

THE PHYSICIAN ADAM CHENOT – RESHAPING PLAGUE CONTROL IN THE AUSTRIAN CORDON SANITAIRE (APPROX. 1770–1780)

Sabine Jesner*

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The fear of plague can be recorded as a continuous reality of life for people living in Europe, especially in south-eastern Europe, during the 18th Century. In this period the Habsburg Empire was exposed to infection from the Balkan provinces of the Ottoman Empire. Ever since the Treaty of Passarowitz when trade between Habsburg and Ottoman subjects was regulated and diplomatic ties simplified, merchants and travellers crossed the border more often and commerce increase steadily. Increasing border traffic and present fear of plague infection went hand in hand and were responsible for the establishment and the implementation of more specific sanitary prevention measures on the part of the court in Vienna. In this study we will take a closer look at the medical discourse concerning plague preventive measures in the second half of the 18th Century. While regulations and instructions were conceived in Vienna, the practical fields of operation were first of all the quarantine stations located in the territory of the Habsburg Military Border. This paper will discuss the concept of quarantine, contemporaneously referred to as *Contumaz*, which was a connecting factor for various forms of persistent complaints and in further consequence discussions about function, formation and effectiveness. The physician Adam Chenot became the focus of attention, because he revealed and broached organizational and structural deficiencies. His proposed concepts were picked up and analysed, in all probability being a factor of implementation and performance benchmark for following sanitary prevention regulations in the Habsburg Empire.

* University of Graz, Southeast European History and Anthropology, e-mail: sabine.jesner@uni-graz.at

1. Bubonic plague – Habsburg Empire – Quarantine stations

While in western Europe the last plague waves raged for example in the year 1711 in Spain, 1712 in Scandinavia, 1714 in north and central Italy or between 1720–1722 in Marseille and in the Provence¹, in southeast Europe it remained endemic. When the Habsburg Empire was touched by the plague, the infection most of the time arose in the Balkan Provinces under Ottoman sovereignty or in the Ottoman Empire itself. Daniel Panzac figured out, that bubonic plague raged during the 18th Century for 68 years in Istanbul, 57 years in Anatolia, 44 years in Egypt and 41 years in Bosnia.²

Systematic border closure because of epidemic disease seems to be a product of the 17th Century. Temporary established and military manned *cordon sanitaires* were drawn 1647 in Spain, 1668 around Paris, 1708 in Transylvania, 1709 in Prussia or 1720 around Marseille.³ In the Habsburg Empire the Plague Patent from 14th August 1710 included strict advices on which measures should be adopted, if an epidemic disease approaches the border. This was necessary, because the plague reached Austria by way of Transylvania and Hungary in this year. §2 of the above quoted patent claimed discontinue communication with the Kingdom of Hungary, temporarily, strict border closure and temporarily quarantine stations.⁴

The commercial treaty of Passarowitz 1718 opened for both Ottoman and Habsburg merchants an area of enhanced operations. Heretofore temporarily established closures as a form of sanitary prevention seemed to the court in Vienna to be insufficient. A royal patent from 22nd October 1728 (“Quarantine and respective Cleaning Order”) decreed: against the Ottoman Empire as well as areas under Ottoman suzerainty, because of all time threatening danger of infection, as soon as possible establish adapted to circumstances, permanent intensified preventive measures.⁵ The establishment of permanent quarantine

¹ Franz Mauelshagen, “Pestepidemien im Europa der Frühen Neuzeit (1500–1800),“ in Mischa Maier, ed., *Pest. Die Geschichte eines Menschheitstraumas* (Stuttgart, 2005), 244; 261.

² Daniel Panzac, “Plague,” in Gábor Ágoston, Bruce Masters, ed., *Encyclopedia of the Ottoman Empire* (New York: Facts of File, 2009), 463.

³ Olaf Briese, *Angst in den Zeiten der Cholera. Über kulturelle Ursprünge des Bakteriums (Seuchen-Cordon I.)* (Berlin: Akademie Verlag, 2003), 242–243.

⁴ [...] *Contagions-Commissari, Patrolier-Reuter/ und Wachten künfftighin niemand mehr aus Hungarn und denen vorerwehnten dahin angehörigen Königreich/ Fürstenthumb/ und Landen/ er möge herkommen woher/ und seyn wer er wolle/ ohne erweißlich in denen nachbenannten zu Wachung der Contumaz bestimmbten Orthen ausgestandener Quarantena in das Land einlassen.* See *Pest-Ordnung*, 14th October 1710, OeStA FHKA SUS Patente 43.15, §2.

⁵ [...] *gegen das Türkische Gebiet und Länder wegen daher allzeit bedrohlicher Infections-Gefahr ehestens eine beständige Gegen-Verfassung zu veranstalten und solche nach Maaß derer*

stations in the Military Border and with that, the reservoir of border soldiers made the highly expansive undertaking to originate a permanent manned sanitary cordon along the bordering Ottoman Empire possible. In the year 1737 the factor Military was assessed as absolutely necessary regarding plague prevention.⁶

In the following years a network of quarantine stations arose through all Military Border sections. All travellers (including goods or livestock) from the Ottoman Empire had to enter the Monarchy solely through those quarantine stations and were forced to remain in seclusion for a defined timespan, which depended on current health circumstances in neighbouring provinces and the Ottoman Empire. In particular this often long span of time in quarantine was responsible for various forms of trade restrictions in the Military Border during the 18th Century. Merchants were confronted with depreciation of their commodity and additionally as a consequence of the long storage period a substantial quality loss. Considering these negative effects on the commercial prosperity and economic development of the primarily south eastern parts of the Monarchy, the authorities in Vienna were well aware that improvements and modifications were necessary. The introduced innovations were focused on both medical and economic reforms. The most important thing was the reform of quarantine periods, which was attempted since the 1760ies by Adam Chenot.⁷

2. *The Physician Adam Chenot (1722–1789)*

The Luxembourger Adam Chenot studied medicine at the University of Vienna. At the age of 34 Chenot graduated as doctor of medicine. Before Chenot graduated, he was sent 1755 as contagion physician (*Contagion Physici*) with a salary of 800 Gulden per annum to Transylvania.⁸ His diploma was redirected to Transylvania by command of Maria Theresia in May 1756.⁹ Together with

unter-waltenden Umstände zulänglich, auch festiglich zu unterhalten [...]. Citation printed at Erna Lesky, “Die österreichische Pestfront an der k.k. Militärgrenze,” *Saeculum*, 8 (1957), 84.

⁶ The exact wording of the patent from 24th December 1737: *Inmassen nach langer Erfahruniß die guten Militär-Dispositiones das beste und fast einzige Mittel seynd, dem contagiosen Uebel und der Ausbreitung desselben zu steuern.* Citation printed at Lesky, “Pestfront,” 86.

⁷ Regarding the *Cordon Sanitaire* additionally the works of Lesky, “Pestfront,” 82–106; Erna Lesky, “Österreichisches Gesundheitswesen im Zeitalter des aufgeklärten Absolutismus,” *Archiv für österreichische Geschichte*, 122, 1 (1959): 1–228 or Gunther E. Rothenberg, “The Austrian sanitary cordon and the control of bubonic plague: 1710–1871,” *Journal of the history of medicine and allied sciences*, 28 (1973): 15–23.

⁸ Decree from the Court Sanitary Commission to Chenot dated on 15th December 1755 regarding his new position as contagion physician in Transylvania. See OeStA KA MilKom Sanitätshofkommission Bücher 2 (1753–1757), No. 13, December 1755.

