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CHOLERA EPIDEMICS AND THE PUBLIC HEALTHCARE SYSTEM IN CARNIOLA

The contagious intestinal disease cholera that reached Europe in the 19th century spread five times among the population of Carniola. The disease was transmitted mostly by military troops that moved through Carniola. The Carniolan authorities expected the cholera epidemic to break out as early as 1831, when the disease first erupted throughout Europe. As was typical for that period, the Habsburg authorities relied heavily on the legislative heritage of 18th century protective measures against epidemics of the plague when deciding on precautionary measures against the disease. As part of that heritage, the founding of a preventive sanitary cordon and a system of quarantines on the Carniolan-Croatian border was of particular importance for Carniola as a protection against the epidemic in Hungary. However, as border blockades in the monarchy turned out to be a much too radical precautionary measure, being on the one hand ineffective and costly and on the other hand devastating for the local economy, their operation ceased during the subsequent epidemics in the Habsburg monarchy.[1]

When studying all five cholera epidemics in Carniola in 1836, 1849, 1855, 1866 and 1886, certain questions crystallize, mostly those related to the organisation of the public healthcare system.[2] When studying the reactions of different levels of authority, issues of the structure and development of the public healthcare network as well as the attitude of the authorities and physicians towards it turn out to be of significance. The time of the cholera epidemics was a time of extreme circumstances, when issues related to the healthcare system of the time were completely exposed and sharpened. Cholera outbreaks greatly contributed to raising the awareness of the importance of proper healthcare conditions, and such awareness eventually led to the founding of healthcare authorities, which were first temporary in nature (for the time of the epidemics) and later permanent. The Carniolan Provincial Medical Commission (Landes-Sanitäts-Commission), which had been temporarily established before the 1855 cholera epidemic, became a permanent advisory body of the provincial government after this epidemic and remained so until 1870, when the state healthcare act reorganized the field of healthcare.[3] Provincial medical commissions were transformed into the Provincial Healthcare Councils and healthcare-related concerns at the lower, municipal level were regulated by Provincial Healthcare Acts, the one for Carniola being adopted in 1888.[4]

1 Katarina KEBER, Kranjski obrambni mehanizem za zaščito pred prvo epidemijo kolere v Evropi / The Carniolan defense mechanism for protection against the first epidemic of cholera in Europe. In: Kronika 53/3 (2005) 351–364. See also: Othmar BIRKNER, Die bedrohte Stadt – Cholera in Wien (Wien 2002).

2 Epidemics of cholera and the development of the public healthcare system in Carniola are more thoroughly discussed in the book by Katarina KEBER, Čas kolere: epidemije kolere na Kranjskem v 19. stoletju / The time of cholera: epidemics of cholera in the 19th century Carniola (Ljubljana 2007).

3 Reichgesetzblatt 1870/68: Gesetz vom 30. 4. 1870, betreffend die Organisation des öffentlichen Sanitätsdienstes.

4 Deželni zakonik za vojvodino Kranjsko 1888/12 / Provincial Code for the Dutchy of Carniola 1888/12: Act of April 24, 1888, regulating municipal healthcare service, in force for the Dutchy of Carniola without the provincial capital of Ljubljana.

1. Characteristics of the individual epidemics

The Carniolan authorities actively made preparations to protect the country against the 1831 cholera epidemic, but the disease eventually spared Carniola. Yet, the first cholera epidemic in 1836 came as a surprise to the population. Despite the ambitious plans from 1831[5], the authorities were insufficiently prepared for this new contagious disease in 1836 and they were only partly capable of implementing the envisaged measures. When the second epidemic arrived in 1849, the populace already had a certain experience and was aware of the threat. However, due to the general ignorance regarding the manner in which the disease spread as well as the inefficiency of the existing medicines, the effectiveness of the measures could not improve. It is also important to note that in 1849, in addition to the German newspapers *Laibacher Zeitung* and *Illyrisches Blatt*, the Slovenian newspaper *Kmetijske in rokodelske novice* reported on the cholera epidemic, thus raising the population's awareness since it reached the part of the Slovenian public that did not speak German. It is interesting that the second cholera outbreak received less attention in the press than the first one; death notices no longer appeared in the newspapers in 1849. The social structure of the deceased in the provincial capital of Ljubljana makes evident that cholera was most fatal to the unprivileged, lower classes. Those most affected were families of day labourers, servants and craftsmen.[6]

