

HISTORY OF MEDICINE / ИСТОРИЈА МЕДИЦИНЕ

Jovan Apostolović, MD, the first Serbian medical doctor – life and work achievements

Zoran Gajić^{1,2}, Vladimir Sakač^{2,3}, Boris Golubović^{1,2}, Ksenija Bošković^{1,2}¹University of Novi Sad, Faculty of Medicine, Novi Sad, Serbia;²Clinical Centre of Vojvodina, Novi Sad, Serbia;³Scientific Society for the History of Health Culture of Vojvodina, Novi Sad, Serbia**SUMMARY**

Jovan Apostolović was born between 1730 and 1735, in Buda and died in 1770 in Novi Sad. He was the first Serbian physician who acquired the title of a medical doctor with his doctoral thesis. After his graduation from the Halle Medical School in 1757, he defended his doctoral thesis there, titled "How Emotions Affect the Human Body". This thesis, considering the time of its publication, was the first in the history of medicine that studied psychosomatics taking into consideration the influence of emotions on human organism. Upon his arrival to Novi Sad, in 1759, Apostolović had founded his medical practice as an only graduate physician in the town. When, after its outbreak in Belgrade, Srem and Banat, the plague threatened to spread to the Novi Sad area, he was appointed the town's doctor in 1763, but was resolved from this position in 1765, since the Magistrate was not able to handle the pressure from the barbers, catholic priests and German population of the town. After losing this position, he continued with his medical practice in Novi Sad, till 1770 when he died of tuberculosis.

Keywords: Buda; doctoral thesis; 18th century; psychosomatic; emotions

INTRODUCTION

Jovan Apostolović was the first Serb to hold a doctorate in medicine and the first Serb with a university degree. There are no reliable historical data about the exact year of his birth, but it is known that he was born in Buda, between 1730 and 1735 [1–5]. At the time of his birth, Serbs living in Buda outnumbered the Hungarian population, since there had been Serbian merchants, craftsmen, clergy and a handful of Serbian intellectuals living in Buda even before the Great Migration of the Serbs (Figure 1) [6]. Jovan received a traditional, Orthodox Christian

upbringing. Eager to learn, he started his education in his hometown of Buda, at a lower gymnasium, the so-called Latin School [1, 2, 5, 7], and with the support of his teacher, Damjan Ignjatović, he continued his secondary education in Pressburg (today's Bratislava), where he graduated from the Lyceum, a Protestant-Evangelical gymnasium, in 1754 [1, 5, 7, 8]. It is no coincidence that Apostolović continued his education in Pressburg, rather than Pest. The community in Pressburg was Protestant, which means it was home to more progressive and liberal thought than Catholic environments like Pest or Vienna. The time Jovan Apostolović



Figure 1. 18th century Buda

Received • Примљено:
June 10, 2019

Revised • Ревизија:
October 10, 2019

Accepted • Прихваћено:
October 11, 2019

Online first: October 17, 2019

Correspondence to:

Ksenija BOŠKOVIĆ
University of Novi Sad
Faculty of Medicine
Hajduk Veljkova 3
21000 Novi Sad, Serbia
boskovicksenija@gmail.com



Figure 2. 18th century Halle

spent at the Lyceum in Pressburg contributed greatly to his social and intellectual development [5].

Medical studies in Halle

After graduating from the Lyceum in Pressburg, Jovan Apostolović continued his education as a student at the Faculty of Medicine, in the Prussian Protestant city of Halle, on May 18, 1754 (Figure 2) [7]. Halle was a large and highly populated city for its time, due to the great number of schools; in 1782, Dositej Obradović called it “the seat of the muses and divine sciences.” Apostolović went to Halle to undertake his medical studies because this faculty of medicine was founded as early as 1694, Halle was a prestigious university town, but it is also certain that he was influenced by his Protestant professors in Pressburg. Nevertheless, the principal reason he did not choose Vienna, which is only 80 km away from Pressburg, are perhaps in the fact that the University of Vienna was Catholic and that a Protestant city like Halle undoubtedly held a greater appeal for Apostolović. In addition, the medical faculty in Vienna lacked botanical gardens, chemistry laboratories, and clinics since it was only starting to gain recognition [1, 7]. In 1749, Maria Theresa entrusted the reform of the faculty to Gerard van Swieten, who had studied under Herman Boerhaave, a professor at the faculty of medicine in Leiden, the Netherlands [1, 9, 10].