⁹ Decree addressed to the Faculty of Medicine from 11th May 1756: *Von der Kay. Königl.*

the surgeons Heimerle and Kurtz Chenot travelled to Sibiu (*Hermannstadt*).¹⁰ Since 1755 Transylvania suffered from a wave of plague and the plague-stricken principality urgently needed additional medical personnel. Chenot was finally sent to Braşov (*Kronstadt*), where he found his field of operation in the sickbay of the so called *obere/wallachische Vorstadt*, a district of Braşov.¹¹ In the year 1766 he published significant observations and medical findings, which he made during this plague wave, including a description of his own plague infection in the book *Tractatus de Peste*.¹² Chenot survived the plague infection and stayed

Niederösterreichischen Representation und Kammer wegen dem Herrn Rectori et Consistorio Universitatis Viennensis anzufügen: Es hätten Ihre Kayl. Königl. Mayestät unsere allergnädigste Erblandesfürstin und Frau mittels eines unterm 8ten dies anhero erlassenen Hofdecret auf eine allerhöchst Ihroselbten geschehene Vorstellung, was massen des Adam Chenot, medicinae studiosus, nach ausgestandenen ordentlichem examine pro doctoratu bereits approbiert, auch von ihm die pro gradu ausgemessene Taxen alschon entrichtet, sohin aber derselbe, ehe er sine disputationem gradualem noch haben abhalten können, nach Siebenbürgen wegen inmittels daselbst sich geäußerter Contagion abgeschicket worden seye, folgsam nunmehr Reipublicae causa von hier abwesend sich befinde, allergnädigst zu resolviren geruhet, dass ihm Chenot in alleiniger Rücksicht dessen, folgar ohne mindesten Consequenz für andere, ohngeachtet seiner Abwesenheit das gewöhnliche Doctorats-Diploma ausgefertigt werden solle. Welche allerhöchst geschöpfte k.k. Resolution demnach ihm Herrn Rectori et Consistorio Universitatis Viennensis zu nachrichtlichen Wissenschaft erinnert wird [...]. Cited after Edmond Knaff, *Adam Chenot et deux autres médecins luxembourgeois qui se sont distingués en Autriche-Hongrie au XVIII^{me} siècle* (Luxembourg: Imprimerie Centrale Gustave Soupert, 1930), 231–232.

¹⁰ Report of the Sanitary Commission in Sibiu from 7th January 1756 directed to the Court Sanitary Commission: *Wir werden demnach, sobald der Contagions Physicus Chenot nebst beyden Chirugis Heimerle und Kurtz allhier anlangen nicht allein Sie insgesamt in Pflicht nehmen, Ihrer Obliegenheit behörig befehlen und an jene Orth, wo es die umstände selbiger Zeit erheischen mögen, expedieren: Sondern [...] nach Gott gebe baldig geendigten Pest gefährlichkeiten den erstern davon nacher Temesvar seines weitheren Verbleibens halber abgehen lassen, die letzteren hingegen bey sich ereignenden aperturen auf hiesige Contumaz Posten anstellen bedacht seyn.* See OeStA FHKa NHK Kaale U SanA 10 Sanitätsakten (1756), fol. 15 r.

¹¹ On 6th June 1756 Adam Chenot wrote to the Court Sanitary Commission: *Auf dero hohen Befehl, schikhe ich meine Meinung über die alhier grassierende Krankheit, wollte Gott, gaß ich im stande wäre gewesen, ihre Propagation zu hemmen: Ich bin unter einem solchen volckh gerathen, welches alle Artzney Mittel abschlaget, nebst denen Kunde ich nicht sagen, daß ich alle Gelegenheit gehabt hätte, den anfang der Krankheit selbst zu observiren, theils weilten die Krankhe selbst, und ihre anverwandte ihren gefährlichen Zustand nicht entdecken, bis endlich gar keien Hilf zugebrauchen, theils weilten die jennigen, so mir von draussen herein gebracht worden, meisten mehr todt, alß lebendig waren. [...] In der Separation den 6ten Juny 1756.* See OeStA FHKa NHK Kaale U SanA 10 Sanitätsakten (1756), fol. 267 r.

¹² Chenot described in detail his own plague infection: *Den 27sten ließ der Kopfschmerz nach, was ich zu mir nahm, brach ich sogleich wieder weg, hierzu kam ein öfterer Durchfall, welchem den 28sten eine merkliche Erleichterung folgte, die mir so viel Vernunft und Kräfte erlaubete, daß ich mit eigener Hand schreiben, und den Beystand derer Cronstädter Aerzte verlangen konnte. Die Pestbeuel erhob sich und das Brechen sammt dem Durchfall ließ nach. Den 29sten und folgende*

in Transylvania after the disappearance of the disease in the year 1757. In the following year he received the title of a sanitary physician located in Sibiu.¹³

Vocationally rooted in Transylvania, Chenot married the daughter of the staff surgeon Laurentius Stocker in 1759. With his first wife he had two daughters and three sons. Chenot's second marriage (1778) was to Katharina, née Weyrauch, the widow of captain Rösler.¹⁴

In the year 1773 Chenot met Joseph II on his first journey through Transylvania, while visiting the quarantine station of Turnu Roşu (*Rothenthurm*). Joseph II noted following unflattering words about their first meeting: Dr. Chenot, who leads the Chief Directorate in sanitary service, and is an ignorant loud mouth braggart of his craft, was with us during the view of the quarantine station, [...].¹⁵ His highest career level in the Principality was achieved by Chenot in 1774, when he got the position of the first *Protomedicus Magni Principatus Transilvaniae*.¹⁶ An official universal instruction for Protomedici

*Tage brachte ich in starken Irrereden zu. Den 3ten Julii zeigten sich auf der Brust häufige braune Peteschen, welche etwas kleiner als Linsen waren, mit welchen ein neuer Durch-fall erfolgte. Die Beule blieb in vorigen Stande. Gegen Abend vermehrten sich die Peteschen, und auf der Beule entstund ein Bläsgen, welches der Vorbothe eines Carbunkels zu seyn schien. Die Kräfte nahmen ab, und die äußeren Gliedmaßen wurden zuweilen kalt. Man setzte mir spanische Fliegen auf die Waden. Das Irrereden verwandelte sich in Raserey, dergestalt, daß auf Befehl des Wundarztes sich die Wärter meiner bemächtigen und binden mußten. Durch diese Veränderung, betroffen kam ich zu mir, und erhielt durch Bitten, daß man mich von den angelegten Banden losmachte. ich blieb ruhig, und brachte also den 4ten Jullii ganz Stille zu. Die Peteschen wurden roth, die Beule nahm zu, und in den Nachmittagsstunden stellte sich der Verstand wieder ein; die auf der Beule befindliche Blase brach auf, und der einen Daumen breite Grund derselben war kohlschwarz. Der Durchfall blieb dem ohngeachtet aber mäßig. Ich bekam Luft und Essen. Des Abends ließ ich mir, auf Anrathen des Arztes, welcher mich durch den Wundarzt besorget die Beule scarrificiren. Die folgende Nacht war ruhig und der Schlaf sehr gut [...]. See the German translation of *Tractatus de Peste* (1766) Adam Chenot, *Abhandlung von der Pest* (Dresden: Michael Gröll, 1776), 17–18.*

¹³ Court Sanitary Commission directed to Sanitary Commission in Sibiu on 7th January 1758: *Daß dem Doctori Chenot das Sanitats Physicat in Herrmannstadt, und dem Doctori Bruckmann des Contumaz Physicat am Tömöser Posto verliehen, auch erlaubet werde zum Actuariat, und Kanzley Directorat dem Johann Hannemann in der Hofnung, und interimaliter anzustellen, daß der Doctor Chenot solches bald zu versehen im Stand seyn werde.* See OeStA KA MilKom Sanitätshofkommission Bücher 3 (1758–1764), no. 4, January 1758.