While individual parts of Carniola were affected differently by the remaining epidemics, the third cholera epidemic in 1855 spread through the territory of the entire province. This epidemic was the most lethal of all five. In Carniola 19,370 people were taken ill and 5,748 of them died, making Carniola the sixth most affected province in the Habsburg monarchy in terms of the number of people who fell ill and the third most affected regarding the percentage of people who were infected. In 1855, Carniola was undoubtedly among the provinces of the monarchy with the highest density of people being infected.[7] During this epidemic the lack of physicians became evident as the existing public healthcare network could not cope with such an enormous number of patients in such a short time. A comparison between the social status of those who were infected with cholera in urban areas and those who died of it in rural areas clarifies that cholera had been more fatal for lower social classes in both environments, being even slightly more apparent in the town areas. People in Ljubljana had the benefit of a more developed and easily accessible medical infrastructure, while people in the rural areas (Slavina parish) could rely on the assistance of a physician less frequently, due mostly to the demanding territory as regards travel and the poor transport connections. In addition, provisional hospitals were intended primarily for military staff and railway workers and did not admit locals.

5 Katarina KEBER, Ljubljanski zdravnik Fran Viljem Lipič in preteča epidemija kolere leta 1831 / The Ljubljana physician Fran Viljem Lipič and the threatening cholera epidemic in 1831. In: Kronika 52/1 (2004) 35–44.

6 KEBER, Čas kolere 79–80.

7 Getraud KREBS, Die geographische Verbreitung der Cholera im ehemaligen Oesterreich-Ungarn in den Jahren 1831–1916 (= Veröffentlichung aus dem Gebiete des Volksgesundheitsdienstes 55/6, Berlin 1941) map 2.

The social consequences of the epidemic were considerably serious, as the families of the many deceased were left unprovided for and thus often fell into poverty. During the epidemic, the authorities provided assistance to the poor mostly by distributing food, while after the epidemic, they also assisted the convalescents and those newly impoverished due to the epidemic.[8]

The fourth cholera epidemic in 1866 was significantly less fatal than its predecessors, a fact that could probably be attributed to the implementation of the first obligatory instructions on dunghills and toilet disinfection.[9] Although the number of public medical staff did not increase as compared to the preceding epidemic, it seems that the importance attached to the individual patient did, as names and occupations of those infected and deceased were almost always stated in the medical and district reports. The patient or victim was no longer merely a statistical datum but became an individual with a name, occupation and his or her own destiny.[10]

In contrast to the previous outbreaks, the last cholera epidemic of the 19th century occurred under completely different circumstances. Due to scientific development and overall technological progress the preventive measures against the epidemic became much more effective; measures were targeted on those key areas in which society was most vulnerable. Railway transportation was undoubtedly one of them since an increasing number of workers from all over Europe arrived in Carniola by train. On the other hand, the danger of the disease being spread was reduced by obligatory disinfections and the prohibition of mass gatherings, such as pilgrimages and fairs. The discovery of the cause of cholera – the bacteria *Vibrio cholerae* – by Koch triggered revolutionary changes in the understanding of the nature of the disease and finally confirmed that it was a contagious disease transmitted by a certain type of bacteria.[11] The rapid development of bacteriology also came to Carniola; as early as three years after Koch's discovery infected samples from Carniola were analyzed in a Graz laboratory.[12] Namely, it had become extremely important that bacteriological analysis was performed on a patient's excrement samples as soon as possible and the presence of the so-called Koch's bacteria was confirmed or refuted. Further measures depended solely on the results of bacteriological analysis. The use of the telegraph also played an important role as it increased the speed of information flow, thus enabling the authorities to be promptly informed and to take rapid action.

