. The mortality level as a conse-

quence of this disease in Spain, was low at first and ranged from 0.04 to 0.65 death cases per 1,000 inhabitants. As the flu arrived in Spain from France, it is known in this country as the French flu.

The spread of the disease continued. The flu appeared only scarcely in a more severe form. The British soldiers transmitted the disease to England in June, thus the number of death cases caused by the flu in England, Scotland and Wales in that month and in the following July, started to grow. As of June the disease became more intensive in Germany. Denmark and Norway were stricken in July. Holland and Sweden in August.

A group of Danish scientists, who studied the statistical data from 1918 and 1919, concluded that the lethality was greater during the first pandemic wave from July till August, than in the second wave from October 1918 till January 1919. Denmark was unique in this respect¹³.

The disease appeared in Croatia at the beginning of July. It was present in Dalmatia and Bosnia mid July¹⁴. That first wave of the Spanish Flu was quite certainly also present in the occupied Serbia at that time, but there is no data about this.

This disease became more and more severe as time went by. Doctor V.S.S. whose initials were only given in a recent piece of writing by a group of Serbian authors, wrote the following on the Thessaloniki front:

„As a troop doctor of the First Yugoslav Regiment, I saw at the beginning of June 1918 a sudden short-lasting attack of this epidemic, similar to some kind of assaulting atmospheric attack. The until then healthy regiment at the „Kotka“ position, was descending down to the lowlands to rest. Upon arrival into the village Donji Požar I fell ill, among the first ones, that very evening, and so did the almost the whole regiment the following day. Upon arrival into the village Gostoljube on the same day, I found the whole battalion in front of my regiment surgery, looking for medical help, coughing and sneezing as if upon order, everyone single one of them. The epidemic disappeared soon as silently as it had come, without causing any damage, several days after the arrival of the regiment onto the hill Pajik¹⁵.

The Serbian doctors on the Thessaloniki front realized already at the end of June and beginning of July that the disease was becoming increasingly severe. Đorđe Vladislavljević, the head of the medical corps of the Supreme Command, wrote about febrile diseases, which were appearing in the Serbian military units in the course of May:

„Some of our doctors reported them as dengue or Papataci fever, and the French ones as flu. It was only realized in June and July, when lung complications started to appear, with quite high death rates, that it was a question of influenza.“¹⁵

The disease announced in some places even earlier its deadly potential. In France at the end of May, in a small base numbering 1,018 recruits – 688 were admitted to hospitals for treatment, of which 49 soldiers died. It is extremely concerning when 5% of the total number of manpower dies of a disease and particularly when this happens to young and strong people⁴.

An American military paper wrote: „Pneumonias have been more common sequelae in July than in April.“⁴

The disease arrived in Bombay end of May 1918, spreading from there throughout India via railway network. The disease was present in Shanghai end of May.

It arrived in New Zealand in September.

The first wave of the Spanish Flu can still be considered as a mild one. Millions of people fell ill, but complications and deadly outcomes were mainly rare. Thus, had it by any chance stayed just on this level, on the properties of this first mild wave, the Spanish Flu would have remained unnoticed, to be more precise, unrecorded in the history of the world.

There were underestimations of the disease as regards the description of the mild clinical course of this early wave. The famous British medical journal „The Lancet“ wrote on July 13, 1918 that the existing epidemic could not be the influenza, because the symptoms, although very similar to influenza, were too mild, short lasting and complications were rare.

The British had thus, just like in at least another two later cases, completely underestimated the pandemic. The British command had proclaimed the end of the pandemic on August 10, 1918 and one medical journal wrote on August 20, 1918 that the influenza epidemic „has completely disappeared“ in Britain⁴.

Still, the first pandemic wave spread rapidly, although its real scope is difficult to estimate. Already during the second, deadlier wave, even without adequate statistics, the pandemic left deep traces throughout the planet, in the form of millions of graves. Not even two months after the text in the medical journal „The Lancet“, which wrote that this „mild“ disease could not be influenza, a new opinion appeared throughout the world about the appearance of a „new“ disease which, considering the severity of its clinical picture, complications and numerous death cases, could not be the flu.

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