

Doctor of medicine A.I. Rammul's Moscow period of work (1905–1915)

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An attempt has been made to reconstruct doctor of medicine A.I. Rammul's period of work in Moscow (1905–1915). Rammul's name is associated with the development of scientific hygiene and epidemiology in Russia. On the basis of an analysis of archival materials, an assessment is given of the elective course developed by Rammul on the epidemiology of infectious diseases (cholera and typhus) at the Medical Faculty of Imperial Moscow University in 1912. The authors consider the circumstances associated with the creation of this course and the appointment of Rammul as privatdozent of the hygiene department of the Medical Faculty of Imperial Moscow University. The previous stage of Rammul's work is assessed (as head of the analytical laboratory at the Rublevskaya waterworks at the Moskvoretsky public water supply and a member of the Commission of Sanitary Physicians of Moscow), which was important for him gaining experience in epidemiology. Rammul's achievements in the field of improving the sanitary and epidemiological situation in Moscow allow us to consider him a successor to the traditions of the hygiene schools of F.F. Erisman and G.V. Khlopin. During the research, an inaccuracy was eliminated in the date of the scientist's first trip abroad, which was found in publications devoted to him. An analysis of Rammul's work reveals particular developments in medical education at Imperial Moscow University in the early 20th century. The archival data on Rammul's Moscow period of life will help supplement modern understanding of the development of scientific hygiene and epidemiology in the Russian Empire at the beginning of the 20th century, and provide a more nearly complete picture of the history of Russian medicine in general. The work presents previously unpublished documents from the archive of the Imperial Moscow University, stored in the Central State Archives of Moscow.

Keywords: *A.I. Rammul, Imperial Moscow University, Moskvoretsky public water supply, Rublevskaya waterworks, infectious diseases*

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Introduction

Alexander Ivanovich (Yanovich) Rammul (1875–1949)¹ was a Russian–Estonian scientist, hygienist, epidemiologist, and doctor of medicine (1909), a privatdozent at the medical faculty of Imperial Moscow University (IMU,

1912–1915), and a Russian scientist who has nearly been forgotten today. References to him are rarely encountered in the scientific literature [1–4]. However, during his work as head of the analytical laboratory of the Rublevskaya Waterworks (1905–1915), Rammul took part in improving oversight of Moscow's centralised water supply system. Over the course of a few years (1912–1915), he taught as a privatdozent an elective course on the epidemiology of infectious diseases (cholera and typhus) at the Hygiene department of the IMU medical

¹ Rammul was born on April 4 (March 23), 1875, in Yuryev (Dorpat, Governorate of Livonia), and died February 23, 1949, in Berlin.

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faculty.² In this article, we make one of the first attempts to examine in detail the Moscow period of Rammul's work (1905–1915) – the time of his development as a scientist in the field of hygiene and epidemiology and the period during which he transitioned into teaching epidemiology at IMU.

Period of Professional Development

Rammul's scientific interests formed during his medical studies at the University of Yuryev, from which he graduated in 1899.

At the end of the 19th century and beginning of the 20th, the struggle against infectious diseases – cholera, plague, typhus, and others – was one of the most pressing problems in medicine. Scientists did not yet clearly understand infection pathways, but there was a hypothesis which claimed that infection was transmitted through water (epidemics occurred most often in localities with poor water quality and a low standard of living).

As a result, the medical community began to pay particular attention to water quality and safety, as well as to the sources of water supply. A system of thought on the issues surrounding drinking water quality in Russia formed in connection with the work of Fyodor Fyodorovich Erismann,³ one of the leaders of the major public health measures carried out in Moscow in the 1880s and early 1890s. He participated in establishing a municipal water system, a sewage system, and sewage farms, as well as a sanitation center – in other words, all the key elements of municipal public services. Moreover, it was Erismann who first put forward the idea that it was possible to completely eliminate certain infectious diseases [5, p. 38]. He successfully developed an integrated approach to evaluating water quality and choosing a source for water supply [6, pp. 257–266]. Within Erismann's water evaluation, the entire body of data is considered – not just the physical and chemical composition of the water, but also the quality of the soil through which the water passes, the possibility of pollution, the means and degree of

pollution, and other factors [6, p. 258]. Erismann's fundamental approaches to water hygiene and the organisation of water supply were elaborated on by his pupil and a member of his hygiene laboratory, Grigory Khlopin.⁴ Khlopin was a professor in the hygiene department of the University of Yuryev medical school when Rammul studied there. It was most likely interaction with him which gave rise to Rammul's scientific interest in the issues of infectious diseases transmitted through water and determined his choice for the direction of his medical research. Rammul's first printed academic work was on the problem of Yuryev's water supply: "The Embach River as a Source for the Water Supply of Populated Areas" (published in 1902) [7]. (Members of the IMU department of hygiene subsequently noted in an analysis of Rammul's academic works and achievements that this study "was produced systematically and methodically, and the author's conclusions should be regarded as interesting not only in a practical respect, but scientific as well".⁵) The study was declared successful, and Rammul received a gold medal from the University of Yuryev medical faculty, which gave him the right to travel abroad "for educational purposes". In 1900, after graduating from university, he was sent to study bacteriology in professor Max Rubner's⁶ Institute of Hygiene in Berlin. In Rammul's biographies this trip is dated 1909 [2, 3]. However, Rammul's curriculum vitae, which we discovered in one of the files in the collections of the Central State Archive of the City of Moscow, indicates that the journey occurred in 1900, from May 20 to August 20⁷ – immediately after his graduation from university (fig. 1). This discrepancy can be explained by the fact that in

⁴ Grigory Vitalevich Khlopin (1863–1929) was a scientist and hygienist, a member of the experimental movement in hygiene. From 1896–1903, he was a professor of hygiene at the University of Yuryev; beginning in 1903, he was head of the department of hygiene at Novorossiysk University.

⁵ File of the Council of Imperial Moscow University. Alexander Rammul – privatdozent. TsGAM. F. 418. Op. 90. D. 677. L. 9.

⁶ Max Rubner (1854–1932) was a German physiologist and hygienist. His research concerning chemical substances in the metabolism of microorganisms, which became the basis for microbiological methods of identifying microorganisms, is of particular value.

⁷ File of the Council of Imperial Moscow University. Alexander Rammul – privatdozent. TsGAM. F. 418. Op. 90. D. 677. L. 6, 7.