¹⁴ On 8th October 1776 Adam Chenot married Katharina Rösler. See Arnold Huttmann, “Der Siebenbürgische Protomedicus Dr. Adam Chenot (1722–1789),“ *Siebenbürgisches Archiv, Naturwissenschaftliche Forschungen über Siebenbürgen*, IV, 5 (1991): 19.

¹⁵ [...] *Dr. Chenot, so bey dem Sanitätswesen schier die Oberdirektion führet, und welcher ein ignoranter Maulmacher seines Handwerks ist, war mit bey der Besichtigung der Contumaz.* Cited after Knaff, *Adam Chenot*, 246.

¹⁶ Arnold Huttmann, “Die Entwicklung der Heilberufe in Siebenbürgen,“ in Arnold Huttmann, *Medizin im alten Siebenbürgen. Beiträge zur Geschichte der Medizin in Siebenbürgen* (Sibiu: Editura Hora, 2000), 114.

was published however nearly twenty years later. According to those regulations the Protomedici was responsible for supervision about health and sanitary circumstances, medical personnel and all sanitary establishments as well as the catalogue of measurements while epidemics were rampant.¹⁷ The Transylvanian Sanitary Commission, under the leadership of the Court Sanitary Deputation (*Sanitäts Hof Deputation*) in Vienna, was established in 1737 and composed in military and civilian personnel including a consulting physician.¹⁸ After the abolishment of the Court Sanitary Deputation on 4th January 1776 the Court Council of War (*Hofkriegsrat*) was responsible for the organization of sanitary service and plague prevention along the Ottoman border.¹⁹ The personnel of the local Sanitary Commission should be placed at the Transylvanian Treasury Department (*Siebenbürgisches Thesaurariat*) or the General Command. Chenot held the position of the Protomedicus in the following years and functioned additionally as consulting physician for the General Command in Sibiu.²⁰

The sifted source material testified that during the second half of the 1760ies and in the 1770ies Chenot was involved in most debates dealing with sanitary agendas in the Principality. He recognized that the long quarantine periods as well as the applied purification methods in the quarantine stations and strict entry modalities on the southeast border of the Monarchy were responsible for the obstruction of commerce. These circumstances were subject of his reports and proposals addressed to the court in Vienna.

3. Proposed reshaping of anti-plague measures and purification methods in quarantine stations

Chenot is author of several proposals and papers regarding the reformation of purification methods and seclusion periods in the quarantine stations. His papers reflect his expert knowledge in plague prevention, which based on

¹⁷ Regulation from 23th October 1806. See Johannes Nepomuk von Hempel-Kürsinger, *Handbuch der Gesetzkunde in Sanitäts- und Medicinal-Gebiethe*, vol. 2 (Vienna: k.k. Hof- und Staats-Areal-Druckerey, 1830), 309–319.

¹⁸ Lesky, “Österreichisches Gesundheitswesen,” 60.

¹⁹ Note of the Court Council of War addressed to the Transylvanian General Command, 6th January 1776. See Arhivele Naționale ale României Sibiu, Fond Comandamentul general al armatei austriece CC din Transilvania 9/1776, fol. 109.

²⁰ [...] *zu mahl der Doctor Chenot Eines theils den Provinciali, welches die Sanatica interna des Landes zu besorgen, und Chenot der neu eingeführten Consessum medicorum, deren Protomedicus er ist, zu leiten hat, nöthig, und anderen theils auch dem Militari nicht wohl entbehrlich seyn wird, welches den Gesundheits Stand auf sammentlichen Gränzen mittelst noch verbleibenden 8 Contumazen [...]*. See the correspondence between the Transylvanian General Command and the Court Council of War, 13th April 1776. See Arhivele Naționale ale României Sibiu, Fond Comandamentul general al armatei austriece CC din Transilvania 9/1776, fol. 96.

several years of practical experience in plague patient care. The following points examine Chenot's plans of reform and furthermore various kinds of resistance against his approaches.

3.1. Reflections and papers in the 1770ies

With the decree regarding the information of the abrogation of the Court Sanitary Deputation, the Court Council of War instructed on the 6th January 1776 all General Commands in the Military Border simultaneously to gather information and to deliberate which cautionary measures against the plague in the Military Border should be taken in healthy times, dangerous times and in plague ridden times.²¹ Some of these replies of the General Commands are stored in the Haus-, Hof- und Staatsarchiv in Vienna.²² Especially the answer of the General Command in Sibiu fostered dissent under the medical elite in Vienna and the medical personnel in the Military Border sections. The Transylvanian inquiry was conducted by Adam Chenot. His paper titled: "Compendious work. From the properties of the plague, and therefore conducive prudence, which are in so far necessary and convenient in reply to the points of the Court Council of War rescript from 6th January 1776".²³ Six years ago the most important sanitary law for the Habsburg Monarchy was issued. The so called *Generale Normativum In Re Sanitatis* dealt with: 1) the structure and function of the sanitary network and administration, 2) the structure and the duties of medical practitioners, and 3) the prevention of epidemics – the inland and seaside quarantines. The last article of the regulation was mandatory for the quarantine stations in the Military Border.²⁴ With his remarks in the year 1776 Chenot called some fundamental principles of the *Generale Normativum* into question. The regulation of 1770 prescribed that the sanitary treatment and the timespan of quarantine depended on the degree of danger expected: 42 days – if neighbouring provinces are infected, 28 days if there is an outbreak in the Ottoman Empire and 21 days as a basic period. Additionally complete entry travel bans were possible and practiced in very dangerous times.²⁵ Already in his "Tractatus de Peste" (published 1766 in latin and 1776 translated in german), Chenot ascertained

²¹ OeStA KA ZSt HKR HR Akten 1331, 1781–50–101

²² OeStA FHKA NHK Caale Sieb Akten 251.

²³ *Kurzgefaste Abhandlung. Von den Eigenschaften der Pest, und dagegen zuträglicher Vorsichten, in so weit solche zu Bantwortung und Erledigung der Punkten die einem Hofkriegsräthlichen Rescript de dato 6ten Jänner 1776 beygeleget worden, nöthig und diensam seyn mögen.* See Arhivele Naționale ale României Sibiu, Fond Comandamentul general al armatei austriece CC din Transilvania 9/1776, fol. 66 r.

²⁴ *Generale Normativum In Re Sanitatis* from 2th January 1770 is printed by Hempel-Kürsinger, *Handbuch der Gesetzkunde in Sanitäts- und Medicinal-Gebiethe* 2, 410–490.

