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Initiating the Global health at the time of the Crimean War (1853–1856), and the projects of sanitary reform of the Ottoman Empire

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The Crimean War has been considered as one of the first World Wars because of the number of great empires and the diversity of the troops involved. Each empire, such as the Russians, the Ottomans, the British and the French, mobilized soldiers from various ethnic groups. Unfortunately also famous for the number of casualties, this war marked also on each side a better understanding of medical needs on the battlefield, as well as of the care of the wounded in the hospitals. Florence Nightingale gave the signal to the improvement of material conditions of the wounded, through a radical change in the conception of care and started the training of lay nurses dedicated to care at the bedside. This creation of the professional nurse echoes on the Russian side with the participation of female health officers Under Pirogoff's guidance and responsibility, at the time of the initiation of medical courses for women. On the Turkish side, an international medical society gathered doctors working on the front, which survived after the war and contributed actively to the discussion of the international medical resolutions, in the second part of the nineteenth century, for the management.

Keywords: *international public health, Crimean War, Russia, Ottoman Empire*

We often come across confirmations of paradoxes that challenge everything. This includes the fact that the most destructive wars may become the causes for startling breakthroughs in medicine [1, 2]. Unfortunately, there is no documentary evidence that the deadly Crimean War brought any major innovations in the technical sphere; nevertheless, it is connected with it a number of important developments in the medical field.

The Crimean, or Eastern, war (1853-1856) included most of the great powers of the era, both on land and at sea. It used advanced means of communications [3]. In the history of medicine, this period is connected with the name of Florence Nightingale, who became one of the first professional nurses [4]. Ms. Nightingale attempted to change the infamous reputation of military hospitals into institutions where soldiers were cared for and where they could at least die in dignity. [5] At the other side of the front, in the Russian camp

of the Crimean War, the efforts of the talented and renowned surgeon Nikolai Pirogov began to take shape. He too sought to improve the conditions of the wounded and formed an institute of professional civil nurses for the Russian Army.

Wars in the nineteenth century were marked by an increase in the importance of national armies driven by patriotic ideals. At the same time, there was a pronounced international manifestation of the humanistic ideals of medicine. [6] Among the horrors of the Crimean War, there was noticeable international cooperation, devoid of borders, based on medical obligations. Its appearance in 1856 coincided with the formation of an international scientific community in the Ottoman capital. Struggling on the battlefields, in hospitals with appalling sanitary conditions and a lack of military medical services¹ [7], doctors of different nationalities decided to share their experiences and thus promote the development of science and virtues they believed in. With military

¹ The exact number of deaths is unknown exactly, but it was estimated at close to a million [7, 8].

disasters as a background, the Imperial Society of Medicine in Constantinople was formed. It united doctors of different origins, Muslims, minorities and foreigners².

This society, which brought doctors to Istanbul in the face of military threats, quickly turned into an exclusively Ottoman society and did not preserve the "original idea of internationalism and cosmopolitanism". "Our society represents the ideals of internationalism in the truest sense of the word" [9]. The monthly journal of the society "Gazette médicale d'Orient" ("Medical Bulletin of the East"), founded in 1857 [10], is a valuable source on the medical history of sanitation in the Ottoman Empire until its disappearance. It also provides evidence of changes in the status of health professions and science in Europe as a whole. This international scientific republic emerged thanks to a certain amount of scientific autonomy in relation to politics.

The activities of this society were also important to the fate of the Ottoman Empire. This is evident from the work devoted to the Tanzimat, a group of reforms undertaken by Mahmud II in order to solve two problems: put modern science in the service of the state and create Ittihad-iAnasir, an alliance of various communities [11]. The Hatt-iHumayun of 1856 reflects the conversion of the rights of the subjects, the subjects of the state.

From The Imperial Society of Medicine in Constantinople to the Ottoman Medical Society

The Ottoman Medical Society was founded June 2, 1956 in the dark ages in after the end of the Crimean War (1854-1856) under the auspices of Dr. Pingoff, the Dutch doctor who worked for the English. Hospitals overflowed with Allied soldiers. The French arrived first. They settled into six Istanbul hospitals of approximately 5,000 beds: in Pera, the Dolmabahçe Palace, Gulhane, Kanlidzhi [Kanlika]. Patients were divided into groups according to the medical care they needed: the wounded, suffering from fever, cholera, scurvy and venereal diseases. The British, who arrived later, were not as well provided for. They

² After a few years after the Battle of Solferino, Henry Dunant was inspired to form a more impressive international facility called The Red Cross.

broke camp at Scutari, the Asian side [12], where the Sultan had provided them with the use of an old hospital and barracks, which was converted into military field hospitals [13]. Pingoff gathered several foreign doctors working in the Ottoman capital and Bosphorus, in order to unite the efforts of Turkish, French, English and Italian armies against the Russians, who were based in the Crimean fortress of Sevastopol.

"Several foreign doctors assigned to the Anglo-French forces organized the Imperial Society of Medicine in Constantinople. A group of British and French doctors founded it June 2, 1856. Its goal was to promote health in the Ottoman Empire" [14], improve the level of public health and protect professional interests [15]. Conditions for admission to the Society included a Doctor's Diploma and license to practice, residency in Constantinople, employment, publishable work, and a fee of 200 piasters.

Activities of the society, which to us may seem as a peculiar form of a foreign intervention, were endorsed by the ruling Sultan Abdul Medzhitov [Abdülmeçid]. "Everything that the most advanced military medicine of the allies can offer serves to ease the suffering which war always brings" [16]. Sultan Abdul Mejit consented to the Society through the work of berat. "Learned doctors who live in the Ottoman Empire have requested from our Highness permission to establish a scientific community in the Capital. Its aim is to serve humanity and medicine, the noblest of all sciences ..." The purpose of the Company was considered socially useful, "serving science and humanity". [16]

Along with Dr. Pingoff were other foreign doctors: Dr. Alpari, Guy, Kendul etc. Among them were Dr. Antoine Fauvel, a recognized international health care expert who represented France at the Society of Medicine in Constantinople, and the English surgeon William Hunter. With them were doctors from the Ottoman Empire: Pardo, Barozzi, De Castro (the ancestor of Françoise Giroud), Bartoletti, Marchand, Millinger, Sarrel, Spadaro, Vuchchino, Karateodori. The participation of Fuad Pasha, the Great Vizier and graduate of the Istanbul medical school, Mekteb-iTibbiye-yiSahane (The Imperial Civil Medical School founded in 1838), lent special importance to the

Society. The authority of these respected members provided excellent support for the Company. Among them were well-known French and foreign doctors. On the French side were Claude Bernard, Buyo, Andral, Shomel, Criuvelle, Velpeau, Ray, the doctor of Napoleon III, the Englishman Bright, the Austro-Hungarian Rokitansky, Skoda, the German Rudolf Virchow. These names are today associated with modern medicine, particularly when describing certain pathologies. In one way or another, the greatest European medical specialists were involved in the fate of the Society.