² File of the Council of Imperial Moscow University. Alexander Rammul – privatdozent. Curriculum vitae of doctor of medicine Alexander Rammul. Central State Archive of the City of Moscow (TsGAM). F. 418. Op. 90. D. 677. L. 7.

³ Fyodor Fyodorovich Erismann (1842–1915) was a prominent Russian hygienist of Swiss origin, founding father of the social hygiene movement in medicine, and founder of the Moscow school of hygiene.

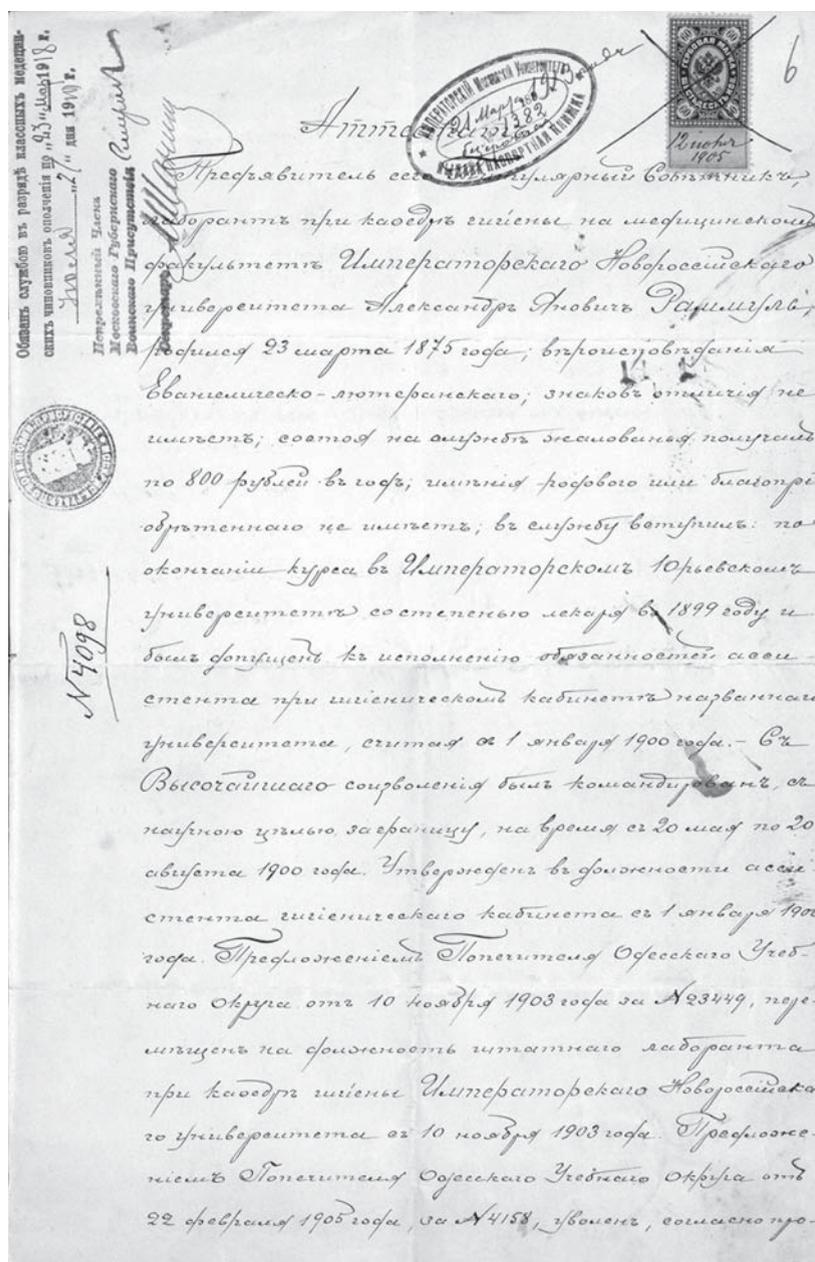


Fig. 1 (a–b). Rammul's diploma from Imperial Novorossiysk University. TsGAM. F. 418. Op. 90. D. 677. L. 6.⁸

⁸ Image text:

Diploma

The bearer of this [diploma], a Titular Councillor and laboratory assistant at the department of hygiene in the medical faculty of Imperial Novorossiysk University, Alexander Yanovich Rammul, was born on March 23, 1875; is of the Evangelical Lutheran faith and bears no decorations; while serving, received in compensation 800 rubles a year; does not have an ancestral or acquired estate; went into service; on graduation from Imperial Yuryev University with the degree of physician in 1899, was allowed to perform the duties of teaching assistant in the hygiene center of the aforementioned university beginning January 1, 1900. With Imperial permission, he was sent abroad for educational purposes for the period from May 20 to August 20, 1900. He was approved for the position of teaching assistant in the department of hygiene beginning January 1, 1900. At the proposal of the Trustee of the Odessa Educational District of November 10, 1903, № 23449, he was transferred to the post of staff laboratory assistant in the hygiene department of Imperial Novorossiysk University beginning November 10, 1903. At the proposal of the Trustee of the Odessa Educational District of February 22, 1905, № 4158, he was discharged, at his re-

