

# The History of the Study of the Etiology, Pathogenesis, Diagnosis, Treatment, and Prevention of Syphilis, in the Reflection of Philately, Numismatics and Bonistics

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## ABSTRACT

The article presents the results of the research concerning the study of the presentation in the collection of scientists involved in the diagnosis and treatment of syphilis. An interesting biographical and illustrative material concerning the scientific achievements of scientists of many countries is presented. The article is of interest for doctors, medical workers of different directions, students and historians of medicine, collectors and a wide range of readers.

**Keywords:** Syphilis; Doctors; Medical Scientists; Discovery; Treatment; Medical History; Philately; Numismatics; Commemorative medals; Bonistics

## Introduction

This article presents research materials concerning the question of the stages of diagnosis and treatment of syphilis, the discovery of its causative agent, the creation of effective means of its treatment, as well as the presentation of scientists from various countries who have dealt with this issue. And all this will be presented in a reflection of the means of collecting, such as philately, in all its diversity, numismatics, with a presentation of table commemorative medals, and bonistics. Unfortunately, not all of the heroes of the struggle against syphilis have collection materials. Therefore, speaking of these scientists, we presented their photographs of the period when they performed their scientific feat. All images of postage stamps, medals, banknotes,

archival materials, were taken by the author of the article from open sources on the Internet, from the sites that are listed in the list of sources used. Also, the article uses the author's own collection materials.

## Aim of the Work

The purpose of this article is to reflect the theoretical and illustrative data on the history of discovery, etiology, its heroes - scientists and doctors, as well as - on the pathogenesis, diagnosis, treatment and prevention of syphilis, in the reflection of such means of collecting as philately and numismatics - on postage stamps, cards and envelopes, as well as, on commemorative medals.

## Material and Methods

When writing this research article, the author used such methods of research as a literary and critical analysis, available thematic materials on the issue under study. Also, actively, with the help of the Internet, special, professional Internet sites and thematic philatelic and numismatic Internet pages and articles were used. All presented illustrative materials are made in the form of screenshot-copies, with strict observance of copyrights and sources of their borrowing.

## Results of the Study and Discussion

We would like to start with the fact that people have been studying syphilis since ancient times. There are descriptions of this disease, its

symptoms and clinical manifestations in the works of Hippocrates, Abu Ali ibn Sina and a number of other ancient scientists [1,2]. Collection materials devoted to the fathers of medicine are shown in Figure 1 [3,4]. The most famous name of the disease appeared thanks to a poem by the humanist and physician Girolamo Fracastoro (1458-1553), a professor at the University of Padua (Italy), which was published in 1530 under the title "Siphilis, or On the Gallic Disease. The word "syphilis" itself was coined by Fracastoro after the mythical swineherd Siphilus, who angered the gods and was consequently punished by a contagious disease. The new term superseded the original name of the disease, «Lues» (Latin for "contagion"), which was still unknown to Europeans [5].



Figure 1: Collection materials devoted to Hippocrates and Avicenna.

Figure 2, presents a postage stamp of the State of San Marino, an envelope and a postage stamp of Italy, Republic of Niger, with the portrait of the scholar and the dates of his birth, thematically dedicated to the scholar, as well as, in obverse and reverse, as well as commemorative bronze medals, in obverse and reverse, and a second-hand book on syphilis of the scholar, dedicated to this scholar [3,4,6-10]. The detection and identification of the syphilis pathogen have been dealt with by researchers in many countries. At different times it has been detected independently of each other by many scientists. But, historically recorded that officially, the causative agent of syphilis, pale spirochete (*Treponema pallidum*), was

discovered by German researcher Fritz Richard Schaudin [4,11,12]. According to reference books and encyclopedias, Fritz R. Schaudin (1871-1906), German zoologist and microbiologist, protistologist, foreign corresponding member of the St. Petersburg Academy of Sciences (1905). Together with the dermatovenerologist Paul Erich Hoffmann, he discovered (1905) the causative agent of syphilis [11-14]. Paul Erich Hoffmann (1868-1959) studied experimental syphilis, suggested earlier treatment of this disease with salvarsan, and in 1957 developed an accelerated method of syphilis diagnosis [14]. Figure 3a (F.R. Schaudin) and Figure 3b (P.E. Hoffmann) show pictures of these scientists [11-14] (Figure 3).



Figure 2: Philatelic and numismatic materials devoted to Girolamo Fracastoro.