The Association had thirty founding members. Fifty years later, the number of participants increased to 249. During an anniversary celebration, one of them said, "All guests of all nationalities who speak all languages united their efforts in this sacred endeavor, to share all the secrets of the art" [16]. He further added, "On this day, the sacred art of Aesculapius is reborn in this country". He continued, "I say 'rebirth' because, as you all know, the art of healing originated in the East, and it was precisely in the East that the father of medicine was born. . . . All doctors in the country, putting aside prejudices, nationality and religion, the followers of Islam, all sects of Christianity and Judaism became brothers by joining forces in one camp to combat human suffering" [16].

During the first two years, many of the Society chairpersons were busy trying to distinguish the differences in mentalities and worldviews. In 1856, Fauvel, Boden and Pingoff played a special role in this. Then after the war, Pingoff left Turkey. He was followed by Fauvel, CarathéodoryKapriani. Fovel remained longer than most as Chairman [17] (until 1867, when he left for France [18] to become the personal physician of Napoleon III). Mustafa Adil took over as chairperson in 1896. In 1901, it was the turn of the French, follower of Pasteur's doctrine, Remlinzhe Fields [19]. He was the director of the Imperial Institute of Bacteriology of Constantinople, a branch of the Pasteur Institute in Paris.

"The Medical Bulletin of the East"

And the First Issue of the Ottoman Kaleidoscope

The first issue of the journal was published in French on April 1857. After that, the choice of

language became more eclectic: articles in Turkish and Greek. "The Medical Journal of the East"³ provided a panorama of medicine in the Ottoman Empire. On its pages, the history of knowledge, institutions and the medical profession was studied. It was closely related to the history of European countries and served as proof of the dialogues of the Medical Society in the territory of the empire. The "Bulletin" did not oppose the national; Europe, the Ottoman, and medical consciousness refracted at different angles of perspective.

Robert Ilber showed that from 1856 to 1907 the municipality of Alexandria worked as a conglomerate of interests, where outstanding representatives from all sectors of society could develop common politics and enjoy genuine autonomy from centralized powers [21]. He also showed that the definitions of national identity remained flexible: "Turks" were a minority in the Ottoman Empire, and "foreigners" or members of ethnic minorities had one or more passports.

In a sense, the work of the Society reflected efforts of the medical community, within a "republic of scholars", to create a new space for reflection and action. Here, in the era of Ottoman rule, doctors could follow their own academic and professional interests. This was unlike the Council on health care, where doctors were subject to government leadership. For a while, thanks to their knowledge, they could claim some power and autonomy. A feeling of comradeship and a common faith in the great future of science, which they lead, overshadowed the social divisions in which this feeling and faith evolved. Foreign power relations were no longer limited to questions about hostage resolution. They came to represent a kind of positive professional "competition".

After the Crimean War, the Society and the "Bulletin" changed scientific and medical direc-

³ There is no complete collection of the "Bulletin" in France. Different issues are stored in different libraries of medical faculties. Paris has issues published from 1862 to 1866-1867 and from 1887 to 1914-915. In Bordeaux, from 1857 to 1872. The poor condition of the journals, which were not microphiched, complicates working with them. The author expresses his gratitude Mr. Paul Bonn, librarian of the Library of the Medical Faculty, for providing an opportunity to work with the texts. See also [20].

tions, from military medical assistance to taking care of the "sick man of Europe", the Ottoman Empire. The focus was still on international issues. For over fifty years, the Medical Society expressed its ideas through the "Bulletin". It covered medical events far from the Empire (epidemics throughout the Middle East, including neighboring Persia and other parts of the world, scientific achievements in European capitals, and more). The medical science advocated by the Society was universal in character, "useful" for all humanity. The Association maintained close ties with foreign colleagues, who acted as correspondents, and positioned themselves in the European scientific communities to which the Ottoman Empire belonged.

The Crimean War did not dampen the hopes placed on medicine. In their reports, journalists reported the poor conditions in the armies. In England, William Russell reported in *The Times* about the plight of soldiers. Nevertheless, war allowed the European public to become better acquainted with the medical profession and, above all, opened them to new possibilities. Far from supporting "therapeutic nihilism", the "Bulletin" of the dominant school in Paris reflected a transition from the dominant medical ideas of incurable diseases to ones which provide the most messianic visions and almost religious belief in the infinite possibilities of medicine. In the second half of XIX century, medicine was consistently making its own history. It turned away from past practices such as "medical prayer" and the symbolic effects of medicine through diet. Medicine is not only the exclusive privilege of the rich and powerful of the world. Increasingly, it begins to engage in the construction of health care programs for the masses.

"Medical Bulletin of the East" illustrates the rapid increase in the prestige of the medical profession in the late XIX century. [22] Faith in the knowledge and skills of physicians was often ahead of actual capabilities. [23] This is evidence of a desire for a unified view of medicine (as well as a unified professional medical class), inextricably binding medicine and surgery to the art of research in the broadest sense, to medical science and universal applicability. Writers created ideas

of preventive and curative medicine, surgical medicine and the therapeutic. This even included pharmaceuticals (to which a medical-pharmaceutical Journal was dedicated in 1886). Doctors tirelessly followed the "adherents of Hellenistic doctrine" who worked at the "Bulletin", quoting Hippocrates like a God on matters of iatrosophy [24]. In an Islamic country, it is a profession requiring faith. Even if understood as a metaphor, divinity is indivisible and *sharika*⁴ is taboo. The Society "united men and women of different nationalities and beliefs under the banner of science. Collaboration and joint efforts were above all for the benefit of mankind ... Solidarity in the struggle against disease always exists among people living in society" [15, p. 24].