Jovan Apostolović studied medicine in Halle for approximately three and a half years (1754–1757), and records about this period of his education are scant. However, it is known that he was an exceptional student, and that he was taught, among others, by three distinguished professors. Johann Juncker was a prominent German physician and chemist who played a major role in transforming Halle into an internationally recognized center for practical medical training and clinical teaching [1, 11]. Friedrich Hoffmann, the son of Friedrich Hoffman Senior, was a German physician and chemist, one of the founders of the medical faculty in Halle, famous for introducing a series of transformative medicines into German medical practice [1, 12]. He was also taught by Andreas Elias Büchner, who authored a number of volumes on physiology, pathology, and pharmacology [1, 13].

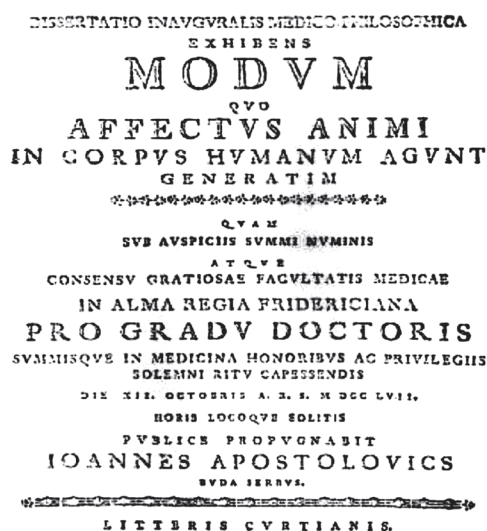


Figure 3. Front cover of Apostolović's Doctoral Thesis

DOCTORAL THESIS

On October 20, 1757, in Halle, Jovan Apostolović defended his doctoral thesis entitled “How Emotions Affect the Human Body” (Lat. *Dissertatio inauguralis medicophilosophica exhibens modum quo affectus animi in corpus Humanum agunt generatim*), thus becoming the first medical doctor among Serbs, and the first who has researched the influence of emotions on the body in such a modern way [1, 2, 7, 14]. It is interesting that the date stated in the document is October 12, therefore we can deduce that the defense of the thesis was postponed until October 20 [1].



Figure 4. 18th century Novi Sad

Jovan Apostolović's doctoral thesis was written in Latin, while on its cover (Figure 3) Apostolović signed his name as *Buda Serbus* (A Serb from Buda). What follows is a whole page of eulogy dedicated to the Viennese Medical School reformer, Gerard van Swieten [1, 7]. Apostolović may have dedicated his dissertation to Gerard van Swieten because van Swieten was a highly influential person, but also as a kind of apology for not having studied in Vienna at the Medical School there. Medical studies in Vienna took five years, which was two years more than in Halle, which might have influenced his choice [1, 7]. In the four pages of the foreword, Apostolović states that he "might be the first and the only one belonging to the glorious Serbian people who dedicated his spirit to medical science." He also expresses his hopes that "my people, famous for their destiny and their arms, would become famous for their literature and science that would contribute to the spiritual and bodily health. Maybe they will start the process of enlightening themselves, which would represent a struggle, not by a sword, but by art, for the benefit of their sweet homeland" [1].

Jovan Apostolović's doctoral thesis, with the title "How Emotions Affect the Human Body" is comprised of 40 pages divided into 65 paragraphs. Its content encompasses the basic elements of psychology, supported by the medical foundation of the time, with definitions and interpretations of the notions such as sensation, perception, and neural tone. Some of the interesting statements during Apostolović's lifetime claimed that "the thinking process stops when a pressure affects the brain," that "the nerves are hollow and filled with liquid," that "when the flow of the liquid is obstructed, due to pressure, the thinking process ceases to exist, which happens in cases of vertigo, when a person endures a great sorrow, or in similar intensive emotional states," as well as that "thoughts can be changed if the liquid in the nerves is changed with some noble wine, diet, or opiates" [1].