²⁵ §2–§4 of part II *Von den Vorsichten, welche die Besorgung der Gesundheit von fremden Gränzen*

that incubation period of bubonic plague is seven days, which is much shorter as 21 days for the first quarantine period.²⁶ The current medicinal state of research estimates up to seven days incubation time for bubonic plague, which means that Chenot was not so misguided in his assumption. In 1776 he made another pioneering and courageous suggestion, while he pleaded vehemently for shortening quarantine time. Chenot suggested that changing clothes would be a proper method for simplifying border crossing. He proposed, regarding plague free times, a barrier-free entry in the Habsburg Monarchy for people, who would leave the Monarchy after eight to twelve days back into Ottoman lands and he suggested that people could leave the quarantine station after four days, while only changing their clothes.²⁷ While most of his colleagues made recommendations for entry bans in dangerous times, Chenot took the opposite view. He recognized that, if an entry in the Habsburg Monarchy was not official possible, people would try to get an illegal access, which would have counter-productive effects on effective plague prevention.²⁸

In the same manner he held a dissenting view regarding the purification of commodities in the quarantine establishments. In the sanitary normative of 1770 the authorities drew a distinction between susceptible and non-susceptible goods. The first classification applied especially to sheep wool and cotton, one of the main imports. Sheep wool, cotton, silk, fur or leather skins were classified as immensely suspicious. According to the contemporary concept, it was possible that pestilential air penetrated the hairy or shaggy goods and stuck on the fibers

her betreffen from *Generale Normativum In Re Sanitatis*. See Hempel-Kürsinger, *Handbuch der Gesetzkunde in Sanitäts- und Medicinal-Gebiethe* 2, 435–436.

²⁶ [...] daß das Gift selbst in einen übrigen gesunden Körper, binnen ziemlich kurzer Zeit, und wie ich glaube, wenigstens binnen sieben Tagen, einen Ausgang nehmen müsse. See Chenot, *Abhandlung von der Pest*, 248.

²⁷ Die Wechslung der Kleidung giebet einen guten Vortheil an die Hand. Solcher würde sich jedermann gerne unterziehen, und eine zwote Kleidung entweder aus der jenseitigen Nachbarschaft zu der Reinigung in die Contumaz Staion vorraus schicken, oder aber auch eine reine aus Siebenbürgen bestellen. Wann bey sothaner Wechslung die Prüfung auf vier Tage herabgesetzt würde. Eben bey gesunden Zeiten könnte man eine Befreyung der Contumaz Frist denen angedeyhen, welche von hier abgehen, und binnen Acht oder Zwölf Tagen sich wieder einstellten und in der Contumaz Kleider wechseln. See Arhivele Naționale ale României Sibiu, Fond Comandamentul general al armatei austriece CC din Transilvania 9/1776, fol. 77 r.

²⁸ Die Contumaz Häuser worzu der Zugang aus der inficirten Gegend aus der Walachey oder der Moldau gerichtet ist, müssen offen bleiben. Die Versperrung derselben, würde vor allem die Siebenbürger, welche ihrer Geschäften halber in der angestekten Walachey oder Moldau befinden, veranlaßen entweder die obschon entferneren und noch offenen Pässe zu suchen, oder aber die Seitenweege zu ergreifen, und durch selbe herein zu schleichen. See Arhivele Naționale ale României Sibiu, Fond Comandamentul general al armatei austriece CC din Transilvania 9/1776, fol. 81 v.

and stays there more resilient than in the air. Hence, bales were held in storehouses, laid in a position to achieve sufficient air penetration. Less bulky contagious goods and clothing were to be disinfected by laundering, exposure to air and sulphur fumigation. Money was immersed in a vinegar bath. Commercial goods like all kinds of grain, wooden and metal wares required only a quick purification. Wooden barrels and other washable containers were processed with pure cold water, but ropes, cords, straps, wrapping paper, and sacks of flax, hemp and horsehair were burnt immediately. In the first half of the 18th Century all letters were opened and steamed by boiling vinegar solution. Since 1770, after numerous complaints, letters were pierced with awls and fumigated by burning sulphur and only in case of imminent threat documents were steamed by vinegar. Livestock out of non-infected neighboring provinces were flushed in cold water as one of the best protective agents. Animals were driven against the stream at shallows of Border Rivers, but this method was followed only for short fleece or shorthaired races.²⁹

Decisively responsible for this authorized and strict organizational procedure were the contemporary infection theories. Although the exact way by which the plague was transmitted was not clearly recognized, the outlined preventive measures were taken. These designated measures were linked with the prevalent Miasma Theory. The theory dates from classical Greece. According to this theory, disease causation relates to environmental emanations (gases) or miasmas. Miasma was considered to be a noxious form of “bad air”. Hippocrates postulated that bad air is the cause of pestilence and Galen expanded the theory, tracing individual susceptibility to the balance of humors in the body. According to this theory, exhalations from swamps, marshes, stagnant water and winds are some of the causes for the corruption of the air. On the other hand the contagion theory was part of the medical discourse, which was based on the assumption that contagion was caused by unknown adhering toxics and particles. Especially in the 19th Century supporters of the contagion theory promoted quarantine measures, while miasmatic oriented supporters assessed quarantine as inefficient, because in their approach pestilential air was the pathogen itself.³⁰ The basic principles of these theories were

²⁹ *Instruction der Contumaz-Directoren, und ihrer Hauptpflichten*, contained in *Generale Normativum In Re Sanitatis*. See Hempel-Kürsinger, *Handbuch der Gesetzkund in Sanitäts- und Medicinal-Gebiethe* 2, 456–459. Regarding letters §11 of the *Instruction der Contumaz-Directoren, und ihrer Hauptpflichten* contained in *Generale Normativum In Re Sanitatis*. See Hempel-Kürsinger, *Handbuch der Gesetzkund in Sanitäts- und Medicinal-Gebiethe* 2, 451 and the regulation for animals §49 of the *Instruction der Contumaz-Directoren, und ihrer Hauptpflichten*, contained in *Generale Normativum In Re Sanitatis*. See Hempel-Kürsinger, *Handbuch der Gesetzkund in Sanitäts- und Medicinal-Gebiethe* 2, 473–474.

³⁰ For details consider the works of Karl-Heinz Leven, *Die Geschichte der Infektionskrankheiten*.

mainly responsible for the complexly implemented cleaning procedure in the quarantine stations.

Chenot postulated in the introduction of his paper in 1776 the fundamental thesis that clothes and blankets, which cover the plague sickened person, were in addition to the sick person itself the carrier of the pestilential infection. The pestilential perspiration and evaporation of infected transferred to clothes.³¹ He criticized the supposition that especially hairy and shaggy goods were extraordinary contagious as a pure prejudice.³² For Chenot was the “free and open air” (*freye und offene Luft*) was not contagious.³³ That implies that for the physician