This does not mean that the medicine united around an authoritative doctrine. On the contrary, it included different, even conflicting, theoretical ideas. The most famous of them was contagions and anti-contagions. The stumbling block of epidemics [25-27]. Individual scientific differences on important topics could be found everywhere. [28] Disputed issues concerning the dominance of one or another idea remained matters of controversy at scientific meetings. They rarely resulted in decisions one way or the other [29]. The idea of an agreement (consensus) made through discussion, or making a decision based on collective experience had not yet take hold. Ethics recognizes the "right to be different". In practice, this theoretical justification is necessary for a doctor to adjust actions to specific cases. The code of professional honor finds inspiration of a rather distant aristocratic morality [30], rather than technical knowledge. It is the experience and ability to control the process, as is customary in craft guilds. This diversity of opinion corresponded well with the "motley" origin and education of the practitioners.

The "Bulletin" essentially depicts a collective image of the profession and its diverse origins, religious and educational training received in the capitals of Europe (England, Germany, and France) or in the Ottoman territory (Cairo,

⁴ Encroachment on the unity with God is characteristic of polytheism.

Beirut)⁵. The framework from which medical knowledge was obtained also varied widely: from private practice to work in the hospitals of different districts. According to the structure obligatory in the Muslim world and found in other countries, in the United States for example [31], the system of hospitals in Constantinople was governed by national (German, Austrian, French, Italian, Russian, Persian, Bulgarian) and religious (Greek, Armenian and Yedikule) institutions.

"The Medical Bulletin of the East" was an international magazine and an Ottoman one. The multinational medical community located in the vast territory of the empire had close scientific ties with Europe and the Middle East region. The "Bulletin" assumed the role of an agency that provided balance and mutual understanding, which would again be "at risk" during the events of 1908, the period of global conflict in 1914 sixty years after the Crimean war.

In order to understand the situation developing in the Ottoman Empire, which historians call the "medicalization of society" [32], we shall consider the state of health care in the empire at the time.

Medicine in Constantinople. A Healthcare Survey

The role of epidemics was an important factor in hygiene, internal pathology, therapy, surgery, gynecology and chemistry.

The Crimean War provoked outbreaks of typhus, plague, cholera and dysentery. According to Fauvel, who at the time was the Sanitation Inspector of Constantinople, the army had 11,000 patients with typhoid and several reported cases of scurvy. Overall, only a quarter of deaths in the army were due to injuries and wounds; the other three-quarters were associated with disease [17, p. 155]. Epidemics were controlled by destroying infected items and clothing. A cholera epidemic broke out in Varna, where the British army was first stationed ("Varna Fever"). Treatment was limited to small amounts of bloodletting and infusions of a mixture of opium, peppermint oil and sulfuric ether. This helped to cope with diarrhea.

However, there was no way to make up for the severe fluid loss, despite the fact that in 1831 Alexander Moreau de Zhonn had recommended tea infusion for this purpose.

After the war, plague and cholera continued to ravage the city, as evidenced by reports regularly seen in newspapers. The source of these epidemics were the vilayets of Aleppo and Hejaz. To combat the plague and cholera, the Ottoman government in 1838 introduced quarantines [33]. By this time, the Health Council of Constantinople [34] (as well as other Councils of the Mediterranean, Alexandria or Tangiers) established boundaries around the perimeters of the quarantine areas of the epidemic [35].

The "Bulletin" provides information about many other infectious diseases registered in the army during the Crimean War: typhoid fever, dysentery, diphtheria, scarlet fever, meningitis. After the restoration of peace, there was a need for accurate statistical data. However, only in 1907 did it become mandatory to register a list of 18 diseases [36, p. 81] (five years after its introduction in France). The International Bureau of Public Hygiene (OIHP), the brainchild of Adrien Proust [37], was also established in Paris in 1901, as a reaction to the lack of comparative data on major epidemics. The "Bulletin" regularly cited statistics obtained from hospitals or municipalities. As was customary in Islamic territories, these calculations (e.g. tuberculosis) were produced by communities, according to origin, and were divided into millets, Muslims, Greeks, Jews and Armenians. [36] This allows us to notice the plight of recent immigrants, for example, the Russian Jews who lived in "absolute poverty" [15, p. 113] and were "scapegoats": "low class, Jews, who commit errors in diet (sic), the most prone to the disease [cholera]" [38].

The "Bulletin" followed rapidly spreading epidemics in the Ottoman Empire through the use of telegrams [39]. These types of messages were applicable for pilgrims bound for Mecca or Karbala in Iraq – the primary destinations of pilgrimage for Shia. It discussed the irrational coastal location of infirmaries such as in Alexandria in Egypt. It reported on hospitals built near Izmir (Clazomenae) or on the land boundary (infirmary

⁵ Verdier.

Kizil Deasy between Erzurum on the Turkish side and Tabriz on the Persian side). There were also hospitals between Kermanshah and Baghdad [15, p. 94]. Their work had been far from satisfactory. Their provisioning was theoretically done through a tax levied by the Ottoman Empire on vessels that entered Turkish ports and on travelers.

However, European representatives on various Boards of Health often questioned the use of these funds. They were intended to modernize the quarantine system. However, they remained blocked until the First War. The ensuing inflation devalued these funds. [34]

Quarantines that Adrien Proust considered effective were often located in close proximity to the initial outbreak and were unnecessary as soon as the epidemic spread to a certain level. Some experts expressed distrust of doctrines about contagion, such as Closbey in Egypt and Ernest Tolosan in Persia (all of them based on the experience gained over the years in their respective countries, despite strong arguments in favor of the transmission of plague and cholera from person to person). This was probably due to skepticism about the implementation of quarantines, which often turned out to be ineffective because of corruption and resulted in high mortality. It was only towards the end of the century that implementation of quarantines were reconsidered. The incubation period of the disease was used as a reference point, and not the mythical number of forty days. After the expiration of this period, the healthy traveler who was suspected of any disease could leave the quarantine. Currently, quarantines are not regarded as a basic method to control epidemic infections. It represents only one of the possible measures to be applied at the beginning of the epidemic, when it involves a more limited number of people. At the end of the established period, the quarantine becomes unnecessary because all of the population, to a greater or lesser degree, will have been exposed to infection. Modern epidemiologist reached this conclusion after analyzing recent epidemics of influenza.