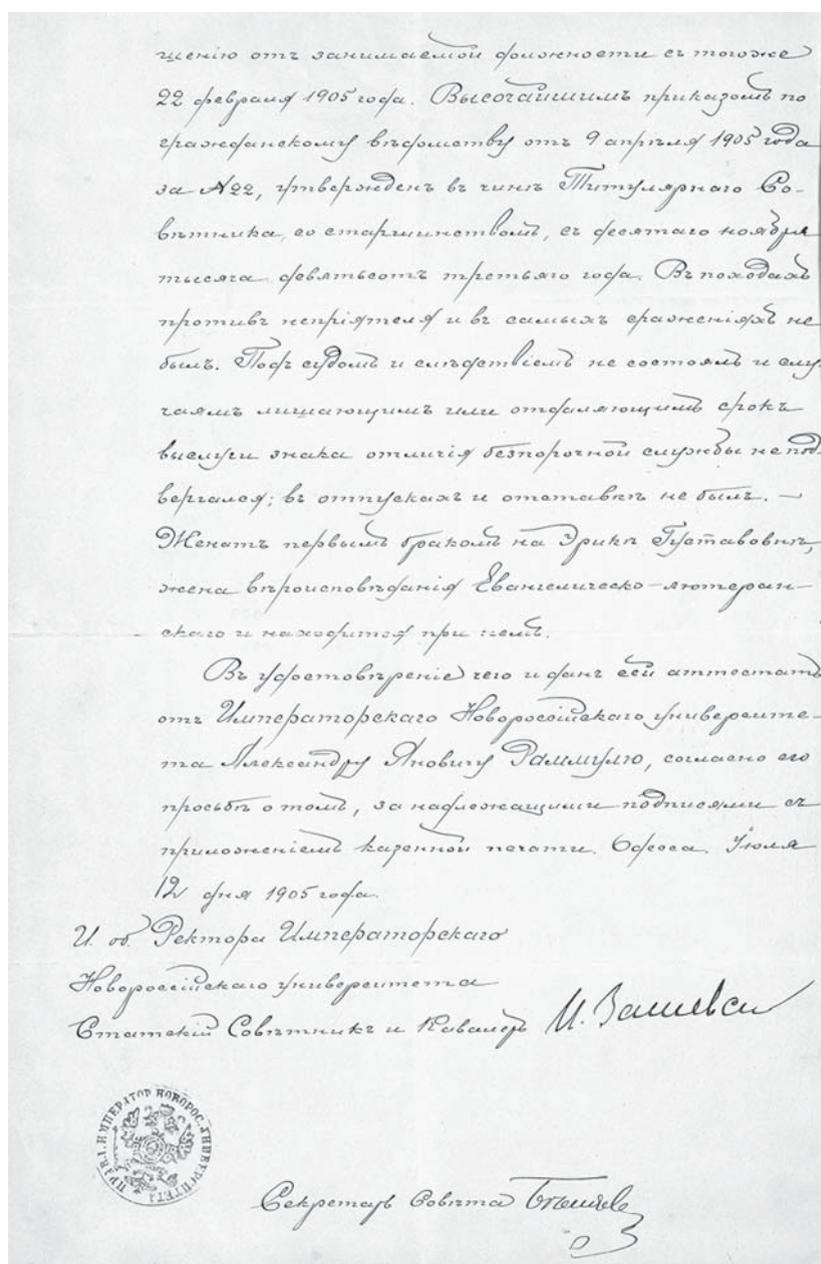


Fig. 1b. The reverse side of Rammul's diploma from Imperial Novorossiysk University.

TsGAM. F. 418. Op. 90. D. 677. L. 6 ob.⁹

⁹ Image text:

—quest from the position he occupied, also on February 22, 1905. By the Imperial order of the civil administration of April 9, 1905, № 22, he was appointed to the rank of Titular Councilor, with seniority, from the tenth of November of the year nineteen hundred and three. He was not in any campaigns against the enemy or any battles. He has never been on trial or under investigation, and he has not been subject to any events depriving him of or postponing the length of service for an honorable distinction for irreproachable service; he has not been on leave or retired.

He is married by his first marriage to Erika Gustavovna, of the Evangelical Lutheran faith, and is still so.

In witness whereof, this diploma is granted by Imperial Novorossiysk University to Alexander Yanovich Rammul, according to his request, with the appropriate signatures and under the state seal. Odessa, July 12, 1905.

Vice-Rector of Imperial Novorossiysk University

State Councilor and Cavalier (signature)

Secretary of the Council (signature)

1909, Rammul again studied in the chemical laboratory of a famous scientist — IMU professor Vladimir Gulevich.¹⁰ Rammul thereby gained experience conducting research immediately after graduation, which became the foundation for his work in the analytical laboratory of the water supply station. Also in 1900, Rammul became an acting teaching assistant in the hygiene department under the direction of Grigory Khlopin and an employee in the hygiene center at the University of Yuryev; then, starting in November 1903, he worked as Khlopin's laboratory assistant in the hygiene department of Novorossiysk University in Odessa [3, p. 179].

The range of subjects in which Rammul took an interest in this period was not limited to the problem of water supply sanitation. During his work at Novorossiysk University, he dealt with various issues relating to experimental hygiene: among other publications, his article "A Study of 200 Textbooks and Teaching Aids Concerning Sanitation" [8] was released in 1902, and in 1909 he published "A Sanitation Study of the Central Steam Heating and Ventilation in the Medical Laboratories Building and Surgical Clinic of Novorossiysk University" [9]. Rammul defended his dissertation (the topic was "Information for a Sanitation Assessment of Certain Systems of Central Heating and Ventilation"¹¹) and became a doctor of medicine. In the memorandum concerning the analysis of Rammul's academic works, members of the IMU hygiene department noted the author's ability to deal critically with data and his capacity for correctly evaluating his findings.¹²

To understand the environment in which Rammul worked in Odessa, one must bear in mind that this same city held the Odessa bacteriological station, founded by Ilya Mechnikov in 1886 — one of the most advanced in the country at that

time. At the beginning of the 20th century, this laboratory was headed by Petr Diatroptov.¹³

In the history of the creation of drinking water distribution systems in Russian cities, it is significant that Diatroptov, in a report at the Fourth Russian Water Supply Congress in Odessa in April 1899,¹⁴ demonstrated the need to establish health and sanitation monitoring of cities' water supplies, as well the importance of doctors' participation in selecting the source for water systems and discussing issues concerning the establishment of a water delivery system [10].

Such health and sanitation monitoring was established at the Rublevskaya Waterworks in Moscow, and Rammul was offered a position as head of the analytical laboratory [11]. He moved to Moscow in the beginning of 1905.

Rammul's Work at the Rublevskaya Waterworks Laboratory

By the beginning of the 20th century, the need to supply clean, safe water to Moscow gained new urgency. The quality of water obtained from the wells of the Mytishchi waterworks had deteriorated drastically due to an increase in the city's population and the construction of a central sewage system (1898). On account of the depletion of water sources, there were reports of a decline in groundwater and a gradual increase in the mineral content (calcium, magnesium, sulfuric acid) and overall hardness of the water [12, p. 8]. Moreover, no sanitation monitoring of water quality was conducted at the Mytishchi waterworks. The lack of sanitation monitoring was one of the primary reasons for the frequent outbreaks of acute intestinal diseases (cholera and dysentery) among the city's residents.

City authorities decided to build a new water system — the Moskvoretsky system. Extensive scientific and public work was undertaken before this water system came to be considered

¹⁰ Vladimir Sergeevich Gulevich (1867–1933) was a Russian biochemist famous for his discoveries of carnosine and carnitine. He was the author of the first Russian guidelines for medical chemical analysis and head of the department of medicinal faculty in 1909.