Von der Antike bis ins 20. Jahrhundert (Landsberg/Lech: ecomed, 1997); Karl-Heinz Leven, “Miasma und Metadosis – antike Vorstellungen von Ansteckung,” *Medizin, Gesellschaft und Geschichte. Jahrbuch des Instituts für Geschichte der Medizin der Robert Bosch Stiftung*, 11 (1992): 43–73; Robert Parker, *Miasma. Pollution and purification in early Greek religion* (Oxford: Clarendon Press, 1996); Briese, *Angst in den Zeiten der Cholera*; Werner Goldner, *Hippokrates und das Corpus Hippocraticum* (Würzburg: Königshausen & Neumann, 2007); concerning hippocratic epidemics such as Karl Deichgräber, *Die Epidemien und das Corpus Hippocraticum* (Berlin: Walter de Gruyter, 1971) and Charles Lichtenthaler, “Neuer Kommentar zu den ersten zwölf Krankengeschichten im III. Epidemienbuch des Hippokrates,” *Hippokratische Studien*, 15 (1994); Alexander Berg, “Miasma und Kontagium. Die Lehre von der Ansteckung im Wandel der Zeiten. Zur 80jährigen Wiederkehr der Entdeckung des Tbc-Bazillus (1882),” *Die Naturwissenschaften*, 50, 11 (1963): 389–396; Vivian Nutton, “The Seeds of Disease: An Explanation of Contagion and Infection from the Greeks to the Renaissance,” *Medical History*, 27 (1983): 1–34; Erwin Heinz Ackerknecht, “Antikontagionismus zwischen 1821 und 1867,” in Philipp Sarasin, Silvia Berger, Marianne Hänseler, Myriam Spörri, eds., *Bakteriologie und Moderne. Studien zur Biopolitik des Unsichtbaren 1870–1920* (Frankfurt am Main: Surkamp, 2007), 71–110; Christopher Hamlin, “Commentary: Ackerknecht and Anticontagionism: a tale of two dichotomies,” *International Journal of Epidemiology*, 38 (2009): 22–27 or Teodora Daniela Sechel, “Contagions Theories in the Habsburg Monarchy (1770–1830),” in Teodora Daniela Sechel, eds., *Medicine Within and Between the Habsburg and Ottoman Empires. 18th–19th Centuries*, Das Achtzehnte Jahrhundert und Österreich, Internationale Beihefte 2, 2 (Bochum: Dr. Dieter Winkler, 2011), 55–77.

³¹ See Arhivele Naționale ale României Sibiu, Fond Comandamentul general al armatei austriece CC din Transilvania 9/1776, fol. 66 v.

³² *Die Vermengung der Gelegenheiten, womit das Pestgift empfangen, und womit es erreget wird, hat viele Vorurtheile und Irrmeinungen hervorgebracht; denen zu Folge fast alle Sachen, welche in die Hände der Menschen kommen, zu einem Pestzunder gemacht worden. Vor allen sind die Waaren beschuldigt worden, welche zur Bedeckung des Leibes den Stof dargaben. Man hatte wahrgenommen, wie es in der That so ist, daß alles, womit ein impestirter Mensch angezogen und gedecket ist, des Pestgift habe und mittheile; man folgerte hieraus, es müßen derley Stoffen, woraus die Kleider und andere Bedeckungen gemacht werden, eine Kraft haben, das Pestgift ansich zu ziehen; man betrachtete, daß alle diese Dinge zottigt, haarigt und weich wären; [...] Baum- und Schaafwolle, Seiden, Geißhaar, Peltzwerk und was aus selben gemacht ist, oder eine Aehnlichkeit hat, ward als ein wahrer und wirklicher Pestzunder angesehen.* See Arhivele Naționale ale României Sibiu, Fond Comandamentul general al armatei austriece CC din Transilvania 9/1776, fol. 68 v–70 r.

³³ See Arhivele Naționale ale României Sibiu, Fond Comandamentul general al armatei austriece CC din Transilvania 9/1776, fol. 73 v.

in both healthy and dangerous times unwrought and unworn goods, which did not come in touch with human bodies, could be imported without seclusion in quarantine stations.³⁴ For people and goods, which needed purification he postulated a ten days period of quarantine.³⁵ The purification of goods, the changing of clothes and bedclothes and moreover taking baths were for the physician the most effective preventive measurements in quarantine stations along the Ottoman border.³⁶

Chenot's paper was forwarded to the other General Commands in the Military Border. Most of them gave more or less no feedback with the exception of the Command in Timișoara (*Temeswar*).³⁷ The local staff surgeon Nikolaus Balthasar von Vizius wrote on 15th August 1776 a paper titled: "Remarks on the treatise of Dr. Chenot from the properties of the plague".³⁸ Vizius was part of a commission, which was specifically arranged to discuss plague prevention strategies.³⁹ Vizius criticized first and foremost Chenot's assumption that air per se could not be infected or contagious. Furthermore he was of a different opinion regarding the treatment of raw and fabricated woolen materials. As a consequence, Chenot's proposed barrier-free entry as well as the seclusion of four days during healthy periods were not perceived as options.⁴⁰ Vizius formulated his arguments with the backing of the General Command. The Command in Timișoara additionally wrote a letter addressed to the Court Council of War in August 1776 speaking out against cloth changing and the opening of quarantine station during plague outbreaks in the Habsburg Monarchy. For the officials in Timișoara diligent bathing and washing of clothes seems have been problematic, while the *Contumazen* did not have enough water resources. The General Command pleaded for at least a 14 days of quarantine period in healthy times.⁴¹

³⁴ *Man kann demnach die Hauptwaaren, als Baum- und Schaafwolle, Seiden, Geißhaare, rohes und verarbeitetes Pelzwerk, welches vermög ihrer Bewandnus an und zu dem menschlichen Leib nicht hat kommen können, nach genauer Besichtigung entlassen.* See Arhivele Naționale ale României Sibiu, Fond Comandamentul general al armatei austriece CC din Transilvania 9/1776, fol. 82 v.

³⁵ See Arhivele Naționale ale României Sibiu, Fond Comandamentul general al armatei austriece CC din Transilvania 9/1776, fol. 82 v–83 r.

³⁶ See Arhivele Naționale ale României Sibiu, Fond Comandamentul general al armatei austriece CC din Transilvania 9/1776, fol. 82 r.

³⁷ See the additional reflections and remarks out of the Military Border in: OeStA FHKA NHK Caale Sieb Akten 251.

³⁸ Vizius work *Anmerkungen. Über die Dr. Chenotische Abhandlung von denen Eigenschaften der Pest.* See OeStA FHKA NHK Caale Sieb Akten 251, fol. 630 r–637 v.

³⁹ Letter of the General Command in Timișoara to the Court Council of War on 23th August 1776. See OeStA FHKA NHK Caale Sieb Akten 251, fol. 625 r.

⁴⁰ OeStA FHKA NHK Caale Sieb Akten 251, fol. 630 r–637 v.

⁴¹ Letter of the General Command in Timișoara to the Court Council of War on 23th August

As a result of Vizius input a brisk correspondence between the Court Council of War and the General Commands in Sibiu and Timișoara as well as of the Faculty of Medicine in Vienna and the Transylvanian Court Chancellery (*Siebenbürgische Hofkanzlei*) was started. This discursive dialogue resulted in the invitation of the Court Council of War (via the Transylvanian Court Chancellery) to Chenot to express his views on the reproaches of Vizius.⁴² There is good case to believe that Chenot knew who the author of the review was, but his rebuttal bore the official title: “Rebuttal of the remarks of an unknown regarding the treatise of Chenot about the properties of the plague”.⁴³ Chenot did not deviate from his principles. He much more critically emphasized the authors (Vizius) generalizing perception and simplifying equalization of the plague properties with other contagious diseases. Additionally he outlined his point of view about the “mythos of pestilential air”. He argued that, if air would be contagious itself, no kind of plague prevention would be necessary or could stop the disease.⁴⁴

3.2. *Initiated reforms and medical discourses in the 1780ies*

In the beginning of the 1780ies the debate about plague prevention seems newly aflame. Vizius was encouraged, according to his and Chenot’s findings, to elaborate on a new Sanitary Regulation. But Vizius did not accept this challenge. In his opinion he was not capable of preparing a new Regulation before the different views of the Faculty of Medicine as well as Chenot’s assumptions were brought into agreement.⁴⁵

1776. See OeStA FHKA NHK Caale Sieb Akten 251, fol. 626 r–628 v.

⁴² See note-exchange, OeStA KA ZSt HKR HR Akten 1295, 1780–50–111.

