



**СРПСКИ АРХИВ**  
ЗА ЦЕЛОКУПНО ЛЕКАРСТВО  
**SERBIAN ARCHIVES**  
OF MEDICINE

Address: 1 Kraljice Natalije Street, Belgrade 11000, Serbia

+381 11 4092 776, Fax: +381 11 3348 653

E-mail: [office@srpskiarhiv.rs](mailto:office@srpskiarhiv.rs), Web address: [www.srpskiarhiv.rs](http://www.srpskiarhiv.rs)

Paper Accepted\*

ISSN Online 2406-0895

History of Medicine / Историја медицине

Zoran Gajić<sup>1,2</sup>, Vladimir Sakač<sup>2,3</sup>, Boris Golubović<sup>1,2</sup>, Ksenija Bošković<sup>1,2,†</sup>

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

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

<sup>1</sup>University of Novi Sad, Faculty of Medicine, Novi Sad, Serbia;

<sup>2</sup>Clinical Centre of Vojvodina, Novi Sad, Serbia;

<sup>3</sup>Scientific Society for the History of Health Culture of Vojvodina, Novi Sad, Serbia

Received: June 10, 2019

Revised: October 10, 2019

Accepted: October 11, 2019

Online First: October 17, 2019

DOI: <https://doi.org/10.2298/SARH190610113G>

\***Accepted papers** are articles in press that have gone through due peer review process and have been accepted for publication by the Editorial Board of the *Serbian Archives of Medicine*. They have not yet been copy-edited and/or formatted in the publication house style, and the text may be changed before the final publication.

Although accepted papers do not yet have all the accompanying bibliographic details available, they can already be cited using the year of online publication and the DOI, as follows: the author's last name and initial of the first name, article title, journal title, online first publication month and year, and the DOI; e.g.: Petrović P, Jovanović J. The title of the article. *Srp Arh Celok Lek*. Online First, February 2017.

When the final article is assigned to volumes/issues of the journal, the Article in Press version will be removed and the final version will appear in the associated published volumes/issues of the journal. The date the article was made available online first will be carried over.

†**Correspondence to:**

Ksenija BOŠKOVIĆ

University of Novi Sad, Faculty of Medicine, Hajduk Veljkova 3, 21000 Novi Sad, Serbia

E-mail: [boskovickksenija@gmail.com](mailto:boskovickksenija@gmail.com)

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

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

### 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; 18<sup>th</sup> century; psychosomatic; emotions;

### САЖЕТАК

Јован Апостоловић рођен је 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 своју 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, које дужности је одлуком Магистрата разрешен 1765. године, и то услед утицаја и притисака тадашњих бербера, католичког клера и германског становништва на Магистрат. Након 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

### 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, 2, 3, 4, 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. [6] (Figure 1). 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, 8], 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 chose to

continue his education in Pressburgrather 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 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, in that same year Jovan Apostolović continued his education as a student at the medical faculty in the Prussian Protestant city of Halle, on 18 May 1754. [8] (Figure 2). Halle was a large and highly populated city for its time, due to a great number of schools; in 1782 Dositej Obradović called it “the seat of the muses and divine sciences”. The reasons why Apostolović went to Halle to undertake his medical studies lie in the fact that its medical faculty was founded as early as 1694 and that Halle was a prestigious university town, but it is also certain that he was further influenced by his Protestant professors in Pressburg. Nevertheless, the principal reasons he did not choose Vienna, which is only 80km away from Pressburg, are perhaps to be found 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, 8] owing to the fact that 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 Johann Juncker, a prominent German physician and chemist who played a major role in transforming Halle into an internationally recognized centre for practical medical training and clinical teaching [1, 11], Friedrich Hoffmann, the son of Friedrich Hoffman Senior, 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], and Andreas Elias Büchner, who authored a number of volumes on physiology, pathology and pharmacology [1, 13].

## DOCTORAL THESIS

On the 20<sup>th</sup> October, 1757, in Halle, Jovan Apostolović defended his 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 [1,2,8] and the first who has researched the influence of emotions on the body in such a modern way. [1, 14] It is interesting that the date stated in the document is October 12<sup>th</sup>, therefore we can deduce that the defense of the thesis was postponed until October 20<sup>th</sup> [1].