¹¹ Medical faculty file on the acceptance of Alexander Rammul as a privatdozent. TsGAM. F. 418. Op. 418. D. 123. L. 7.

¹² Medical faculty file on the acceptance of Alexander Rammul as a privatdozent. TsGAM. F. 418. Op. 418. D. 123. L. 7 ob.–8.

¹³ Petr Nikolaevich Diatroptov (1858–1934) was an eminent hygienist and microbiologist, head of the laboratory of the Odessa Bacteriological Station in 1892–1907. He was one of the first in Russia to apply the bacteriological method for hygiene studies of soil, water, and air.

¹⁴ Public health issues were one of the central topics of the water supply congresses that took place in Russia beginning in 1893. The location of the regular congress was determined (apart from considerations of convenience) by how useful the experience might be for a given city.

a model for the Russian Empire [13, p. 19]. It was not immediately decided what the city's new water system was intended for: "Should it be for drinking water, for industry and drinking water, or is it adequate to the city's needs to have water for households and firefighting?" [14, p. 4]. In 1903, the Rublevskaya Waterworks opened, and in it one of the most advanced chemical and bacteriological laboratories in Russia was created [13, pp. 8–9].¹⁵

The implementation of a health and sanitation monitoring project for the Moscow city water system, which was carried out by the Rublevskaya laboratory (headed by Rammul) in cooperation with the Moscow Commission of Public Health Doctors [15],¹⁶ became a breakthrough in the field of water supply safety in Russia. The quality of the water coming into the city was monitored continuously, not only during epidemics. There were multiple components to the monitoring system: observation of the epidemiological purity and safety of the locality, the water system facilities, and the water itself; medical supervision of both the health and the residential and industrial conditions of the staff who maintained the water system; and the provision of necessary medical care to employees with timely implementation of measures to prevent the emergence and spread of infectious diseases [13, pp. 7–9].

At the Rublevskaya Waterworks, ongoing sanitation monitoring was established both of the physicochemical and bacteriological state of water that had entered the city and of water sources and tanks. Microbiological analysis of the water was conducted daily; chemical analysis was conducted twice a month. This monitoring system made it possible to abide by epidemiological and sanitation standards and to forecast the epidemiological situation in the city.

The work of the Rublevskaya Waterworks became the subject of a monthly column in the "Health and Sanitation Chronicle of the City

of Moscow" – "Report on the Purification of Moskvoresky Water in the Rublyovo Pumping Station" [16], in which appeared analyses of filtration quality and the chemical and bacteriological studies conducted there.

Rammul's Work on the Moscow Commission of Public Health Doctors

From 1911 onward, Rammul was a permanent member of the Moscow Commission of Public Health Doctors [3, p. 179]. The main problems that he handled as an urban public health doctor were related to analysing the epidemiological situation in the city: detecting the causes of infectious disease outbreaks and the spread and carriage of infections among the population, and tracking quarantine periods and their adjustments — all to prevent a rise in infections among healthy people. Moreover, it was necessary to study the issues surrounding decontamination and to advocate for preventative vaccination.

In July 1912, at one of the commission's meetings, Rammul spoke in his report "On Water Supply to Populated Areas" [12, p. 8] of a connection between the quality of a water supply system's performance and an increase in the emergence of infectious diseases: "Among the components of sanitation in populated areas, one of the most important is that the population be supplied with an adequate quantity of good quality water, as well as that wastewater and all manner of waste be removed and decontaminated, which has been fully demonstrated through the example of numerous cities in which a significant reduction in the incidence of diseases and the mortality rate in a population was observed after good water and sewage systems were established. In particular, establishing the specified facilities decreases the incidence of and mortality rate from such epidemic infectious diseases as typhoid fever, dysentery, and cholera. ...One can see from the data presented that we are only just getting started with the business of sanitation in populated areas. It is absolutely imperative that we improve sanitation in Russia — our high rates of disease and mortality show this. ... In those Russian cities that have taken the path of sanitation by establishing water systems, sewage systems, etc., the mortality rate overall and from infectious diseases has declined: for example, in Odessa the overall mortality rate fell from 32.1

¹⁵ Precisely for this reason, three of the ten Russian Water Supply Congresses that took place before World War I (in 1893, 1903, and 1905) were held in Moscow.

¹⁶ The Moscow Commission of Public Health Doctors under the auspices of the Moscow City Duma was the first municipal civic organisation in the Russian Empire. It originated in 1866 as a temporary organisation, consisting of 17 public health doctors, and existed from 1884 onward on a permanent basis.

between 1876 and 1880 to 22.7 percent in 1896–1900, and mortalities from typhoid fever fell from 75 per 100,000 inhabitants to 31. In Moscow, the mortality rate both overall and from typhoid fever has fallen in proportion to the growth in water supply and sewage networks. For example, 25 people died from typhoid fever in the period between 1886 and 1890; 24 people in 1891–1895; 22 people in 1896–1900; and 15 people in 1901–1905. And in 1906–1910, 14 people died per 100,000 residents. Construction of the Moscow sewage system began in 1898” [12, p. 52]. These data confirm that establishing and operating a water system is directly tied to a reduction in the incidence of infectious diseases.

In his role as a public health doctor for the city, Rammul dealt at various times — in addition to water supply issues — with smoke pollution of city air [17] and decontamination (this problem became a topic of particular interest after the Russian Empire’s entry into World War I) [18]. Rammul advocated for the foundation of an institute of decontamination, insisted that it should be headed by qualified specialists with a medical education rather than state officials, and emphasised the importance of decontamination during the Russian Empire’s participation in military operations [19].