⁴³ *Widerlegung der Anmerkungen eines unbenannten über die Chenotische Abhandlung von den Eigenschaften der Pest*, dated on 8th May 1780. See OeStA KA ZSt HKR HR Akten 1295, 1780–50–105 as well as OeStA FHKA NHK Caale Sieb Akten 251, fol. 740 r–757 r.

⁴⁴ *Und in der That, wann der Luft Creiß ansteckend wäre, so hätte er die nemliche Craft, wie der nächst den pestigen Kranken: Niemand könnte sich dafür hütten. Selbst das vorsichtigste Ausweichen half gar nicht, oder doch sehr wenig. Aus der Turkey müsste das westliche Europa so oft die Pest vermittelt der Luft überkommen, als daselbst wüthet. Es wäre auch ausser der menschlichen Macht gesetzt, das Übel abzuhalten, ein zu schräncken, und zu vertilgen.* See OeStA KA ZSt HKR HR Akten 1295, 1780–50–105.

⁴⁵ *Das hofkriegsrätliche Rescript von 5ten Dieses, an ein hochlöbl. Kayl. Königl. Siebenbürger General Commando ertheilet mir den Auftrag, die Dr. Chenotische Abhandlung Von den Eigenschaften der Pest, mit denen Von mir gemachten Anmerkungen und den Von Dr. Chenot hierauf erfolgte Widerlegung zuvereinigen, und hieraus ein Ganzes zu machen. Bey dieser Gesinnung eines hochlöbl. Kayl. auch Kayl. Königl. Hofkriegsraths, habe ich mich Dahin gehorsamst zuäussern: Daß, so sehr ich mich auch des hofkriegsrätlichen Zutrauens würdig zu machen nach Kräften bestreben wollte, ich doch diese Combination, und die erwartende Verfertigung eines ganzen Elaborat, welches zur gründlichen Anlag einer neueren Sanitats Gesäßgebung dienen könnte, nicht*

In the year 1780 Adam Chenot himself was required to prepare an order to the personnel of quarantine stations.⁴⁶ The instruction included practically minded instructions, which were divided into four sections: the description of the plague including symptomatology and course of disease, plague infection, general information about plague controlling and the implementation of effective purification methods – primarily washing – in the quarantine stations.⁴⁷ The outlined concept above was sent as supplement on 7th August 1781 from the General Command in Sibiu to the Court Council of War. The accompanying letter contains an indication that Chenot was ordered in 1781 to prepare a comprehensive Sanitary Regulation.⁴⁸ In September 1782 the Field-Marshal Lieutenant and General Commander of Transylvania Preiß produced a report to the Court Council of War which included concept for an improved plague instruction, designed by Chenot.⁴⁹ The first “theoretical” part seems have been completed but not the second. The proposed second part should include practical aspects, which were applicable in all border regions of the Habsburg Monarchy. Chenot himself added some words, while he explained that because of his sickly constitution the instruction is not completed.⁵⁰

Finally the Court Council of War suggested to Joseph II that Chenot should travel to Vienna to discuss his previously made elaborations with the members

zu Stande bringen kann, bevor nicht die Differenz der Meinung Von den Eigenschaften des Pestübl, welche Verschiedene Schriftsteller davor haben, entschieden ist, um einer sicheren, und bestimmten Saz in der Bearbeitung selbst, stets vor Augen zu haben. Letter from Vizius to the Court Council of War, dated on 28th July 1780. See OeStA KA ZSt HKR HR Akten 1295, 1780–50–111.

⁴⁶ Note from the Court Chancellery to the Court Council of War, dated on 30th May 1781. See OeStA KA ZSt HKR HR Akten 1331, 1781–50–73.

⁴⁷ See OeStA KA ZSt HKR HR Akten 1331, 1781–50–101.

⁴⁸ *Mit Zurücklegung des mittels Befehls von 13ten Juny dieses Jahres herabgelassenen Berichts des hierländigen Guberny an die Königl. Siebenbürg. Hof Canzley, und desselben beede Anschließsen wird sumbissest angezeigt, daß man sich diesem Befehl zu Folge, wornach der Proto Medicus Chenot eine Sanitäts Instruction nicht nur in Linea Medica, wie schon der Entwurf hiezugeschehen und approbiret worden ist, sondern auch in absicht auf die Leitung der Contumaz Beamten, und jeweils nötiger militärischen Veranstaltungen auf alle Kayl. Länder, wo das Sanitäts Wesen Einem hochlöbl. Hof Kriegs Rath untergeben ist somit einer complete Instruction zu verfassen habe, alsobald mit ihm Proto Medico Vernommen, und da derselbe inzwischen auch Von dem Gubernio die Weisung dieser Instruction habe an das General Commando erhalten hat, so hat er auch bereits gemeldet, das er hiezu schon Hand angeleget habe.* See the letter from General Commander Preiß to the Court Council of War from 7th August 1781. See OeStA KA ZSt HKR HR Akten 1331, 1781–50–101.

⁴⁹ General Commander Preiß to the Court Council of War, 3rd September 1782. See OeStA KA ZSt HKR HR Akten 1363, 1782–50–57.

⁵⁰ For Chenot’s remarks from 1th September 1782. See OeStA KA ZSt HKR HR Akten 1363, 1782–50–57.

of the Faculty of Medicine.⁵¹ In the fall of 1783 Chenot arrived in Vienna and was appointed by the Court Council of War to the position of a Sanitary Council and Advisor for Sanitary and Quarantine Affairs (*Sanitätsrat und Referent in Sanitäts- und Kontumazangelegenheiten*), which he held until his death in 1789.⁵²

The relationship between the Faculty of Medicine and Chenot could be described as Janus-faced. The faculty evaluated Chenot's papers on the one hand well observed and rigorous but otherwise reproaching him for too bold scientific theories and a lack of practically proven results. All in all, the faculty delivered between 1779–1784 five rather underwhelming treatises of Chenot's work.⁵³ The year 1784 was fruitful for the Sanitary Council Chenot because two comprehensive papers were presented. Dated from 29th July 1784 is recorded the first paper titled: "Compendious information. About pestilential contagion; causes, circumstances and incidents to authority, regulation, and relief of the political quarantine affairs"⁵⁴ and on 12th September 1784 the second one, which was more recognized by his contemporaries: "Introduction regarding preventative-institutions against the plague."⁵⁵ If we take a look on Chenot's former works, the central statement of both papers concerned was not fully new. The reduction of the quarantine period in suspicious times to a maximum of ten days, the barrier-free entry in healthy times and 20 days seclusion in quarantine during pestilential times are all themes we encountered in Chenot's

⁵¹ Handbillet of Joseph II: *Der Hungarischen Kanzlei ist zu bedeuten, dass wenn Chenot sich zu Wienn gebrauchen lassen will Ich gestatte, dass er sich dahin begeben könne.* Protocol of the Court Council of War. 9th July 1783. See Huttmann, "Protomedicus," 19–20.

⁵² Knaff, *Adam Chenot*, 211.