In his dissertation Apostolović claims that the neural liquid has the ability to think, and that the movement of the liquid through some parts of the brain produces thoughts; namely, that somewhere in the brain there is a kind of a spirit whose power is activated with the movements of neural liquid towards the creation of thoughts. Apostolović

opts for the last proposition, stating that that spirit creates the thoughts; the spirit is different from the body, its place is in the brain and he calls it a soul. Furthermore, he offers definitions and interpretations of the notions of sensation, perception and their origin through senses. He claims that nerves possess tone which depends on the "strain of certain small fibers" and that the nerves create pressure on the liquid in all directions, so that even the walls of the brain are strained, and that is how the neural tone is created." He tried to establish a relation between the philosophy and the medicine of his era, and to explain the notion of soul through human physiology. Krstić comments: "It would be very difficult today to follow everything Apostolović had written. It would be even more difficult to detect precisely all the source from which he drew" [1, 5]. It is a fact that in his work he cited and quoted from the famous names of his time, more than sixty of them. Apart from renowned scientist and medical experts of the 18th century, Jovan Apostolović also quoted lines of the Roman poet Ovid; he cites from Roman philosopher and poet Lucretius, refers to one of the greatest Greek philosophers, Aristotle, and many other notable scientists and thinkers [1, 5]. In order to understand this approach, it is important to stress the fact that in the 18th century physiology was still a speculative branch [1]. Although his thesis bears only a historical significance today, in the history of Serbian psychopathology it is seen as a first work in psychosomatic medicine, a field that barely existed anywhere in the world [1, 15]. One copy of Apostolović's dissertation is kept at the University Library in Budapest, while the other is kept at the British Museum in London [2].

THE LAST ELEVEN YEARS SPENT IN NOVI SAD

There is no reliable written evidence about where Jovan Apostolović spent the two years after he finished his studies, but it is probable that he returned to Buda and practiced as a doctor there [1, 2, 7]. Invited by the economically and nationally empowered Serbian civil community, he moved to Novi Sad in 1759 (Figure 4), where he continued working as a private practitioner. Although Novi Sad was a leading town in Serbia in Austria-Hungary, it did not have a single qualified doctor until the arrival of Jovan Apostolović [1]. People were uneducated about

their health, while lesser surgeries, tooth extractions, setting, and immobilization of broken bones were done by self-taught healers and barber surgeons [14]. Despite the fact that the bishop, Mojsej Putnik, referenced Jovan Apostolović for the post of the town doctor, the Hungarian Court Chamber did not give the necessary consent. The lack of approval was partially caused by the attitude of the Magistrate whose 12 senators governed the town, and who were greatly influenced by the barbers, mostly of Germanic origin [4, 5]. When the plague that was decimating Belgrade, Srem and part of Banat arrived at the end of 1762, the Novi Sad Magistrate held a meeting with the town councilors about the measures that needed to be taken to stop the contagion from spreading [1, 7]. On January 13, 1763, Jovan Apostolović was chosen for the post of the town doctor (*publicus civitatus medicus*), with the annuity of 300 forints. His degree was read aloud – and thus publically presented – at the session of the Magistrate, with the explanation that Jovan Apostolović deserved the greatest accolades [1]. His strict preventative and quarantine measures managed to save Novi Sad from tragedy threatened by the plague [1, 4]. Soon after the of contagion risk was gone, some town government representatives expressed their opinion that Jovan Apostolović's salary was too high, and that it should be cut to 200 forints a year, at the meeting with the Magistrate held on April 28, 1763. This is why Apostolović announced his resignation. The town councilors believed that the town did not need a doctor, and that the money spent on his salary could be invested into lumber or oxen trade. When the Magistrate was renewed on May 10, 1765, Jovan Apostolović was relieved of duty as the town doctor, two and a half years after his appointment [1, 4]. This verdict of dismissal was certainly also influenced by his religion and nationality, as well as the backward attitude towards health at the time, but also by the power that the barbers, catholic clergy and Germanic citizens had over the Magistrate [4, 5, 7]. Jovan Apostolović continued working as a private practitioner of medicine in Novi Sad until his untimely death in 1770, caused by tuberculosis [1, 2, 7] (Figure 5).

DISCUSSION AND CONCLUSION

Taking into consideration that the doctoral thesis of Jovan Apostolović was written in the 18th century, it is quite understandable that this work was to a considerable extent based on philosophical and speculative aspects.

REFERENCES

- Krstić U. Jovan Apostolović, prvi Srbin lekar. Zbornik Matice srpske za književnost i jezik. III; 1955:72–86.
- Rajković Đ. Stari srpski lekari. Glas istine: list za duhovne besede, životopise i starine. 1/10; 1884:74.
- Kovijanić R. Srbi koji su učili u Slovačkoj (XVIII - XIX vek). Zbornik Matice srpske za književnost i jezik. III/19; 1971:480.
- Njegovan D. Novi Sad u vreme prvog gradskog fizika dr Jovana Apostolovića. U: Naučni skup „Jovan Apostolović i njegovo vreme“, Novi Sad: SANU – Ogranak u Novom Sadu; 2008. str. 125–38.
- Jokanović B. Biografija Jovana Apostolovića O inauguralnim disertacijama. U: Naučni skup „Jovan Apostolović i njegovo vreme“, Novi Sad: SANU – Ogranak u Novom Sadu; 2008. str. 11–109.
- Popović D. J. Srbi u Budimu od 1690. do 1740. Beograd: Srpska književna zadruga; 1952.
- Stanojević V. Početak stvaranja srpskog lekarskog kadra. U: Spomenica 1872-1972. Beograd: Srpsko lekarsko društvo; 1972. str. 1–5.
- Čolović R. B. 50 godina hirurške sekcije Srpskog lekarskog društva. Beograd: Prosveta; 2000.