Activities at the Medical Faculty of Imperial Moscow University

In October 1911, Rammul submitted an application for admittance as a *privatdozent* to the department of hygiene (fig. 2).¹⁷ It follows from the text of the document that Rammul’s intention was to teach an elective course on the epidemiology of cholera and typhus, that he had created a draft of the course syllabus (fig. 3), and that he had received the approval of the department head, professor Sergei Orlov. In November 1912, Rammul was selected for the position of *privatdozent* at the IMU medical school in the department of hygiene (fig. 4).¹⁸ This event was preceded by the examination of

Rammul’s academic work¹⁹ (over the course of half a year) by professors in the medical school’s department of hygiene: Sergei Orlov, Nikolai Mitropolsky, and Anton Talyantsev. Noting the applicant’s fine training in the field of hygiene and sanitation, they acknowledged that Rammul had a perfect command of modern methods of sanitation research. Consequently, despite the fact that no works among those presented to them dealt directly with epidemiology or medical bacteriology, the professors expressed confidence that, as head of the analytical laboratory, Rammul had regularly encountered issues surrounding the possibility of typhoid fever and cholera spreading through drinking water. The commission reached the conclusion that he could be approved to give the trial lectures, since the subject area of a course on the epidemiology of cholera and typhus must have been well known to him.²⁰ The abstract of his lecture on the subject proposed by the medical school — “The Struggle Against the Spread of Typhoid Epidemics” — is no longer extant in the IMU archives. But according to the minutes of a meeting of the Moscow health and sanitation department on September 3, 1912, Rammul presented a paper to the city’s public health doctors titled “On the Issue of the Struggle Against the Spread of Typhoid Fever” [20]. Using the brief record of the report given at the meeting of the board of public health doctors, we can, with a degree of certainty, reconstruct the content of the lecture given at the medical school: it is likely that the range of issues addressed in both speeches was the same. Rammul presumably cited data on the etiology and epidemiology of typhoid fever, analysed the transmission pathways of infection, and elaborated in detail on measures for combatting epidemics. One of the factors that he considered top priority was to improve the sanitation in populated areas through public measures such as disposing of sewage, providing water, paving roads, and maintaining cleanliness. Having resolved these issues, in Rammul’s opinion, it was then necessary to tackle developing education, promoting knowledge of hygiene, and improving

¹⁷ Medical faculty file on the acceptance of Alexander Rammul as a *privatdozent*. TsGAM. F. 418. Op. 418. D. 123. L. 2.

¹⁸ Records of the sessions of the medical faculty, January 20–December 12, 1912. Record of September 10, 1912. TsGAM. F. 418. Op. 418. D. 155. L. 89.

¹⁹ Records of the sessions of the medical faculty, January 20–December 12, 1912. Record of October 3, 1911. TsGAM. F. 418. Op. 418. D. 155. L. 110 ob.

²⁰ Medical faculty file on the acceptance of Alexander Rammul as a *privatdozent*. TsGAM. F. 418. Op. 418. D. 123. L. 8 ob.

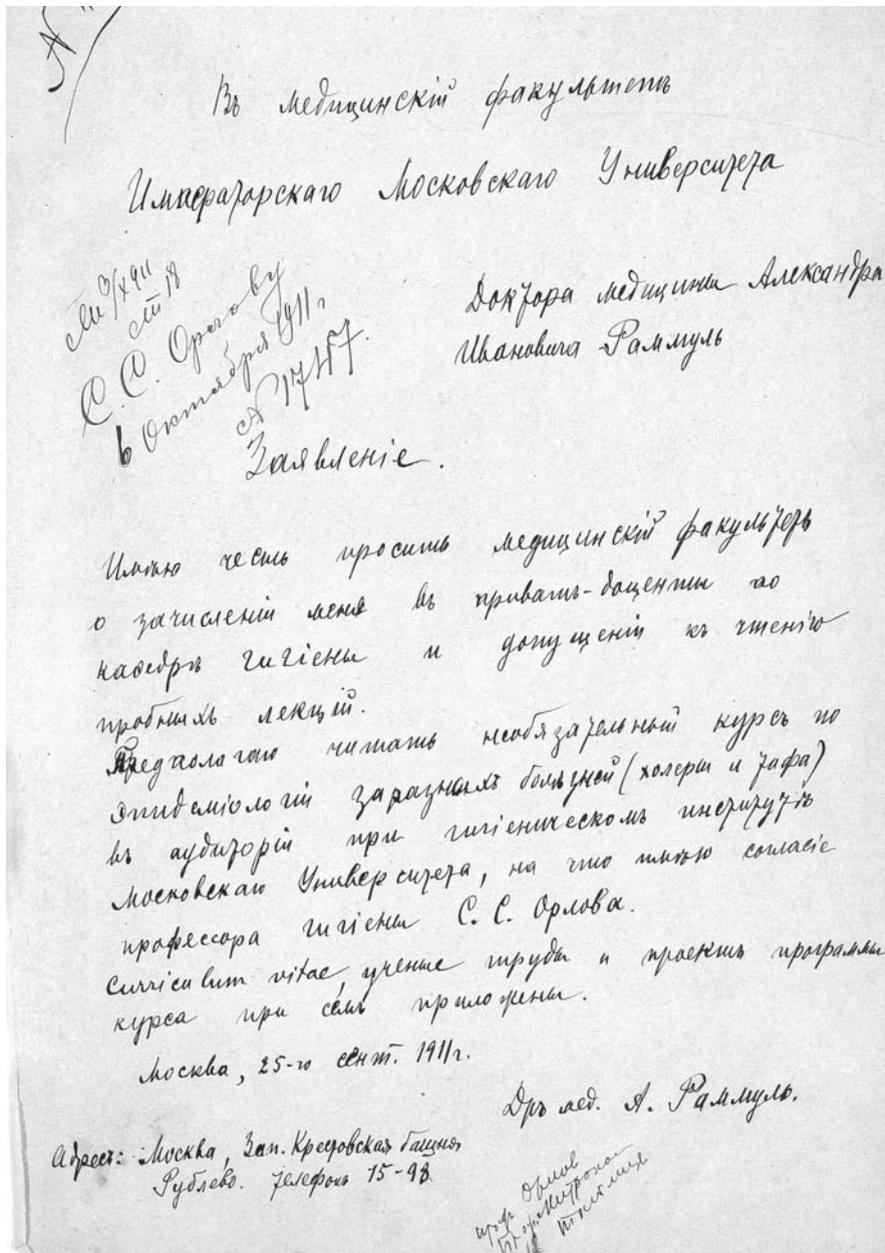


Fig. 2. Rammul's application for admission as a privatdozent in the department of hygiene.

TsGAM. F. 418. Op. 418. D. 123. L. 2.²¹

²¹ Image text:

To the medical faculty of Imperial Moscow University
Doctor of Medicine Alexander Ivanovich Rammul

Application.

I have the honor of asking the medical school to admit me as a privatdozent in the department of hygiene and to permit me to deliver trial lectures.