The authors of the "Bulletin" studied the question of the generality (or differences) of the mechanisms of infectious diseases which occurred in the East and the West. In his writings about lepro-

sy, Doctor Zambako Pasha claims that the disease in Turkey is non-contagious, or infectious only to a small degree. This contradicted data from Western countries on the manner in which the disease spreads. Supporters of Zambako Pasha challenged the followers of ArmaueraHansena⁶ from Norway about the transmissibility of leprosy. Based on a survey of old sites at Scutari/Uskyuddare, he suggested that leprosy was "hereditary" in nature. He defended this position in the international debate then raging about the contagious and hereditary nature of the disease. In general, Zambako Pasha suggested that cultural and climatic conditions could determine the specific features of the disease. This principle also seemed applicable to typhus. According to this hypothesis, the longer periods between outbreaks is due to the relatively calm nature of the disease in the East and explains why its spread is limited to a few sources between outbreaks.

Turkey conducted smallpox inoculations, which were brought to England by physicians and travelers and styled Lady Mary Montagu. Gradually, they were replaced by vaccinations. Jenner's smallpox vaccine became commonplace in the empire during the reign of Abdul Hamid, despite the numerous criticisms of its opponents [15, p. 23]. Therefore, in 1904, after the epidemic of 1903 the vaccinations became mandatory procedure. To overcome criticism, doctors of the Society took part in an active propaganda campaign, involving priests, rabbis, muktars and private individuals. The "Bulletin" published specific descriptions of the medical landscape in order to determine all factors of pathology (food, climate, geography). It used the methods established by the monumental compendium of August Hirsch "Handbook of Geographical and Historical Pathology" (1881 – 1885) [40]. However, the "Bulletin" continued to reflect the pressing problems of Constantinople. It continuously addressed the basic problems of sanitation: collection and removal of waste, and the operation of sewer systems, which in most cases remained open [28, p. 17]. Water in the bends, channels serving the arteries of the city, was often unsuitable for drink-

⁶ In 1882, Hansen described in leprosy bacillus, from where it gets its name.

ing. Animal slaughter was conducted without veterinary supervision. These same issues concerned the authors of "The French Revue on Hygiene and Sanitation" (*Revue française d'hygiène et de police sanitaire*), where questions were raised about the illegal slaughter and resale of rotten meat at low prices in Paris. [41]

As with other major capitals of Europe, the question of fraud in the field of nutrition was important for Constantinople. There were problems with bread tampering (it could be insufficiently baked so that the loaf would weigh more; plaster, garbage or a bad meal could be added to the dough) [15, p. 113], wine (with of copper salt mixed in) [42], milk [43], etc. There was also the counterfeiting of medicines, quinine or calomel, mercury ointment used for sexually transmitted diseases, or fish oil prescribed to children as a tonic for the prevention of rickets. In addition to these challenges, there were questions raised about regulating pharmacies. This was repeatedly mentioned in the pages of the "Bulletin" by the French chemist Pierre Apéry, founder of the "Medical and Pharmaceutical Journal" (*Revue médico-pharmaceutique*).

Also discussed were the conditions of thermal waters, which attracted many patients (the water of the Yalova resort at Bithynia in the Gulf of Izmit, the waters of the Dag Turkish baths) and well-known foreign springs (Aix and Neris-les-Bains in France [15, p. 157]). The German physician Julius Van Milingo, an eminent physician of the imperial court, recommended water as a proven remedy for rheumatism [15, p. 19].

Healthcare inevitably confronts the moral and ethical problems of social life. The Ottoman Empire had the very real problem of abandoned children. This problem was to be solved by the creation of orphanages for "brétotrophes" [28, p. 18; 44]. However, issues of poverty, illegitimacy and the origins of abandoned children were not addressed directly. The creation of orphanages as part of society was viewed as facilitating "spoiling morals" [28, p. 19].

Issues of prostitution arose in connection with the numerous descriptions of "street girls" who frequented the streets of Pera. In the East, prostitution had unique features; its social causes

differed from those in the West. In the East, early marriages prevented problems of physical promiscuity: the absence of celibacy and polygamy did not leave room for "promiscuity". Contemporary causes of prostitution, such as women working in factories or shops did not exist. In this regard, there were only "moral" reasons. On the one hand, it included the laziness and desire for luxury by women. On the other hand, there was the lust of men. They were sharply condemned.

Despite the unanimous condemnation, prostitution was seen as a "necessary fact" [28, p. 17], a consequence of urbanization [45, p. 141]. Doctor Barozzi expresses regrets that the brothels of Constantinople were "not in administration or maintenance what the law permits in France, with rare exception" [45, p. 140]. Does this mean that prostitution remained, as noticed Abdelhamid and DalendaLargesh in respect to pre-colonial Tunisia, a phenomenon with blurred boundaries, where the prostitute is not completely isolated from urban life and an integral part of the female world – a lifestyle she conforms to [46]? Confirmation of this may be the fact that prostitutes wore veils in the street and observed the rules of Ramadan [46]. Foreign doctors who traveled through Tunisia and Algeria reported that among the local prostitutes were many Christians. This may be explained by the secretiveness of Muslim prostitutes due to stronger public scrutiny. In the Ottoman Empire, Muslim prostitutes apparently served only those of their faith. Was it like this in Constantinople? The proposals, put forth by Barozzi, to create medical centers for prostitutes in places with little thoroughfare and to convince sick women of this category to suspend their activities or keep them there by force was not taken seriously. In any case, this proposal was mild against the background of the utopias of that time; for example, Parana-Diushatle or Ozia – Turenne [47], who promoted the idea that the state should legalize prostitution in society [48].