Jovan Apostolović's doctoral thesis was written in Latin language, 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, 8]. Apostolović might 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, 8]. 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, and maybe they will start the process of enlightening themselves which would represent a struggle, not by 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 more interesting statements during Apostolović's life time 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 also 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. Further on, he offers definitions and interpretations of the notions of sensation, perception and their origin through senses, claiming 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 also to explain the notion of soul through human physiology. Krstić makes a comment: “It would be very difficult today to follow everything Apostolović’s 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 cites and quotes from the famous names of his time, more than sixty of them. Apart from renowned scientist and medical experts of the 18<sup>th</sup> century, Jovan Apostolović also quotes 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 18<sup>th</sup> century physiology was still a speculative branch [1]. Although his thesis today bears only a historical significance [1], 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 [15]. One copy of Apostolović’s dissertation is kept at the University Library in Budapest, while the other is in 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, 8]. 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 leader among Serbian towns 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 Jovan Apostolović received a reference for the post of town doctor by bishop Mojsej Putnik, the Hungarian Court Chamber did not give the necessary consent, and the lack of approval was partially caused by the attitude of the Magistrate whose twelve 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 councillors about the measures that needed to be undertaken in order to stop the contagion from spreading [1, 8], after which, on 13<sup>th</sup> January 1763, Jovan Apostolović was chosen for the post of the town doctor (Latin *publicus civitatus medicus*), with the annuity of 300 forints. His degree/diploma (privilege/licence) was read aloud – and thus publically presented – at the session of the Magistrate, with the explanation that Jovan Apostolović deserved the greatest accolades [1]. Even though his strict preventative and quarantine measures managed to save Novi Sad from a great tragedy threatened by the plague [1, 4], soon after the danger of contagion was gone, at the meeting with the Magistrate held on 28 April 1763, 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, which is why Apostolović announced his resignation. The town councillors 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 10<sup>th</sup> May 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 [8], but also by the power that the barbers, catholic clergy and Germanic citizens had over the Magistrate [4, 5]. Jovan Apostolović continued working as a private practitioner of medicine in Novi Sad until 1770 [1, 2, 8], when he died, much too early, of tuberculosis [8] (Figure 5).

## DISCUSSION AND CONCLUSION

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

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, Jovan Apostolović's insistence that the mind and body are a dynamically connected whole 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.

**REFERENCES**

- 1 Krstić U. Jovan Apostolović, prvi Srbin lekar. Zbornik Matice srpske za književnost i jezik III; 1955: 72-86.
- 2 Rajković Đ. Stari srpski lekari. Glas istine: list za duhovne besede, životopise i starine. 1/10; 1884; 74.
- 3 Kovijanić R. Srbi koji su učili u Slovačkoj (XVIII - XIX vek). Zbornik Matice srpske za književnost i jezik. III/19; 1971: 480.
- 4 Njegovan D. Novi Sad u vreme prvog gradskog fizika dr Jovana Apostolovića, u: Naučni skup „Jovan Apostolović i njegovo vreme“, SANU - Ogranak u NovomSadu, Novi Sad, 2008, str. 125–138. ISBN: 978-86-81125-64-9.
- 5 Jokanović B. Biografija Jovana Apostolovića O inauguralnim disertacijama, u: Naučni skup „Jovan Apostolović i njegovo vreme“, SANU - Ogranak u NovomSadu, Novi Sad, 2008:11–109. ISBN: 978-86-81125-64-9.
- 6 Popović D. J. Srbi u Budimu od 1690. do 1740. Beograd: Srpska književna zadruga; 1952.
- 7 Čolović R.B. 50 godina hirurške sekcije Srpskog lekarskog društva. Beograd, Prosveta; 2000.
- 8 Stanojević V. Početak stvaranja srpskog lekarskog kadra u Spomenica 1872-1972. Beograd: Srpsko lekarsko društvo; 1972: 1-5.
- 9 Milić D. Doktorske teze prvih Srba lekara. Arhiv za istoriju zdravstvene kulture Srbije, 1988;17(1-2):116-124.
- 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, 9-12.06.2011.
- 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 *Ärzteblatt Thüringen*. 24 (5); 2013: 296–298.
- 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. Filozofski fakultet, Niš, 2008., Vol. 5 No. 6-7, 63-80.