I propose to teach an elective course on the epidemiology of infectious diseases (cholera and typhus) in the lecture hall of the hygiene institute of Moscow University, for which I have the consent of professor of hygiene S.S. Orlov.

My curriculum vitae, scholarly works, and a draft of the course syllabus are here attached.

Moscow, September 25, 1911.

Dr. Med., A. Rammul

Address: Moscow, West Krestovsky Tower
Rublevo. Telephone 15-98

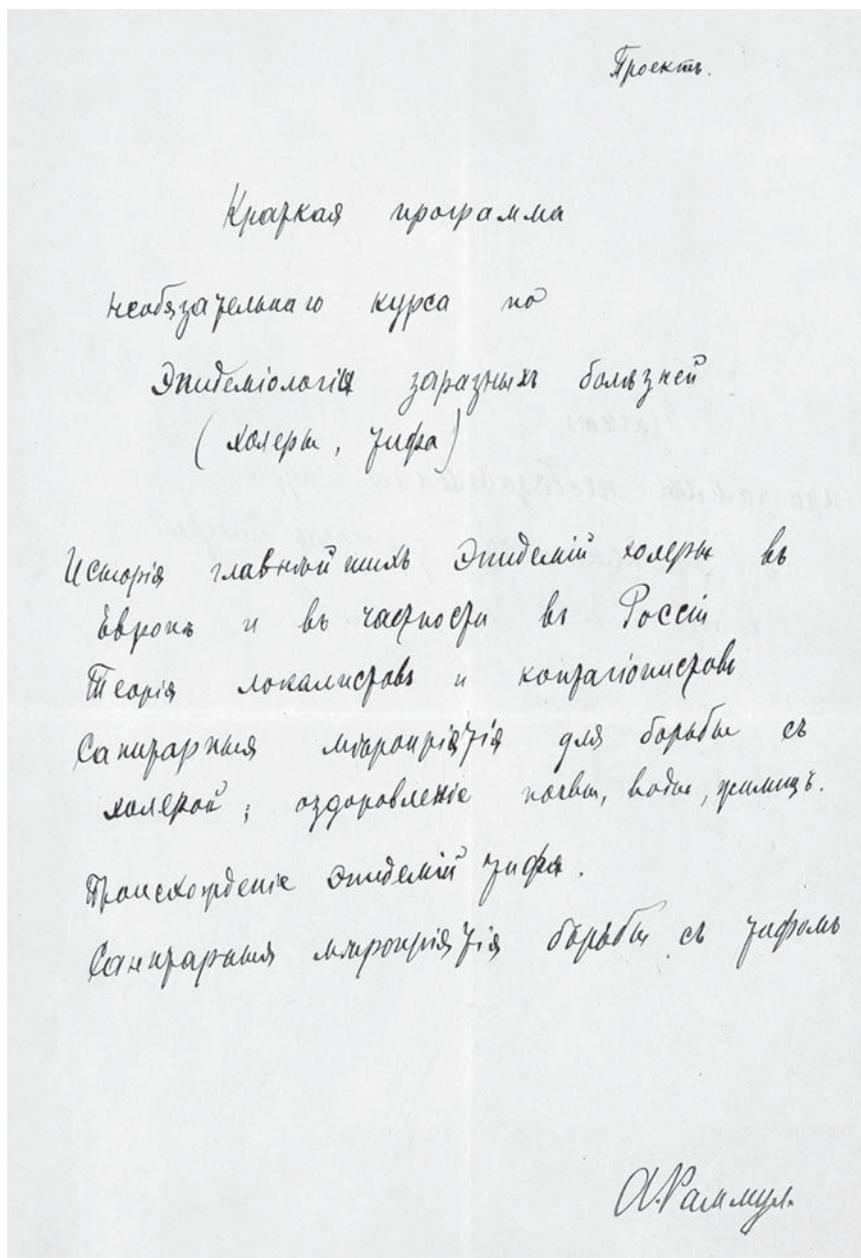


Fig. 3. Draft of Rammul's syllabus summary for an elective course on the epidemiology of infectious diseases (cholera and typhus). TsGAM. F. 418. Op. 418. D. 123. L. 4 ob.²²

²² Image text:
Draft.

Summary of the syllabus
for an elective course on
the epidemiology of infectious diseases
(cholera, typhus)

The history of major cholera epidemics in Europe, and Russia in particular. Theory of the localists and contagionists. Sanitary measures for combatting cholera; improvement of soil, water, and housing sanitation.

The origin of typhus epidemics.

Sanitation measures for combatting typhus.