Overall, the authors found themselves at a crossroads: between a moralistic attitude towards the sick, who were responsible for their illness due to the selected lifestyle (prostitution, alcoholism, debauchery), and new assertions based

on contemporary scientific knowledge about the influence of physiology on individual and social behavior⁷.

The role of doctors in society and new ideas in Constantinople

The doctors working for the "Bulletin", turned away from the ideas of therapeutic nihilism of their predecessors. They were skeptical of existing treatments and supported principles of the active treatment. They relied on the idea of Francis Bacon: "Not doing anything for the treatment of incurable diseases is a disgrace." Bacon also said, "the business of the physician is not only to restore health, but to alleviate the pain and suffering associated with the disease". This easing of pain, considered to be a dangerous symptom, promotes recovery and provides the patient that has no hope with a light and peaceful death" [50].

Doctors, claimed the "Bulletin", should rid themselves of two equally erroneous beliefs: "science is too weak and almost powerless to fight disease" and "medicine has total knowledge of the states of disease. With a glance at a list common symptom, the doctor can always and without delay, on the fly shall we say, understand and immediately recognize the disease". However, the "true scientist, educated physician should never feel embarrassed in front of the secrets of nature" [51].

Chief among these mysteries is death. Cemil Pasha strongly rejected the idea that "science cannot distinguish between a corpse and a living person" [52]. The "Bulletin" noted that "curses" remained a cause of death, and promised that a diagnosis for the cause of death would be made by a physician based only on objective and incontrovertible evidence.

Until that time, death was primarily associated with religious ritual and family ceremony. Suffice it to recall the ritual ablution of the dead by "lavers", older women who dedicated themselves to this honorable cause. The naked body of the deceased was washed with boiling water on an inclined board, thoroughly lathering it with a *lif*, a hemp sponge used in the hammam; all body

⁷ For the results of the scientific exchanges of the Crimean War see [49].

orifices were closed with cotton cloth soaked in rosewater and camphor. Usually, it was the imam himself who provided the death certificate to the burial office. This accelerated the process for obtaining a burial permit. [53, p.179]. Funerals most often occurred on the day of death.

The fear of being buried alive became an obsession in Europe in the XVIII century. Many testators included precautions to be taken before their burial. Such fears also excised in Constantinople. There are numerous stories about people who wake up in the cemetery under the gravediggers shovel. The "Bulletin" published many shocking stories depicting the resuscitation of the drowned. For example, retelling the misadventures of an unfortunate person who not knowing how to swim, waded into the Bosphorus with a friend. Within a few hours, he was squeezed from his feet and then suspended upside down. It was all done to get the swallowed water out. Dr. Naranzi offered a gentler more traditional way of quickly removing water from the bronchi [54] – blowing tobacco into the anus. The Association issued a proposal to provide the police departments with instruction of a list of measures in Greek, Turkish and Armenian languages, which should be used to help the drowning. The Association, over time, acted as an expert body in more and more areas. It intervened in the affairs of the Board of Health of Constantinople and provided them with advice, which should be followed (for example, in the cases of plague or for the rational organization of pharmacies). The above-mentioned Dr. Naranzi was secretary of the International Health Conference of Constantinople in 1866. The Association also engaged in the prevention of sexually transmitted diseases such as syphilis, especially among sailors, and ophthalmia (gonococcal) of newborns, one of the major causes of blindness. It increasingly played the role of expert, whose opinion is based on knowledge of complex physiological and psychological factors that explain human behavior. In Europe, the "medicalization of society" [55], inspired by the materialistic determinism of behavior gave rise to the question of a patient's ability to stand trial. This provoked a negative reaction from the legal community, which sought to use doctors as experts whom the

court could ask advice in individual cases about a defendant's sanity (if they can be responsible for their actions) [22].

From the English magazine «The Lancet» of 1876, we learn about peer-review, which became decisive to the fate of the Ottoman Empire. When it was necessary to evaluate the mental state of the Sultan Murad before his overthrow, Dr. Kapoleone, the Sultan's personal physician was called for consultation at the palace. Doctors Mepe, Mondzheri⁸ and Adipasha were already there.

"The ruler had already been having hallucinations for three months. He thought that vampires and monsters were persecuting him. Seizures were followed by periods of calm. His life was threatened and he refused to eat; he was exhausted and suffering from insomnia, had convulsions of the face and extremities. His memory was obscured and his condition bordered on dementia. There was a loss of modesty and the forecast was disappointing. He was not able to answer the questions put to him by experts at Ciragan Palace" [56].

Once the expert opinion deciding the fate of the empire was pronounced, Sultan Abdul Hamid came to power and the issue of demonic possession in relation to the illness of the Crown was no longer mentioned. Religious exorcism of the patient's royal blood was not required. The following diagnosis was made: severe depression due to alcoholism, leading to dementia.

Medicine sought to limit the scope of religious influence based on a recognition of organic determinism. Doctors in the Ottoman Empire demonstrated an indisputable passion for the ideas of Charcot [57].

The electrifying fate of psychoanalysis made us forget the important place once occupied by the "Ecole de la Salpêtrière". In 1862 Auguste-Marie Charcot (1825-1893) held the position of Director of a department at the Salpêtrière hospital in Paris. He conducted a series of medical reforms of what he called the "cesspools", dumps, shelters of beggars and criminals. As a staunch positivist, Charcot believed, as Claude Bernard, in the future of experimental medicine, which

⁸Mondzheri Luigi was a specialist in dementia in the Italian Royal Infirmary, in the International Hospital of Peace, as well as in the Armenian Holy Redeemer Hospital.

would make it possible to penetrate the mysteries of disease and human behavior. A tireless advocate of dissection, like most doctors of his generation⁹ working in hospitals, Charcot worked towards improving diagnosis based on studies, using microscopes, of the structure of affected tissues. He revealed multiple sclerosis and other rarer syndromes that still bear his name.