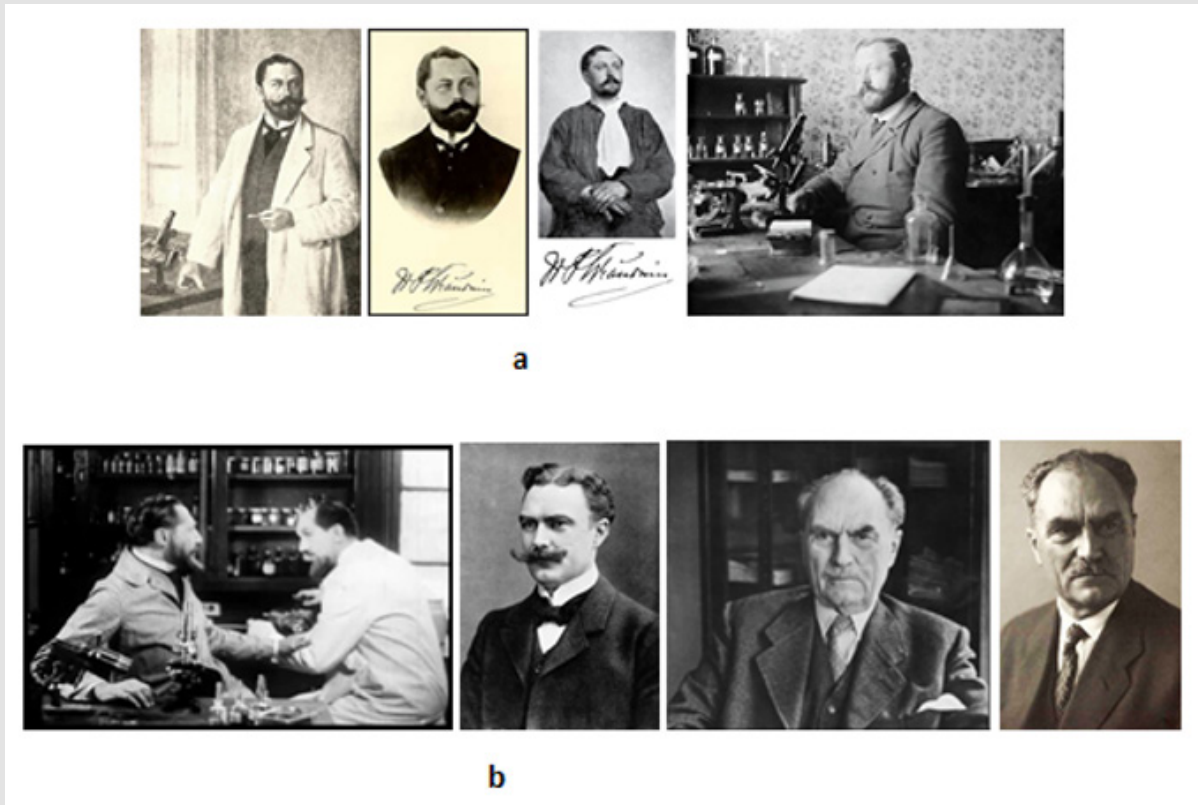


Figure 3: F.R. Shaudin and P.E. Hofmann in archival photographs.



Figure 4: Philatelic materials devoted to J.V. Bordet.

Next, we would like to introduce the Belgian scientist, Jules Bordet, who left a significant mark on the diagnosis of syphilis. Bordet, Jules Jean Baptiste Vincent (1870-1961) was a Belgian bacteriologist and immunologist who won the 1919 Nobel Prize in Physiology or Medicine for his work in the field of immunology. Together with Octave Jangu he described the complement binding reaction - immune proteins present in human and animal serum and responsible for the bactericidal effect of blood. Complement fixation was the prototype of the A. Wasserman reaction, which is used today to detect syphilis [11,15,16]. The research of J.W. Bordet and his colleagues from the Pasteur Institute in Brussels provided the basis for the detection and treatment of such diseases as typhoid, tuberculosis and syphilis. Figure 4 shows postage stamps of several countries dedicated to Nobel laureate J.W. Bordet [11,15,16].

Also, as an addition, I would like to present a commemorative medal and plaque (not a circular medal), in the obverse and reverse, dedicated to Jules W. Bordet, which are shown in Figure 5 [11,15-17]. One should also note the scientific works of Daniil Kirillovich Zabolotny in the study of syphilis etiopathogenesis [[18,19],

p. 72-80]. Daniil Kirillovich Zabolotny was a Ukrainian Soviet bacteriologist. President of the All-Ukrainian Academy of Sciences, Academician of the Academy of Sciences of the USSR [[17,18], p. 72-80]. Author of numerous scientific works on plague, cholera, malaria, syphilis, diphtheria, typhus and other diseases. For several years he studied syphilis, and he generalized them in his doctoral dissertation "Syphilis, its pathogenesis and etiology" (1909) [[18,19], p. 72-80]. The scientist also studied the clinical course of syphilis. He wrote a number of articles on syphilis, in particular such as "Spirochetes in syphilis", 1905; "Observations on movement and adhesion of pale spirochete", 1907; Zabolotny D.K. Syphilis, its pathogenesis and etiology. St. Petersburg, 1909. D.K. Zabolotny developed serological reactions for diagnostics, described properties and locations of syphilis pathogen in organism [[18,19], p. 72-80]. A number of collection materials devoted to D.K. Zabolotny are presented in Figure 6 [3,4]. I.I. Mechnikov (1845-1916), a Nobel Prize winner, was also involved in syphilis diagnosis. I.I. Mechnikov and E. Roux were the first to prove the presence of pale spirochaetes in syphilis in monkeys [[20], pp. 353-355]. Collection materials devoted to I.I. Mechnikov are presented in Figure 7 [3,4,20].