A. Rammul

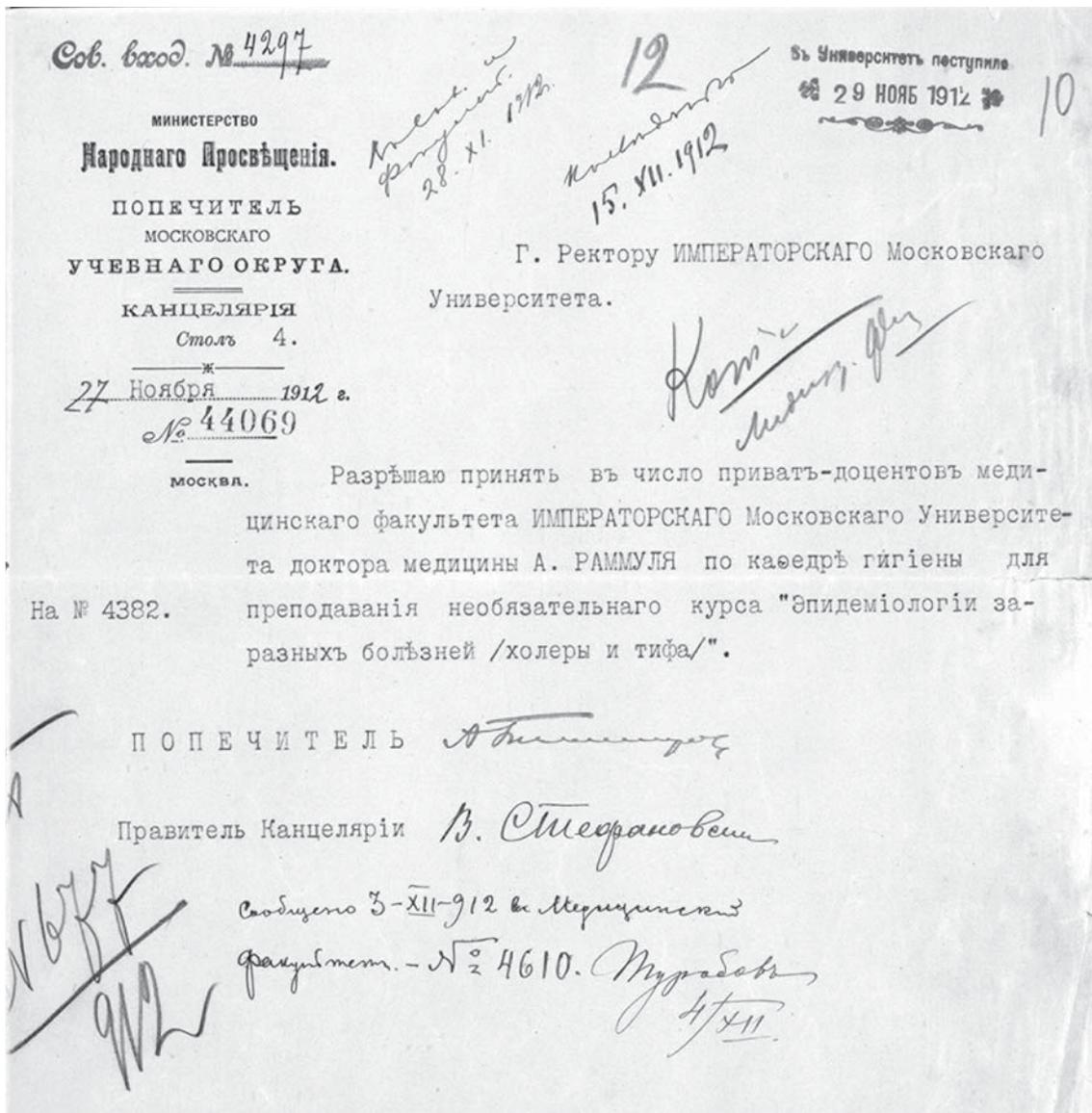


Fig. 4. Authorisation from the trustee of the Moscow educational district to admit Rammul as a privatdozent at the IMU medical faculty. TsGAM. F. 418. Op. 90. D. 677. L. 10.²³

the urban poor's standard of living. Moreover, in order to succeed in the struggle against typhoid fever, Rammul believed it was necessary to make medical care more accessible to the population, to open bacteriological laboratories for identifying

illnesses, and to establish general sanitation surveillance of populated areas.

In accordance with the rules of the IMU medical school, Rammul was supposed to give a second trial lecture, but the decision was made to

²³ Image text:

To his honorable Rector of IMPERIAL Moscow University.

I permit that doctor of medicine A. Rammul be accepted as a privatdozent at Imperial Moscow University medical faculty in the department of hygiene in order to teach the elective course "The Epidemiology of Infectious Diseases /Cholera and Typhus/".

Trustee (signature)
Head of the Chancellery (signature)

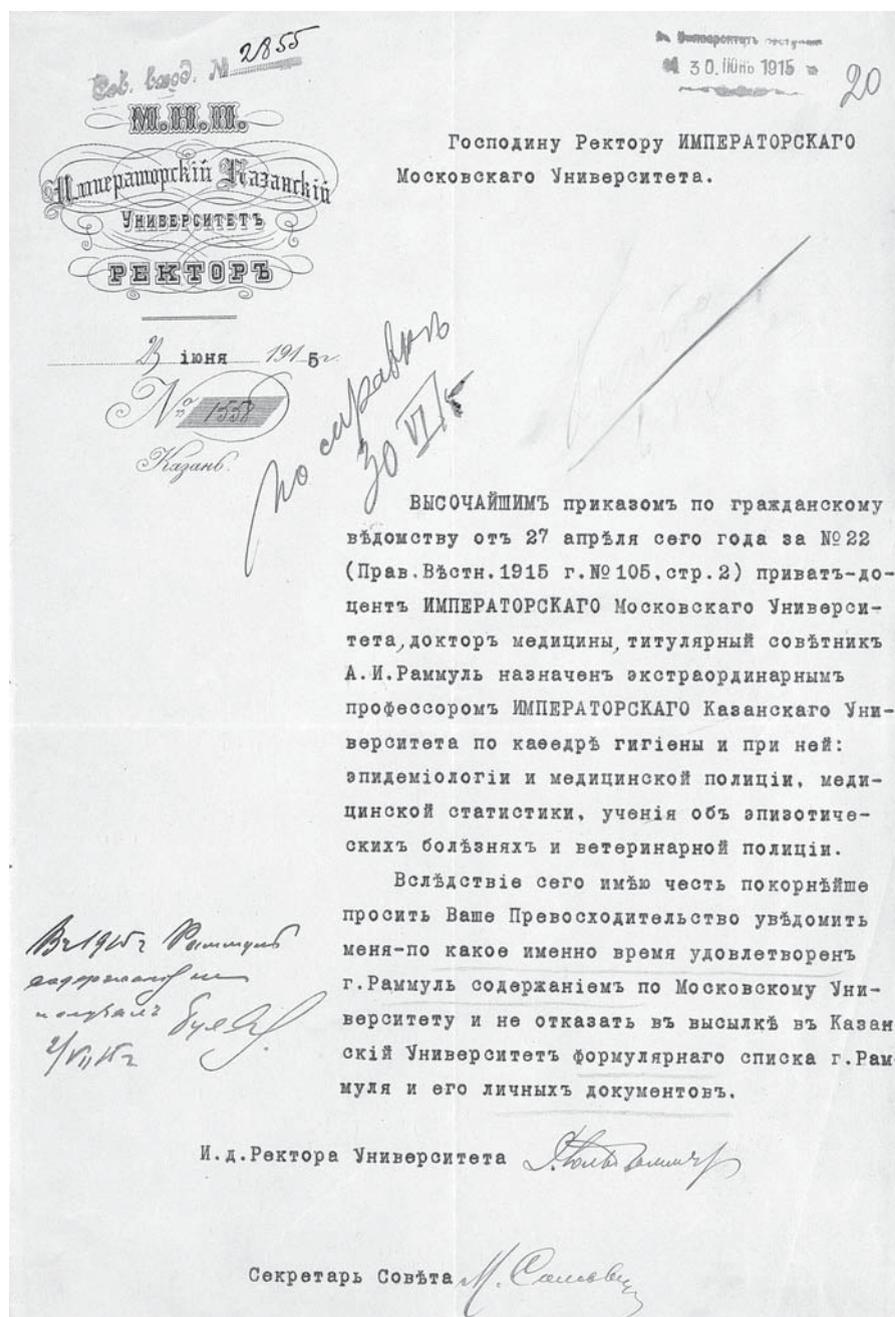


Fig. 5: Notification of Rammul's appointment as a professor extraordinarius at Imperial Kazan University.
TsGAM. F. 418. Op. 90. D. 677. L. 20.²⁴

¹ Image text:

To his honorable Rector of IMPERIAL Moscow University.