The painting by Andre Brouillet "A Clinical Lesson At La Salpêtrière", exhibited in 1887, depicts a hysterical female patient under the sharp eye of a scientist and the focused attention of a male audience absorbed in the riddles of hysteria. In his study of hysteria, Charcot was prepared to waive his Hippocratic Oath towards his female patient in order to depict somatization in both sexes. It was dramatic effect embodied, a theater of the soul (or of the devil?), which he used in order to demonstrate the power of medical explanations of disease [58]. The state prohibits the exhibition of patients at fairs; they were herded into surgical offices [59], where they became the subjects of science. Charcot devoted his "iconography" to them (1876); he compared them with sorcerers and the possessed of the past ("The Obsessed in Art" 1887).

Charcot expanded his horizons, which had already spilled outside the limits of the hospital. Hysteria, like fashion, encompassed all of society. Similarly, the boundaries of criminal responsibility became blurred. Judges began to question the ability of defendants to be responsible for their actions. Could a killer act under some sort of influence? (could women be raped without realizing it?)¹⁰ In general, that generation of doctors at the la Salpêtrière Laboratory was not just in museums of neurology. It was also in a kind of anatomical theater, where new understandings of the body and its anomalies were developed. Social rules necessary to discipline emotions and harmonize behavior were also analyzed. Students of Charcot saw examples of aesthetics, metaphysics, and sociology in this.

⁹ At this time, for example, Auguste Bilharts conducted no less than seven autopsies per day at the hospital in Cairo. It was in 1887 that he identified the parasite, which now bears his name.

¹⁰For the ability of patients to bear responsible, see [60].

Hypnosis allowed Charcot to experiment on living humans. A patient under his hypnosis became an obedient puppet, who demonstrated the automatic performance disguised during wakefulness. Freud, who was opposed to Charcot, intended to replace this understanding of a passive body with the seminal hypothesis about the unconscious, as revealed through hypnosis and the concealed conflicts of the test subject. He opened new therapeutic horizons, when he abandoned the notion of hypnosis and the term has replaced the phrase, “waking dream“. [61]

Were these medical innovations important for the Ottoman Empire? Were they not at variance with the healing rites of the Dervishes, the religious orders implemented through trance and exorcism? Doctors who worked for the "Bulletin", were apparently fascinated by the works of Charcot but, regarded the new ideas with caution [62]. Praising the advances made in neurology, they did not ignore morality and developed projects to make hygiene more accessible in society. However, this does not contradict the fact that the pages of the "Bulletin" had very little discussion on the limits of human freedom and personal responsibility during the period of Turkey Abdul Hamid.

Doctors in the Ottoman Empire, as well as their European counterparts, were concerned about the demographic situation. Zambakoregretted the decline of the elite of the empire, which he equates with the degradation of morality. In his opinion, the growth of polygamy facilitates eroticism, not procreation, and to an increase in abortions and infanticide. He also condemns the increase in pederasty and homosexuality [42, p. 89].

One of the clearest examples of the influence of physiology on the behavior and life styles in Ottoman society was eunuchoidism.

The Problem of Eunuchs

The issue of eunuchs demonstrated both the organic deterministic mechanism of behavior and the archaic nature of its presence in Ottoman society. The behavioral disorders of eunuchs, their sad aggressiveness, jealousy, misogyny was attributable to physiology, the lack of internal secretion of the testes. Therefore, this supports the pathophysiological determinism of human disorders.

On the other hand, the keeping of eunuchs was often regarded within the profession as a historical "defect" of the Empire. Despite a continued decline in their numbers, eunuchs were amazingly chic in the harems of the capital. According to the memoirs of Princess Aisha, they played a significant role in the palace [63, p. 50, 147]. Zambako Pasha, a prolific author of the "Bulletin" devoted a distinct category of work to them. He examined more than two hundred eunuchs [64]. In his work, he provided the latest information about the connection between the behavior of the eunuchs, and the lack of "internal secretion" (later to be called the secretion of hormones) in the testes. It was during this period that Charles Brown Sequard tested "rejuvenation" on himself – injections of extracts of the testes, which gave credibility to this medical trend. Cautiously, Zambako waited for the constitutional period to openly condemn permanent trade relations of the Ottoman with the “factories of eunuchs” in Darfur or Ethiopia. Criticizing the mistakes of past government, he draws "enlightened Islam" (münevver) to his side, calling for a refusal of such mutilations in the name of the Koran.

In his hugely successful book, reflecting the spirit of the time, Zambako also supported an initiative for the sterilization of unwanted segments of society, the mentally ill or mentally retarded, undertaken in a number of countries including the United States. He called on Ottoman society to follow this model for improving the population by preventing unwanted breeding. Such eugenic concerns were typical of many countries, especially in France, where in 1912 a group of associates founded the French Eugenic Society, chaired by Alfred Richet [65]. In the Ottoman East, eugenic concerns manifested themselves redefining the traditional understanding of consanguinity, suspected of being fertile grounds for genetic abnormalities, such as deaf-mutism [28, p. 63].

The Biggest Developments in the Field of Medicine

In the pages of the “Bulletin” scientific life unfolded in much the same way as the one then practiced in London, Berlin or Paris. If Germany during a meeting in 1889 between Wilhelm II

and Abdul – Hamid was considered “the center of gravity of Europe”, Turkey was then the “most progressive country of modern Western civilization” [66, 67].

Along with efforts to improve the examinations of the dead, previously discussed, there were the first attempts at “resurrection”, later called reanimation. Cemil Pasha in his “Observations”, published in 1911, reported on surgical cardiac massages conducted via thoracotomies [68]. Unlike purely external or “medical” massages, in most cases ineffective, he reported on the successful results of cardiac syncope during anesthesia with chloroform (on a probably healthy heart). During the cholera epidemic of 1892, a Russian student in her thesis described the valuable experience gained in the Peter and Paul St. Petersburg hospital where perfusion was used for rehydration of cholera patients. Initial results were excellent: A patient thought dead opened his eyes and spoke, and this phenomenon was repeatedly observed. However, because of a lack of persistence in conducting “reanimation” (the term did not exist yet), the doctors eventually gave up and the patient died. Nevertheless, the idea of compensating fluid loss through blood transfusion or “cardiopulmonary bypass” remained in use in the Ottoman Empire [28, p. 48].