Figure 5. Sculpture of Jovan Apostolović in front of the building of Pasteur Institute in Novi Sad; work of B. Jokanović donated by the author

Apostolović's attempt to use the physiological phenomena of "neural tone," and the imbalanced "movement of nerve liquid" as a proof of connection between body and mind did not contribute much to the clinical, diagnostic or therapeutic aspects of psychiatry, but it was certainly an important step in stretching the boundaries of knowledge which was, at the time, largely influenced by idealist philosophy and religion.

Even though the importance of this dissertation is mostly national, cultural and historical, the insistence of Jovan Apostolović that the mind and body are a dynamically connected certainly makes him a founder of psychosomatic medicine, despite the fact that nowhere in his dissertation does he use the term 'psychosomatic'.

Conflict of interest: None declared.

9. Milić D. Doktorske teze prvih Srba lekara. Arhiv za istoriju zdravstvene kulture Srbije. 1988; 17(1-2):116–24.
10. Čolović, R. 800 godina srpske medicine i 140 godina srpskog lekarskog društva. U: 800 godina srpske medicine, Drugi naučni skup, Manastir Sv. Prohor Pčinjski, 9–12. 6. 2011.
11. Fichman M. Juncker, Johann. Encyclopedia.com. Pristupljeno aprila 2019. <https://www.encyclopedia.com/science/dictionaries-thesauruses-pictures-and-press-releases/juncker-johann>.
12. Reynolds F. J. 1921. Hoffman Eugene Augustus, Collier's New Encyclopedia. New York: P. F. Collier & Son Company. Pristupljeno aprila 2019. <https://www.revolvy.com/page/Eugene-Augustus-Hoffman>
13. Itterheim R. Hochgelehrt und hochgeehrt. Der Erfurter Arzt Andreas Elias Büchner (1701-1769) u *Ärztblatt Thüringen*. 2013; 24(5):296–8.
14. Grupa autora. Apostolović Jovan. U: *Medicinska enciklopedija*. Zagreb: Medicinska knjiga Beograd-Zagreb; 1967:303.
15. Golubović G. Z. Istorijski razvoj psihopatologije i psihijatrije. U: *Godišnjak za psihologiju*. Niš: Filozofski fakultet. 2008; 5(6-7):63–80.

Др Јован Апостоловић, први Србин доктор медицине – живот и дело

Зоран Гајић^{1,2}, Владимир Сакач^{2,3}, Борис Голубовић^{1,2}, Ксенија Бошковић^{1,2}

¹Универзитет у Новом Саду, Медицински факултет, Нови Сад, Србија;

²Клинички центар Војводине, Нови Сад, Србија;

³Научно друштво за историју здравствене културе Војводине, Нови Сад, Србија

САЖЕТАК

Јован Апостоловић је рођен између 1730. и 1735. године у Будиму, а преминуо је 1770. године у Новом Саду. Био је први српски школовани доктор медицине. По завршетку студија медицине у Халеу, у истом граду је 1757. године одбранио докторску дисертацију под називом „Начин на који уопште осећања делују на људско тело“, којом је први у историји српске медицине изучавао психосоматику, разматрајући утицај осећања на људски организам. По доласку у Нови Сад, 1759. године, обављао је приватну лекарску праксу као једини школовани лекар у граду. Због велике опасности да

се куга која се ширила на подручју Београда, Срема и Баната прошири и на Нови Сад, изабран је 1763. године за градског лекара, а те дужности је одлуком Магистрата разрешен 1765. године, и то услед утицаја и притисака тадашњих бербера, католичког клера и германског становништва на Магистрат. После разрешења наставио је да ради као приватни лекар у Новом Саду, све до 1770. године, када је умро од туберкулозе.

Кључне речи: Будим; дисертација; XVIII век; психосоматска медицина; осећања