By IMPERIAL order of the civil administration of April 27 of this year, № 22 (Gov. Bulletin 1915, № 105, p. 2) privatdozent of IMPERIAL Moscow University, doctor of medicine, and Titular Councillor A. I. Rammul is appointed professor extraordinarius of IMPERIAL Kazan University in the department of hygiene and within it: of epidemiology and medical police, medical statistics, instruction in epizootic diseases and veterinary police.

In consequence of which I have the honor of humbly asking Your Excellency to inform me – until precisely when is Mr. Rammul pleased to receive the support of Moscow University and to be so good as to send Mr. Rammul's service record and his personal documents to Kazan University.

Vice-Rector of the University /signature/
Secretary of the Council /signature/

exempt him from this trial “in view of [his] clear and rigorous academic presentation”.²⁵

At the department of hygiene Rammul developed the course “The Epidemiology of Infectious Diseases (Cholera and Typhoid Fever)”, which was then given for the first time and was not compulsory. From the “Survey of Instruction at the Imperial Moscow University medical faculty in 1913–1914”, we know that the course consisted of lectures on epidemiology and practical exercises concerning the bacteriology of infectious diseases for students in their fourth year, and that it was taught on Sundays from 1 p.m. to 3 p.m.²⁶ From the “Syllabus Summary” for the course,²⁷ drafted by Rammul, it follows that in the lectures he touched upon issues surrounding the history of major cholera epidemics, addressed the teachings of the localists and contagionists, and examined sanitation measures for the struggle against cholera and typhus that were aimed at improving the sanitation of soil, water, and housing. It seems that the practical lessons were devoted to bacteriological research methods. Rammul used the most advanced epidemiology and microbiology textbooks of that time²⁸ (*Medical Microbiology for Doctors and Students*, edited by Lev Tarasevich,²⁹ and the Russian edition of the textbook *Bakteriologie und bakteriologische Diagnostik – Experimental Bacteriology and Infectious Diseases*).

The course on the epidemiology of infectious diseases became the first step in Rammul’s pedagogical work. His work as a teacher in higher education was a continuation of his work as a doctor and researcher.

In May 1915, Rammul left his post as privatdozent at the hygiene department of IMU

and moved to Kazan, where he had been offered a position as a professor extraordinarius at the hygiene department of Imperial Kazan University (fig. 5).³⁰ Minutes from the medical school’s meetings between 1915 and 1920, located in the National Archives of the Republic of Tatarstan, helped us form an impression of his work in Kazan. The Kazan period of Rammul’s work requires separate research, but the archival documents indicate that the scholar’s scientific interests were formed during his work at IMU. Rammul was an active participant in the movement for public health and hygiene, which, as is clear from the minutes, became particularly active after the events of February 1917: he took part in a congress on improving sanitation conditions in cities that took place in April 1917 in Moscow,³¹ and in June 1917 he was elected representative to the City Council of Medicine and Public Health.³² Moreover, we know from the periodicals of that time that Rammul gave a lecture series “with light paintings” for the Society of the People’s Universities of Kazan on the subject “The Struggle With Infectious Diseases” in February 1917 [21].

In 1920, Rammul returned to his native city of Derpt (Dorpat, now Tartu), where he had received an offer to take up the chair of hygiene at the medical school of the University of Dorpat (University of Yuryev).³³

Conclusion

This study of the Moscow period of Rammul’s life was carried out using previously unpublished materials from the Central State Archive of the City of Moscow. Inaccuracies that had been accepted in the literature on Rammul were eliminated pursuant to an analysis of these documents. Based on materials from the archival files of IMU, we were able to reconstruct the history of the origin of an elective course on the epidemiology of infectious diseases (cholera and typhus) at the

²⁵ Records of the sessions of the medical faculty, January 20–December 12, 1912. Record of September 10, 1912. TsGAM. F. 418. Op. 418. D. 155. L. 89.

²⁶ Overview of instruction at the Imperial Moscow University medical faculty in the 1913–1914 academic year. TsGAM. F. 418. Op. 420. D. 87. L. 23 ob.

²⁷ Medical faculty file on the acceptance of Alexander Rammul as a privatdozent. TsGAM. F. 418. Op. 418. D. 123. L. 4–4 ob.

²⁸ Overview of instruction at the Imperial Moscow University medical faculty in the 1913–1914 academic year. TsGAM. F. 418. Op. 420. D. 87. L. 23 ob.

²⁹ Lev Alexandrovich Tarasevich (1868–1927) was a major Russian epidemiologist, microbiologist, and public figure.

³⁰ File of the Council of Imperial Moscow University. Alexander Rammul – privatdozent. TsGAM. F. 418. Op. 90. D. 677. L. 23.

³¹ Service record of A. I. Rammul. National Archives of the Republic of Tatarstan (NART). F. 977. Op. 90. D. 677. L. 39.

³² Minutes of August 24, 1917. NART. F. 977. Op. 90. D. 2860. L. 79 ob.

³³ Service record of A. I. Rammul. NART. F. 977. Op. 619. D. 22. L. 40 ob.

IMU medical faculty, as well as to study the circumstances surrounding Rammul's work at the Rublyovskaya Waterworks and on the Moscow Commission of Public Health Doctors, which led him to create this course. We have also established a continuity between Rammul and the head of the Moscow school of hygiene, Fyodor Erismann, and a member of that school and originator of

the experimental approach to hygiene, Grigory Khlopin. This study may become the first stage in preparing Rammul's scientific biography, the creation of which would, among other objectives, help to clarify the circumstances in which medical education developed at IMU in the early 20th century and to form a fuller picture of the history of the development of Russian medicine.

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