Therapeutic innovations were met with enthusiasm. The announcements regarding the treatment of tuberculosis at the Koch Conference in 1890 quickly spread throughout Europe [69]. Hope was false. However, Turkish patients, like others, rushed to Berlin. As Olivier Faure well demonstrated [70], medicalization of society manifests itself in everyday life; to some extent it is done by visits to the doctor, to a greater extent through the substances which pharmacists distribute in all possible ways. “Representatives of the East” showed “a remarkable perseverance in dealing with poisons.” Digitalis, hellebore, native plants utilized since ancient times, often became the subject of modern clinical trials conducted by doctors on patients [71]. There were many “secret substances”, particularly against skin diseases. However, at this moment, a pharmaceutical industry developed. Any new product could be a panacea. Kollarobey suggested using smallpox

vaccines to combat trachoma (chronic conjunctivitis, which is the main cause of blindness) [72]. This idea inspired new immunity related discoveries, according to which the vaccine stimulates phagocytosis, or devouring microbes, in blood leukocytes. Istanbul society has been subject to “febriphobie” and “quinine-mania” [73]: it consumed large quantities of quinine for all febrile diseases, on which the bark of the quinine tree had an undeniable impact. At times, this was unnecessary, as in the case of malarial fever (diagnosis was not possible to verify until 1888, when Laveran discovered *Plasmodium falciparum* while in Constantine, Algeria).

The use of serotherapy for the treatment of diphtheria was widely accepted since its introduction in 1894, and the serum began to be used immediately for the treatment of infectious diseases (typhoid, typhus, plague). Suleyman Nuri Bey brought serum from Europe against scarlet fever; serum against the plague came into use in 1897 [53, p.15]. The rich in Constantinople, as in Paris, “took the drug in of all possible ways”. However, as before, they were reluctant to go to the hospital and preferred to die in bed. In France, antidiaphtherial serotherapy was initially available primarily in hospitals. This was one of the first incentive for the rich to turn to hospitals, the former sanctuary of the poor. As with Berlin, Paris, Vienna and Moscow, news about innovations spread rapidly in Istanbul. Detailed reports contained in the medical journals were part of tourist travels [74]. Foreign doctors were eagerly invited to lecture and they brought their discoveries with them. Members of the Society also attended international medical congresses in Paris in (1881), Berlin (1890) and Moscow (1897). As for the discussion of scientific innovation, such open congresses limited the Academy, which was intended for the elite and who were losing the monopoly on the debates. Large international congresses were a fine occasion to exchange experiences and strengthen the identity of the medical community. They were able to meet colleagues during endless feasts where everyone spoke in their own language, and one was able to understand the language of their neighbor and begin studies dedicated to leprosy and tuberculosis.

In the issues of the "Bulletin", we find mention of the most important milestone in the history of the second half of the XIX century, the introduction and extensive use of anesthesia (chloroform) in the surgical field. Beginning in 1875, the Paris trained surgeon and professor of surgery at the medical school, Cemil Pasha, regularly used anesthesia during various impressive surgical procedures: vascular surgery, removal of hydatid cysts, thyroidectomy, different kinds of amputations, rectal cancer, cleft lip removal, hysterectomy and colectomy. Furthermore, these operations all had a low mortality rate¹¹. Cemil Pasha performed a hernia operation on the son of the Sultan. He also practiced in Etfal-iHamidiye, the children's hospital, built in 1898 [76]. NuriZiyaBey, Mohiuddin, Rashid Bey, RidwanBey benefited from the experiences of German doctors educated in Munich, Heidelberg and Berlin.

The emergence of microbiology was another scientific event. If FuadBey went to study bacteriology at Bering in Marburg (Germany), then Mavroienni, the doctor of the Sultan, returned from Paris with the intention of reading a lengthy lecture on the theory of germs. He held this theory in high regard but also considered the instability of scientific truth: "In medicine, to a greater extent than in any other science, one should never whole heartedly rely on the words of the master and doctrine is just as shaky. It is as if they have been constructed on the sand of the desert, and a fierce sandstorm can at any moment raise in the air any accumulated arguments. . . . We must remain calm and reflect over each new doctrine, no matter how bright and fashionable it is, much like the new bacterial doctrine today, for which so much ink and innocent rabbit blood has been shed across Europe" [77, p. 2].

The criticism of Mavroienni also applied to future scientific revolutions. He analyzed concepts that are close to the modern science of sociology, emphasizing the loss of know-how related to the application of new techniques. "Our physical eyes derive greater benefit from tools than our intellec-

tual eyes, which are almost always unchanged. . . . Tools exacerbate visual and intellectual myopia, blinding the eyes of the body and the eyes of the soul" [77, p. 3].

(Alexander) Zoeros Pasha, chairman of the Medical Society of Constantinople, professor at the military school of medicine, was the doctor of Sultan Abdul Aziz [78]. In 1884, he was a speaker at the Hague International Congress on Occupational Health, strongly endorsing Islamic medicine [79]. In 1886, on his return from the Pasteur laboratory, he announced a new vaccine against rabies. Granshe, the professor of medicine who vaccinated Joseph Meister, was made an honorary member of the Society in 1992 [15, p.89]. Nevertheless, disputes about the circumstances for detecting new disease spreading microbes continued as before. Peter, an opponent of the Pasteur Academy, began to seek support from the Ottoman members. He found supporters among those who blamed the new theory of lacking poetic romance: "The time is coming when we will offer our brides a pocket spittoon, and not the required traditional embroidered cloth pieces" [81].

Medical Society – harbinger of a new era?

What happened to the ideals of the "Society" fifty years after the Crimean War, when the countries of Europe together with the Ottoman Empire fought against Russia? The cosmopolitanism of the doctors of Istanbul allowed for the creation of new types of medical societies, in which Muslims and non-Muslims found equality before science. Medicine, which claims to universality, appeared in the depths of the Ottoman Empire to serve the reforms begun by the Rescript of the Rose Chamber of 1839. It was associated with municipalities of the capital, established in 1857, and sanitary supervision, which depended on government [82] and was under the personal tutelage of the benevolent sultan. Did Abdul Mezhidov consider the "Society", from the moment it was founded, as a tool to reorganize and modernize the state apparatus? When Sultan Abdul Hamid came to power, he began to show considerable interest in the medical profession, emphasizing of progressive nature of his reign.