⁵³ Huttmann, "Protomedicus," 19. For more details the comments from Störk, dated on 4th October 1780, regarding Chenot's paper from 1776: *In Ansehung dessen und wegen Mangel hinlänglicher, wiederholter und genauer geprüfter Erfahrung, erachtet die medizinische Fakultät, dass man noch fürderhin bei der vorgeschriebenen Contumaz-Verordnung und Anstalten verbleiben sollte.* Published by Knaff, *Adam Chenot*, 258 or for example the remarks of the Faculty of Medicine from 17 November 1738: *Euer Excellenz und Gnaden haben beliebet, der allhiesigen medizinischen Fakultät den vom siebenbürgischen Landes-Protomedicus Chenot verfassten „Unterricht zur Grundlegung einer politischen Anordnung wider die androhende und ausgebrochene Pestseuche“ zur Einsicht und Beurtheilung mitzuthemen. Wir haben solchen in mehreren Zusammentretungen genau durchgelesen, alles mit möglichster Obachtsamkeit und reiflicher Ueberlegung erwägt, und wir finden, dass dieses Werk überaus mühsam, ordentlich und standhaftig ausgearbeitet sei, nur kommen einige Sätze vor, welche in der Theorie zu weit gewagt, und durch die wiederholten Beobachtungen und Erfahrungen nicht genügend bestätigt und unterstützt zu sein scheinen.* See Knaff, *Adam Chenot*, 260–261.

⁵⁴ *Kurzgefaßte Auskunfft. Von der pestilenzischen Ansteckung; von ihren Ursachen, Umständen und Vorfällen zu Berechtigung, Anordnung, und Erleichterung des politischen Kontumazwesens.* OeStA KA ZSt HKR HR Akten 1430, 1784–50–134.

⁵⁵ Adam Chenot, "Die Einleitung zu den Vorbauungs-Anstalten wider die Pest," in Franz Xaver Linzbauer, *Codex Sanitario-medicinalis Hungariae*, 1. Sectio (Budae, 1853), 151–179.

work priorly. The second paper was formulated in much more detail and could be considered Chenot's greatest success.⁵⁶

4. *Repercussion of Chenot's theories and concepts*

Chenot achieved great success with his second work of 1784, because the paper was published on 4th May 1785 as official instruction for the General Commands of the Military Border.⁵⁷ It seemed that Chenot's rigorous empirical observations and the shared principles of his former studies as well as considering the state of medical knowledge in the 1780ies were merged in one comprehensive instruction, which regulated how epidemics along the Ottoman Border could be prevented and curbed efficiently. A milestone in controlling plague was the point that the "wait and see principle" was partly abolished and the formerly cemented 40 days of quarantine in the *Contumaz* stations were shortened. In detail: the authorities were required by order to impose in suspected times, when neighbouring provinces were infected, a ten days seclusion for persons and animals. In acute plague periods a seclusion of 20 days was observed. The most important amendment, which was Chenot's main concern, was the quarantine free entry for persons in healthy times.⁵⁸ Furthermore, the instruction encompasses regulations and educational enlightenment concerning symptoms; infection, dissemination and controlling of plague; reconnaissance and proved service of plague-scouts; cleaning methods in the quarantine stations and regulations for the quarantine staff as well as the organization of the *Cordon Sanitaire* along the border to effectively guard bypasses to prevent secret sneaking across the border into Habsburg territory.⁵⁹

But this was not the last regulation where Chenot's expertise influenced Habsburg legislation. In the following years Chenot rendered on several occasions expert opinions.⁶⁰ The Principality of Transylvania received through a Court Chancellery decree (*Hofkanzlei*) a new quarantine instruction in the year 1813 titled: "Cognitio ac praecautiones Pestis, in usum Transilvaniae", which was based regarding structure and content on the regulation from 1785 for the Military Border sections. The physician Iosif Spielmann emphasized that

⁵⁶ Chenot sent both papers to the Court Council of War. Accompanying letter from 20th November 1784. See OeStA KA ZSt HKR HR Akten 1430, 1784–50–134.

⁵⁷ *Die allerhöchstbestätigte Chenots Kontumaz-Ordnung ist unterm 4. Mai 1785. J. N: 2438 den Karlstädter-Banal, Warasdiner Slavonisch-Banatisch-, Siebenbürgisch- und Galizischen-General-Commando zur genauen Befolgung mit der Weisung hinausgegeben worden, dass es in den Seehäfen bei den vorigen Vorsichten noch vor der Hand zu verbleiben hätte.* See Linzbauer, *Codex Sanitario-medicinalis Hungariae*, 1. Sectio, 152.

⁵⁸ Linzbauer, *Codex Sanitario-medicinalis Hungariae*, 1. Sectio, 152.

⁵⁹ For the full instruction see Linzbauer, *Sanitario-medicinalis Hungariae*, 1. Sectio, 151–179.

⁶⁰ For that see Knaff, *Adam Chenot*, 218–220.

this instruction was in the view of aetiology, pathogenesis, and epidemiology as well as the defined *Contumaz* periods more or less equivalent to Chenot's instruction of 1785.⁶¹

In the year 1819 the decision to establish a new quarantine regulation for Dalmatia was made. The respective court decree was published on 19th December 1819 with the explanation that the Ottoman bordering Dalmatian region should follow the same sanitary instructions, which were in effect in the other Ottoman bordering provinces of the Habsburg Monarchy.⁶²

Chenot's strenuous efforts therefore did not fall into oblivion and influenced the Plague-Police-Order (*Pest-Polizey-Ordnung*) of the year 1837. In this order profound innovations are missing, while for instance goods were described on a scale of: highly suspicious, suspicious or in the best case non-suspicious.⁶³ But the quarantine periods (0/10/20), which were formally binding to all quarantine stations in the Military Border since 1785, had become law by 1837.⁶⁴ Chenot's

⁶¹ Iosif Spielmann, "Über den Einfluß der Chenotischen Seuchenordnung auf Siebenbürgen," *Medizinhistorisches Journal*, 6 (1971): 205; "Cognitio ac praecautiones Pestis, in usum Transilvaniae" is published by Franz Xaver Linzbauer, *Codex Sanitario-medicinalis Hungariae*, 2. Sectio (Budae: 1855), 385–398.

⁶² *Se. Majestät haben mit allerhöchster Entschliessung vom 27. November 1819 zu verordnen geruht, dass auf der an die ottomanischen Provinzen anstossenden Grenze von Dalmatien in Rücksicht auf die Contumaz-Perioden für Menschen und Waaren die gleichen Massregeln beobachtet werden sollen, welche für die übrigen an das türkische Gebiet angrenzenden Provinzen festgesetzt sind. Zu diesem Behufe wurde dem Gubernium von Dalmatien die Chenot'sche Pestordnung mitgetheilt, nach welcher, zu Folge eines höchsten Befehls vom Jahre 1785 die verschiedenen Contumaz-Perioden, welchen Menschen und Sachen, die aus der Turkey zu Lande anlangen, in allen Provinzen der Monarchie unterworfen werden müssen.* The complete instruction inclusive information regarding sanitary taxes is printed in *Medicinische Jahrbücher des kaiserl. königl. österreichischen Staates*, vol. 6, I (Vienna: Carl Gerold, 1820), 7–9.