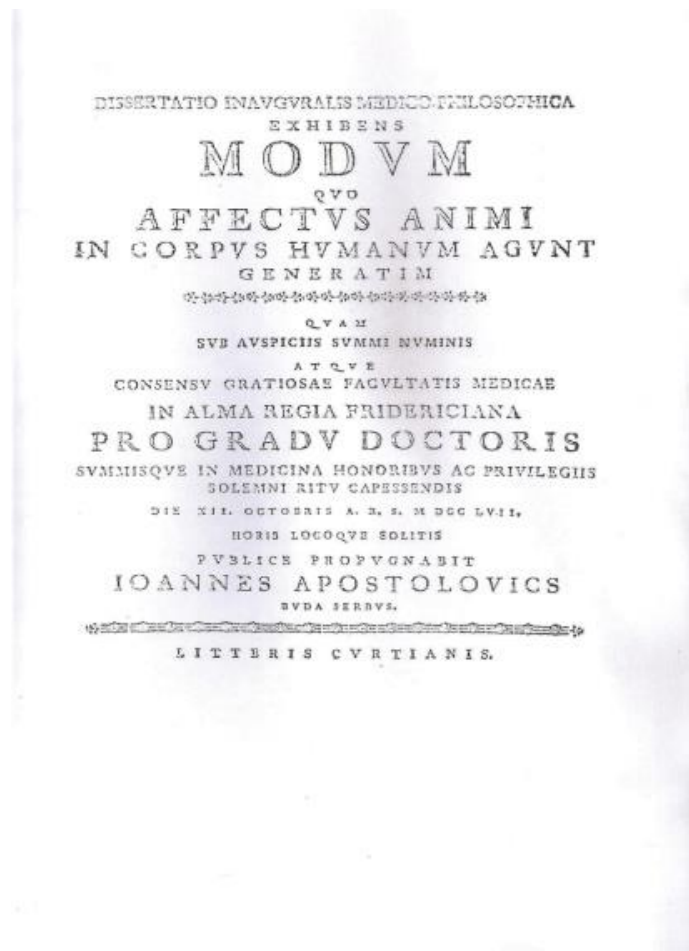


**Figure 1.** 18<sup>th</sup> century Buda; downloaded from <https://forum.krstarica.com/showthread.php/432630-Сербски-времеплов>

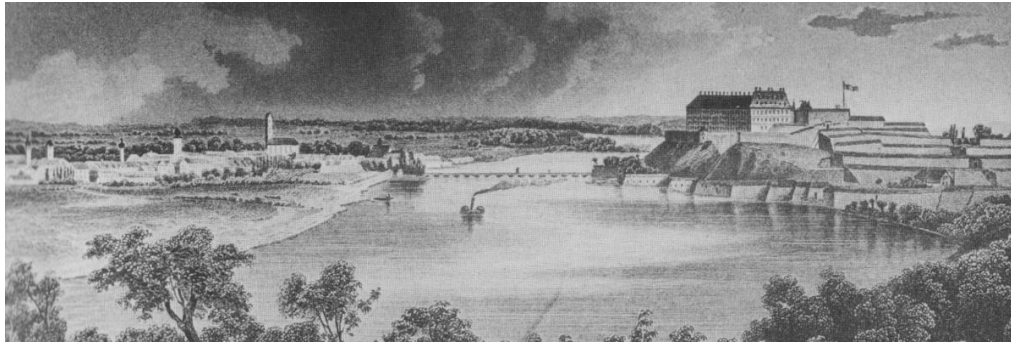


**Figure 2.** 18th century Halle; downloaded from <https://www.vialibri.net/>

Paper accepted



**Figure 3.** Front cover of Apostolović's Doctoral Thesis; downloaded from <http://www.srpskilegat.rs/>



**Figure 4.** 18<sup>th</sup> century Novi Sad; downloaded from <http://novisad2021.rs/istorija/>

Paper accepted



**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; downloaded from <http://srpskoblagor.rs/jovan-apostolovic/>