¹¹ Excerpts from the work of Cemil Pasha, *Mémoires et Observations médicales*, contain data on the statistics of The Imperial Surgical School in Constantinople field for 1893-1897 years. [75].

In turn, the doctors remaining “outside of the society” and in the minority declared great devotion to the dynasty. Although some actions of the Ottoman administration, such as corruption or delay of payments to employees, can be viewed as the mournful, coordinated and efficient work of the administrative apparatus against the quarantines. They did not stop in spite of everything, and admittance to the civil service began to really decline only after 1908.

On the eve of the revolution in 1908, the “Society” reflected the state of the Ottoman Empire, where loyalty to the dynasty was still sufficiently strong. It was considered polite to avoid discussion about the differences in society and not give cause to the emergence of rivalry or disagreement. The epithet “Pasha” was generously distributed to all non-Muslims, in contrast to its use before the Tanzimat era, when it could only refer to Muslims. It could refer to Greek, Albanian, and Armenian names: During Bey, Cemil Pasha, Zoeros who enjoyed the same privileges and titles and medals of the Ottoman and Medjidie. They could become generals of divisions and advance through the military ladder at the request of their sultan. The Grand Vizier was guardian of the “Society”, when it celebrated its fiftieth anniversary in 1907.

Differences in origin were occasionally the cause of some discontent with foreign doctors working in medical schools, particularly in the military (they complained that it limited promotion). However, we found no evidence in the pages of the “Bulletin” which relied on the differences of societies to explain physiology of “races”, such as those in the reports on colonial medicine [83]. The usual anthropologist preferred a partly positive portrait of a generalized “Eastern inhabitant”. “The Easterner is defined by weakness and superstition, an apathetic and fatalistic character, no matter what social class, rank, religion, or nationality he belongs to. Foreigners living a long time in the East, in the end, also acquire a similar character” [77, p. 5].

In any event, doctors went beyond the limits with this characterization of oriental people. They were representatives of the profession, following corporate ethics. It obliges members of the profession, whatever their roots, to respect

the judgments of both and avoid trying to criticize colleagues in presence of patients, in order not to create unhealthy competition. The important thing for the development of the medical profession in the Empire, as it seemed at the time, was medical personnel united in defining their goals and privileges. Doctors were united in their struggle to create a medical monopoly, which the state could provide. A similar protection of the profession included a condemnation of medical quacks, suspicious healers / religious healers and the regulation of midwives.

However, disagreements occasionally arose concerning the recognition of medical diplomas by the administration. In Constantinople, it was sufficient to simply be designated a doctor, regardless of a diploma confirming competence. The Ottoman state very clearly regulated the profession with the first law of 1861. However, this was only a “council”, whose goal was to control the activities of doctors that had foreign diplomas. Beginning 1887 (and especially in 1892), the state carefully examined each case and introduced a process of verifying certificates, except for doctors of the sultan, embassies and schools. Consuls representing their nationals or interested “protégés”, fought vigorously against those who abused the power of the central administration [84]. In this regard, the synchronization of the administrative “clock” was amazing! In 1883, France issued a decree reorganizing the profession and putting an end to “nomadism among physicians [85].

Conclusion.

Internationalism, Cosmopolitanism and Medicine In the Ottoman Empire

The History of the Imperial Medical Society and its “Bulletin” from 1856 to 1907 is a unique chronicle of the era from the Crimean War to the Young Turk revolution. It marks an attempt by scientists to play a more important role in society in the name of scientific progress, and to form a basis for the reforms initiated in the Tanzimat era. The Medical Society provided a model for solving one of the major problems of the Empire – the problem of citizenship. These scientists actually formed a group consisting of members of

different origins, at a time when the empire was at the "peak of multi-nationality" [86]. On the one hand, doctors insisted on the need to use the state, the successor of the Tanzimat, to achieve their prerogatives and influence matters of health care for all their subjects. At the same time, they happily enjoyed a certain autonomy and relied on the international occupational fraternity to which they belonged.

Sultan Abdul – Hamid did not oppose a certain amount of medical influence. Princess Aisha instilled in her father the idea that "you can believe in both religion and science" [63, p. 35]. This was more or less a conscious echo of the famous hadith: "There are two men who are irreplaceable: the doctor for the body and the scholar for religion." The physicians immediately surrounding the Sultan reflected the general state of the Empire. When the Greek Orthodox Mavroeni Pasha was exiled to Thessaloniki, the Muslim Arif Bey followed, remaining his personal physician and in many cases advisor, until 1885. [87] It was German physicians, Dr. Bier and Dr. Bergmann, who came to help explore rare cases of disease [63, p. 35].

The paradoxes of medicine in the Ottoman Empire, which we have described, can be derived from the cited "Medical Bulletin of the East". The "Bulletin" is a mirror of Western medicine in the East, without viewing it as dependent or inferior.

This point of view is based on the "delay" that followed the "victory" in the Crimean War, marked by a still relatively harmonious coexistence of Muslims and non-Muslims, foreigners and "Turks", living in the same territory. The Medical Society was something of a model of coexistence. In addition, it served as a basis for an enlightened Islam, fertile ground and protector, a source of progress in the field of social development. In connection with this, society remembered the viability of science and their common heritage with Western medicine [79].

This oriental medical society was at the same time devoid of any noticeable conflict with the international medical community. In 1892, Dr. Pared Lamarlakis announced: "Our society represents the international in the purest sense. . . . Under the banner of science, (our Society) unites men and women of different nationalities and beliefs (sic), for joint and common work, primarily benefiting humanity" [88]. However, other voices were heard, that added, "a great time has come, when the banner of Eastern science shall unfurl" [89]. What kind of banner was meant? Contradictions prevailed over external harmony, fully manifesting tendencies to turn into a radical nation-state. The "agreement" of scientists would evaporate under the pressures of the nationalism of the Young Turks of the Ottoman lands, inside and outside their borders.

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