⁶³ §80 of the *Pest-Polizey-Ordnung* from 30th June 1837: *Alle Waaren und Effecten sind in Beziehung auf die Fähigkeit, Peststoff zu verbreiten, entweder höchstverdächtig, oder verdächtig, oder verdachtlos. Hierbey ist aber die ältere practische Eintheilung der Waaren, und Effecten in giftfangen und nicht giftfangende, oder eigentlicher gesagt, in mehr oder minder giftfangende stets vor Augen zu haben.* See Franz Xaver Pichl, ed., "Sammlung der Gesetze im politischen, Cameral- und Justizfache, welche unter der Regierung seiner k.k. Majestät Franz des I. in den sämtlichen k.k. Staaten erlassen worden sind, in chronologischer Ordnung, nebst einem alphabetisch geordneten Materien-Register," vol. 3. (Vienna, 1839), 258.

⁶⁴ §66 of the *Pest-Polizey-Ordnung* from 30th June 1837: *Die Prüfungszeit für die auf solche Art contumazirenden Individuen besteht bey verdächtiger Zeit, sobald nämlich in einem die Landgränzen der Monarchie umgebenden Staate oder Reiche auch nur in der Ferne, in der Europäischen Turkey selbst nur zu Constantinopel, die Pest oder eine pestverdächtige Krankheit herrscht, oder aber, wenn der völlig gute und gefahrlose Gesundheitszustand in allen europäisch-türkischen Ländern, dann in Griechenland nicht ämtlich oder völlig glaubwürdig verbürgt ist, in zehn Tagen; bey gefährlicher Zeit, wenn nämlich die Pest oder der Pestverdacht in einer der dießseitigen Gränze benachbarten Provinz herrscht, oder hart an der Gränze ausgebrochen ist,*

favoured purification method – washing – was aggrandised, regulating that in every *Contumaz* there should be a water basin as well as a dedicated washing room.⁶⁵

5. Conclusion

Dr. Adam Chenot died in 1789 in Vienna. The court decided in the year 1798 to buy all manuscripts of Chenot for the amount of 300 Gulden from the curator of Chenot's heirs Dr. Paul Adam. The bequeathed works should be given to the University in Pest.⁶⁶ If we try to résumé, the question that is still outstanding is: were the implemented measures in the Habsburgian *Cordon Sanitaire* effective or not. We have to visualize that the scholars of the 18th Century were not aware that plague infection is caused by the bacteria *Yersenia Pestis*. Accordingly the way of contagion of the disease was unknown.⁶⁷ It bears mentioning that without the knowledge of contagion, the plague spread controlling measures in the Military Border have to be valued as successful, because it was possible to restrain the plague in the quarantine stations as is proven through documented case studies.⁶⁸ Certainly only if the proposed measurements were relentlessly executed by the personnel in the quarantine establishments in the Military Border. The most important function of these quarantine stations was to break the plague cycle by separating infected fleas from rats and subsequently killing them.⁶⁹ Based on practical experience as *Contagion Physicus* Chenot was able to perceive how plague could be restricted. So he recognized that the spread of the plague was much stronger while moderate warm weather conditions prevailed, and thus the fleas could survive much more easily. At less than ten degrees (Celsius) air temperature fleas fell in limb rigidity and at approximately 40 degrees (Celsius) the eggs of fleas died.⁷⁰ Especially the time reduction of

in zwanzig Tagen, nachdem diese Prüfungs-dauer schon seit dem Jahre 1785 auf der Landseite beobachtet wird, und daher vieljährige Erfahrung solche als hinlänglich sicher bewährt hat. Printed in Pichl, "Sammlung der Gesetze im politischen, Cameral- und Justizfache 3," 240 and in addition Lesky, "Pestfront," 99.

⁶⁵ §45 of the *Pest-Polizey-Ordnung* from 30th June 1837. See Pichl, "Sammlung der Gesetze im politischen, Cameral- und Justizfache 3," 222.

⁶⁶ Note-exchange in December 1798. See OeStA FHKA NHK Caale Sieb Akten 252, Sanitäts- und Kontumazwesen (6), fol. 172 r–174 r.

⁶⁷ The types of plague are the result of the route of infection: pneumonic plague, septicemic plague and bubonic plague. Bubonic plague is mainly spread by infected fleas.

⁶⁸ For instance a case in Semlin, which is documented in the year 1765. See Lesky: "Pestfront," 105.

⁶⁹ Péter Balázs, Kristie Foley, "The Austrian success of controlling plague in the 18th century: maritime quarantine methods applied to continental circumstances," *Journal of History of Culture, Science and Medicine*, 1, 1 (2010): 79.

⁷⁰ 1766 Chenot determined: *Die Erfahrung hat aber dennoch in Europa gelehret daß wenn an einem Orte sie im Frühjahr oder Sommer angefangen, sie allda den folgenden Winter aufhören*

seclusion in the quarantine stations, which were based on Chenot's correct assumption that incubation period is much shorter than the traditional forty days, can be assessed as a substantial progress. Additionally, Chenot's rejection of the effectiveness of *Pestzunder* or even pestilential air as a pathogen itself can be viewed from a contemporary standpoint as extremely progressive. The described assumptions and approaches were steps in the right directions, but Chenot's powerful contemporaries were not easily swayed from the traditional way of controlling plague.

MEDICUL ADAM CHENOT – REMODELAREA CONTROLULUI
EPIDEMIILOR DE CIUMĂ ÎN CADRUL CORDONULUI
SANITAR AUSTRIAC (APROX. 1770–1780)

Rezumat

Articolul pune în evidență funcția Graniței militare ca sistem bine organizat de avertizare a declanșării ciumei în cadrul Monarhiei habsburgice. Prin amenajarea punctelor de carantină și a Cordonului permanent populat pe tronsoanele Graniței militare, Curtea de la Viena a creat un instrument sustenabil economic de îmbunătățire și organizare a prevenirii ciumei, eficient de-a lungul graniței sud-estice a Monarhiei. Elementul central al acestui sistem îl constituiau punctele de carantină, unde în timp ce persoanele erau epurate prin izolare, bunurile și animalele erau distruse. Medicul Adam Chenot a ajuns în centrul atenției pentru că a evidențiat deficiențele structurale și organizatorice ale sistemului. Conceptele propuse de el au fost reținute și analizate, fiind, cu cea mai mare probabilitate, un factor determinant în implementarea reglementărilor ulterioare privind prevenția sanitară în Imperiul habsburgic.

werde; hat sie aber der Herbst herzugeführt, so dauert sie mehrentheils länger. Gemeinlich pflüget sie an einem Ort nicht über sechzehn Monat zu bleiben. Auch von denjenigen, welche sie gegen Winter oder in demselben befällt, sterben nicht so viele als zu Ausgang des Frühlings, den ganzen Sommer und angehenden Herbst. And as well the foodnote: In Egypten und den benachbarten Orten fängt die Pest gewissen Nachrichten zu Folge mit angehendem Herbst an, im December bis zum März, zu welcher Zeit die Hitze in diesen Ländern nicht so heftig ist, wüthet sie am meisten, im Julia endlich höret sie in der größten Hitze auf, und hält auf zwey Monate Stillstand, welcher sich auch zuweilen auf sieben Jahr verlängert. Sollte daher wohl der geringe Grad der Wärme welchen wir im Sommer haben, das Gift zu verstärken, und der größere in Egypten dasselbe zu tilgen fähig seyn? Uebrigens bestätigt meine Anführung von der im Winter gelinderen, zuweilen auch ganz aufgehenden, im Sommer hingegen bey uns zunehmenden und stärker wüthenden Pest, Diemberbroeck und andere, und ich könnte selbige, wenn es nöthig wäre, mit Anführung sehr vieler Beyspiele davon unterstützen. See CHENOT, Abhandlung von der Pest, 39–40.