Figure 5: Commemorative medals dedicated to J.V. Bordet.



Figure 6: Collection materials devoted to D.K. Zabolotny.



Figure 7: Collection materials devoted to I.I. Mechnikov.

In this selection, we would like to present the collection materials devoted to Emile Roux, which are shown in Figure 8 [3,4]. The participation of the German microbiologist, bacteriologist, Nobel Prize laureate in medicine and physiology, Paul Ehrlich, and his longtime collaborator and assistant, Japanese scientist Sahachiro Hata, cannot be overlooked [21]. It was they who created a drug for the treatment

of syphilis called Salvarsan. Subsequently, this drug became known as “Arsphenamine” and “Preparat-606” (number 606 is the number in the list of arsenic-containing compounds synthesized and tested by -developers as an anti-syphilitic agent) Figure 9 [21]. Collection materials devoted to these scientists are shown in Figure 8 [3,4].



Figure 8: Collection materials devoted to Paul Ehrlich and Sahachiro Hata.



Figure 9: Emile Roux on collection materials.

Also, I would like to introduce, Nobel laureate, Julius, von Wagner-Jauregg (1857-1940), Austrian psychiatrist, winner of the Nobel Prize in Physiology and Medicine in 1927 [22,23]. In 1890 he suggested the use of “fever” therapy for the treatment of progressive paralysis, in 1917 he was the first to inoculate malaria in patients suffering from this disease. He substantiated the principles of “irritant” therapy, developed the method of malaria therapy. The latter was also used by him in treating syphilis, neurosyphilis [11,23]. Collection materials devoted to this scientist are shown in Figure 10 [17,22,23]. Of course, it is difficult to present in one article all the heroes of medicine who have devoted themselves to the fight against syphilis. Therefore, this study will have a continuation, and its materials will be presented in the next article.

## Conclusion

1. The history of the struggle against syphilis, the representation of the medical scientists and physicians of various medical specialties who took part in this process, is illustrated in a fairly comprehensive way in a variety of collection media.
2. These materials can be used to supplement and illustrate, when studying the history of medicine and the biographies of these scientists.

## References

1. History of Medicine-Hippocrates -Silver Medal Coin 1oz | #161897320.
2. (2012) Coin: 200 Euro, Hippocrates - Father of Medicine, Greece.
3. (2013) Michael's catalog of the whole things of Europe and the world / by B. Albert. (8<sup>th</sup> Edn.), Without place of publication. Michel, pp. 1098.
4. (2015) Scott specialized catalogue of Worlds stamps. New York: Scott. HE6185.U5 S3 55<sup>th</sup>, pp. 876.
5. Syphilis: history of emergence.
6. (2003) San Marino Girolamo Fracastoro Italian Physician. pp. 1478-1553.
7. History Of Medicine Doctor Girolamo Fracastoro.
8. Storia di Verona: girolamo fracastoro.
9. Fracastoro Girolamo.
10. GIROLAMO FRACASTORO.
11. Experimental syphilis.
12. SHAUDIN Fritz Richard - Biographical Encyclopedia of Personality.
13. (1903) Shaudin Frits - Cyril and Methodius Mega Encyclopedia.
14. Erich Hoffmann Pictures | Getty Images.
15. Nobel Laureates: Jules Bordet: med\_history.
16. Biography of Jules Bordet.
17. Auction 2 | First Auctions JPG- Genève.
18. Zabolotny Daniel Kirillovich - StudFiles.
19. Andrushkevich TV, Daniel Kirillovich Zabolotny (2008) and the Imperial Institute of Experimental Medicine. Medicine. XXI century. Publisher: Medical Faculty of St. Petersburg State University 8: 72-80.
20. Bugaevsky KA II (2017) Mechnikov's contribution to world science, reflected in philately, numismatics and faleristics // Biologicheskii dosledzheniya: zbirka naukovykh materialiv VIII Allukran'noi naukovo-praktichniki konferentsii. Zhytomyr, 14-16 February, pp. 353-355.
21. Bugaevsky KA (2018) Scientific feat of Paul Ehrlich in the reflection of the means of collection // Bulletin of the Council of Young Scientists and Specialists (VSMUS) 74. Chelyabinsk. Medical sciences 12(21): 14-19.
22. Medaille OJ. Personen Bronze Wagner-Jauregg Julius von.
23. (1953) File: Austria 500 Shillings -avers.jpg Wikimedia Commons.

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