With the exception of the first cholera epidemic, all of the remaining cholera outbreaks in 19th century Carniola coincided with the major European epidemics. Their comparison on the one hand shows the general capabilities of various levels of authority and on the other hand sheds light on societal changes during such epidemics, if not because of them. The primary measures taken by authorities when faced with the danger of an epidemic outbreak were always the same. In the pre-March era a temporary Provincial Medical Commission

8 Katarina KEBER, Socialne posledice epidemije kolere leta 1855 na Kranjskem / Social consequences of the 1855 cholera epidemic in Carniola. In: Darja ZAVIRŠEK, Vesna LESKOŠEK (Ed.), Zgodovina socialnega dela v Sloveniji (= Zbirka Zgodovina socialnega dela, Ljubljana 2006) 181–200.

9 Arhiv Republike Slovenije, AS 45 – Deželna sanitetna komisija v Ljubljani/Provincial Sanitary (Medical) Commission in Ljubljana, bundle 2/7705, Instruction on how iron (green) vitriol is used for disinfection, by the Imperial and Royal Provincial Medical Commission. In Ljubljana, August 14, 1866.

10 KEBER, Čas kolere 163.

11 More in Richard J. EVANS, Death in Hamburg, Society and Politics in the Cholera Years 1830–1910 (Harmondsworth 1990).

12 Arhiv Republike Slovenije, AS 16 – Deželno predsedstvo za Kranjsko / Provincial Presidency for Carniola, bundle 62 II/2554; Max GRUBER, Bakteriologische Untersuchung von Cholera-verdächtigen Fällen unter erschwerenden Umständen (Separatabdruck aus Dr. Wittelshöfer's Wiener Medizinische Wochenschrift 7/8 (1887)) 1–2.

was founded to coordinate healthcare measures both in the provincial capital of Ljubljana and in the whole of Carniola. As mentioned before, the commission became the most important provincial body in the field of healthcare, obtaining a permanent status in the second half of the 19th century. It operated until 1870, when the Provincial Healthcare Council was established.

The views upon defence measures against epidemics were changing as well. If the interdiction of areas with sanitary cordons was still among the popular preventive measures in 1831, this measure was, due to negative side effects, no longer acceptable in subsequent epidemics. In the epidemics of the pre-bacteriological era, preventive measures entailed high attention to the dietary improvement of the poor and an increase in the number of public physicians. In addition, the provincial capital was divided into small, more manageable parts during all epidemics and the populace was encouraged to live moderately, steadily and morally. The epidemic of 1866 was a turning point in this respect as intensive disinfection began to be used as a defensive measure against the disease. During the last epidemic, measures that were based on new knowledge about the causes of contagious diseases began to be applied as well. Since no effective cure for cholera had been discovered until the end of the century, all kinds of potions and tinctures appeared on the market and recipes and advice of all sorts were circulating among the populace. The most urgent issue though was the continual lack of physicians, due to which a considerable part of particularly rural districts was often left with no medical assistance at all.

2. Operation of the public healthcare system during cholera epidemics

The issue of the lack of public physicians became apparent as early as the time of the two pre-March cholera epidemics. Specificially, as part of their public healthcare network, all three counties in Carniola employed only one county physician and one or several district physicians, as well as one county surgeon[13] and several district surgeons. Ljubljana had two town physicians. But since medical staff became infected as well, the decrease in the already scarce number of physicians and surgeons became even more dramatic. In addition, due to their own age or illness, many district surgeons were incapable of bearing the physical efforts involved in providing treatment to the increased number of patients in rural areas. In 1836, the lack of medical assistance was most apparent in the rural districts of the Novo mesto county.[14] There was a total of 17 physicians and six surgeons paid by the state in Carniola in 1849; in addition to those, also 13 physicians, 80 surgeons and 244 midwives were active in the province at the time.[15] Apart from the provincial medical supervisor[16], Georg

13 Wound dresser or *Wundarzt*.

14 Arhiv Republike Slovenije, AS 16 – Deželno predsedstvo za Kranjsko/Provincial Presidency for Carniola 1836, VI/1617.

Matija Sporer, the public healthcare service was still comprised of three county and six district physicians, and three county and several district surgeons.[17]

However, at some point prior to the great epidemic of 1855, regarding which the most extensive documentation has come from administrative sources, it had become apparent to the authorities that most of the inhabitants of Carniola did not have access to medical treatment. The healthcare system employed during the preceding two epidemics, in an effort to treat the infected and prevent the spreading of the disease, turned out to be completely insufficient when faced with the enormous numbers of patients in 1855. The issue of the lack of physicians became most exposed as the already modest number of physicians and surgeons were no longer able to cope with the sudden rise in the number of patients. Since the existing public healthcare network in Carniola could no longer provide care for such an enormous number of patients in such a short time, additional physicians, surgeons and medical students from Vienna came to its aid, managing to fill the gap in the public healthcare system but only temporarily. One third of all physicians offering medical assistance during the 1855 epidemic were newcomers. Apart from foreign physicians, private physicians were also hired by provincial authorities in order to cover the requirements of public service for a fixed period of time.[18]

Despite the fact that all but the last cholera epidemic broke out in the so-called pre-bacteriological era, i. e. during therapeutic nihilism – which of course raises questions as to the efficiency of therapeutic procedures used at that time – the availability of urgent medical care for all layers of society during the epidemic became of utmost significance. To make the most of the medical and surgical staff available, they would often be rotated from district to district, from less to more affected places, and from towns to rural areas. However, due to the belated distribution of physicians to various districts, parts of them, particularly remote parts, remained without any medical assistance. Considering the conditions at the time, the epidemic was spreading at the "speed of light". The fact that not all patients could receive medical help may be attributed not only to the lack of medical staff but also to geographic scattering and difficult access to some of the infected areas, both slowing down and aggravating the mobility of physicians and surgeons even further. Evidence of how the Provincial Medical Commission moved physicians around from less to more affected districts can be seen in the example of the physician Anton Bežek. The said physician first worked in the Vipava district and was later moved to the district of Bistrica. While in the Vipava district, he visited an average of three villages per day and travelled 299.5 kilometres in eight days.[19] Information on the great disproportion between the number of patients and that of working physicians and surgeons as well as information on the cruelty of conditions at the time is well documented in the drastic appeal made by the district office in Planina:

15 Tafeln zur Statistik der österreichischen Monarchie 1849-1851, II. Theil, VII. Heft, Tafel 17.

16 *Protomedicus*.

17 Provinzial Handbuch des Laibacher Gouvernement – Gebietes im Königreiche Illyrien, für das Jahr 1848 (Laibach 1848) 335–338.

18 KEBER, Čas kolere 98–102 and 111–116.

19 Arhiv Republike Slovenije, AS 45 – Deželna saniteta komisija v Ljubljani, bundle 6/2303.

"*Die Exponierung eines Arztes in Zirknitz ist dringend nothwendig ... wenigstens einen Aushilfsarzt, weil sonst die Kranken wegen Mangel an ärztliche Hilfe zu Grunde gehen müssen.*"[20]

Doctors and surgeons themselves made massive pleas to the Provincial Medical Commission to send additional staff, as most of them were no longer able to visit and treat the increasing number of patients. Physician Ferdinand Zalokar of the Metlika district for instance drew attention to the fact that entire villages in his district had gone for days without a single visit from a doctor, since he himself could no longer attend to all the patients.[21] The lack of medical assistance was also often due to physicians and surgeons themselves being infected so that their already utterly exhausted colleagues had to stand in for them. Thus, a district physician in Novo mesto was expected to also take care of the patients in the districts of Črnomelj and Metlika, which of course was not physically possible.[22] In the Velike Lašče district, there was only one surgeon, Anton Schot, who himself was in poor health and who attended to 75 patients in the villages of six municipalities. The district office requested urgent help as Schot had recently had a stroke and the amount of work had been a serious threat to his own health*: "… diesen braven Bezirkswundarzten von totalen Hinfaelligkeit zu verwahren …"*[23]

The entire medical staff could not be effective enough, due to the enormous numbers of patients, geographic diversity of the landscape and bad transport connections. In addition, authorities expected the number of the infected to be higher in the more densely populated Ljubljana and had organized measures for the capital town in advance, making them more effective than those organized for rural areas.
Despite the fact that the issue of the lack of public physicians was thoroughly exposed during the 1855 epidemic, their number increased only gradually in the second half of the 19th century. The medical report of 1862 prepared by the physician Moriz Gauster, member of the permanent Medical Commission in Carniola, includes information on how, due to an insufficient number of medical staff, most of the populace had not received medical treatment and most of the babies had been delivered without any assistance of trained midwives.[24] During the last cholera epidemic of 1886, the public healthcare service for the countryside was still not organized despite the adoption of the State Healthcare Act. The lack of physicians could still be felt throughout the province:

"*… das ganze Land auch den Mangel an Ärzten schmerzlich empfindet und ihn im Falle eines Cholera-Ausbruches auch noch schmerzlicher empfinden wird, so bleiben doch alle bisherigen Versuche zur Gewinnung von Ärzten erfolglos*."[25] The issue of the lack of physi-

20 Arhiv Republike Slovenije, AS 45 – Deželna saniteta komisija v Ljubljani, bundle 5/971.

21 Arhiv Republike Slovenije, AS 45 – Deželna saniteta komisija v Ljubljani, bundle 6/2190.

22 Arhiv Republike Slovenije, AS 45 – Deželna saniteta komisija v Ljubljani, bundle 5/855.

23 Arhiv Republike Slovenije, AS 45 – Deželna saniteta komisija v Ljubljani, bundle 5/924.

24 Sanitäts-Haupt-Berichte vom Herzogthume Krain für 1861 und 1862. Veröffentlicht mit Genehmigung des hohen k. k. Staats-Ministerium durch die k. k. ständige Landes-Medizinal-Commission von Krain (Laibach 1866) 91.

cians in general and especially during the cholera epidemics was a question of wider proportions and affected not only Carniola but other countries as well.

3. Conclusion

Cholera, which is regarded as a great reformer of the healthcare of 19th century Europe, to a certain degree influenced both the public healthcare system in Carniola and improvements in general hygienic conditions. A series of violent epidemics shook society and forced it to change its way of thinking. The authorities became increasingly aware of the fact that bad overall hygienic conditions were having a negative effect on the population's health and that cholera and other contagious intestinal diseases were being transmitted mainly through infected water sources. That knowledge undoubtedly contributed to the construction of a water distribution system and to the solving of the sewage issue. There were still two more cholera outbreaks, those in 1910 and during the First World War, but the increased hygienization of society at the end of the 19th century and at the beginning of the 20th century made cholera epidemics lose some of their power. The disease was eventually taken off the list of the most deadly diseases in Slovenia in the Interwar period.

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GRUBER Max, Bakteriologische Untersuchung von Cholera-ver-

25 Österreichisches Staatsarchiv, Allgemeines Verwaltungsarchiv, Ministerium des Innern, 36/5, 1044/921. The lack of physicians during cholera was also discussed at the meeting of the Upper Healthcare Council (Oberster Sanitätsrat) in Vienna in March 1886.

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