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## **LEGAL MEASURES ON VACCINATION AGAINST SMALLPOX IN THE PRINCIPALITY OF SERBIA IN THE 1830s–1840s**

*The paper addresses the legal measures regarding vaccination against smallpox in the Principality of Serbia in the 1830s–1840s. The main focus is on two normative acts – Rules for the inoculation of pox of 1839 and a Supplement to these Rules of 1842. Relying on archive material, the paper strives to show both the normative content of these acts (including a comparison with the Austrian regulations of 1836), as well as the circumstances in which they were passed and their application in practice. Particular attention is paid to the main obstacles to effective vaccination – distrust and fear of the procedure among the general population and insufficient available medical staff – and steps that were taken to overcome these difficulties.*

**Key words:** *Vaccination against smallpox. – Principality of Serbia. – Mandatory vaccination. – Law and medicine.*

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## 1. INTRODUCTION

Smallpox was a serious medical threat in early 19<sup>th</sup> century Serbia, taking a large number of lives almost every year. The main form of prevention had long been classical inoculation with the smallpox virus, which was dangerous in its own right. Vaccination was slowly introduced in the 1820s and 1830s, but it was initially met with a lot of distrust by the majority of the population (Dimitrijević 2011, 127–128). In order to overcome that, the government issued a set of binding *Rules for the inoculation of pox* on 8 July 1839,<sup>1</sup> that was later supplemented on 7 May 1842,<sup>2</sup> prescribing a wide range of measures aimed at advancing the vaccination effort and – eventually – eradicating smallpox in the country. This paper will analyse the circumstances in which these regulations were passed, their normative contents and the effectiveness of their application in practice in the first years of their existence.

## 2. A VERY BRIEF OVERVIEW OF THE FIGHT AGAINST SMALLPOX

Smallpox (*variola vera*) was likely known, under different names, since Antiquity, but in its early stages it was likely milder than in the Modern era, and medieval medicine mostly considered it a childhood disease, albeit a nasty one. The first great smallpox epidemics that took large numbers of lives happened in Central and South America in the 16<sup>th</sup> century, when the virus brought by the conquistadors ravaged a population that had not developed any immunity. By the 18<sup>th</sup> century, the virus had become fully global, and catastrophic epidemics with high mortality rates occurred all around the world. Most inhabitants of Eurasia would contract it at some point in their lives. The case-fatality rate varied between 20 and 60 percent, but survivors, particularly in more severe cases, also risked permanent disfigurement and blindness. For a long time, the causes of smallpox were poorly understood, with a number of European physicians believing it to be

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<sup>1</sup> Правила за каламлѣнѣ богиња, *Сборникъ законѣ и уредбѣ, и уредбены' указѣ, изданы' у Княжеству Србскомъ, одѣ времена обнародованогѣ Устава земальскогѣ* (13. Фебр. 1839. до Апр. мес. 1840.) 1/1840, Београдъ: Књигопечатња Княжества Србскогѣ, 69–77. Dates are given according to the Julian calendar, which was in use in Serbia until 1919.

<sup>2</sup> Уредбены' додатокъ къ правилама за каламлѣнѣ богиња, *Сборникъ законѣ и уредбѣ, и уредбены' указѣ, изданы' у Княжеству Србскомъ, одѣ Априла 1840. год. до Конца Декембра 1844. г.* II/1845, Београдъ: Књигопечатња Княжества Србскогѣ, 184–186.

innate – a belief finally dispelled by the discovery of peoples in previously unknown areas of the world who had had no experience with it. As no cure existed, and preventing exposure and infection during an outbreak was often very difficult, particularly in urban settings, it was predominantly believed that it was better for infection to occur during childhood, since infection in adulthood usually led to more severe cases. For this reason, children were often exposed to mild cases of the pox, in hope that their own course of the disease would be equally mild and grant them immunity afterwards. Different special practices for this were developed primarily in Asia, such as insufflation (inhalation of smallpox dust) in China, or inoculation through insertion of smallpox matter into the skin, in a puncture or cut, in India and the Ottoman Empire, but also parts of Africa. These practices made their way to Europe and America in the early 18<sup>th</sup> century, stirring interest among an increasing number of scholars and leading to various experiments. Unfortunately, these forms of inoculation still led to a more or less regular course of the disease – usually milder than that spontaneously contracted, but still with the possibility of a lethal outcome – and sometimes other diseases were transmitted by the procedure itself. Due to these factors, both scholarly and political support for inoculation – and thus its spread – waxed and waned, occasionally bolstered by particularly violent outbreaks of the disease (Bennett 2020, 1–64; Riedel 2005, 21–23).

Inoculation of the smallpox virus was also practiced in Serbian lands under Ottoman rule; it is believed to have been taken over from the Turks and Greeks by self-taught folk physicians, frequently including women and priests (Lindenmayr 1876, 9–12; Jeremić 1935, 112–113; Stanojević 1953, 1027–1028; Mihailović 1951, 143–146).

A radically new method brought fame to Edward Jenner (1749–1823): inoculation against smallpox with cowpox (dubbed *variolae vaccinae* by Jenner), a disease that affected humans with far milder symptoms (usually a single efflorescence or just a few, fairly localised, without high fever, etc.), yet developing immunity to smallpox. Jenner was not the first to discover this (the fact was known to country folk in some areas, and a few doctors were aware of it), but he was the first to note the great potential, begin controlled trials, discover that a ripe cowpox pustule is necessary for immunisation to take place, and publish papers about it. While a few competitors managed to perform a larger quantity of trials and begin larger-scale inoculation sooner than Jenner did, and thus earned more money in the process, the fame of discovering the vaccine and saving countless lives rightfully belongs to him (Bennett 2020, 65–93). The downside that Jenner's vaccine shared with the

old form of inoculation was the possibility of transmission of other diseases, and so precautions against that had to be taken, as shall be seen in more detail below.<sup>3</sup>

### 3. A NOTE ON TERMINOLOGY

#### 3.1. The Disease: Of Poxes Great and Small

The Latin name for smallpox, *variola*, dating back to 570 CE, was derived either from the Latin *varius* in the sense of “stained”, or *varus*, meaning a mark, blemish on the skin. The English *pox* (or, originally, *pockes*) has a similar meaning, and *variola* was named smallpox to differentiate it from the great pox or syphilis (Riedel 2005, 21–22).

The Serbian term *богинь* (modern Serbian *богиње*, *boginje*) is an umbrella term encompassing several diseases that create visible markings on the skin. The pox that was “small” in English, was, on the contrary *velike* (“great”) *boginje* in Serbian, but there were also *male* (“small”) *boginje* (also *ситне богинь*, rarely *морбили*), which signified measles (morbili), as well as *ovčije* (“sheep’s”) *boginje* – chickenpox (varicella). The word *boginje* might seem to be derived from the root *bog*, meaning “god”, and would thus literally mean “goddesses”, but is most likely a misnomer derived from the German word *Pocken*, with *bog* accidentally mixed in along the way (Mihailović 1951, 143; Miklosich 1886, 416; Karadžić 1852, 473; Skok 1971, 182). While *boginje* is the dominant term in modern Serbian, during the period in question, the words *красме* (*kraste*, “scabs”) and *оспа* (*ospa*, “rash” – frequently in the diminutive plural *ospice*) were also widely used, with a number of more localised terms also employed.<sup>4</sup> As many sources use only the noun (*богинь*, *красме*), sometimes the exact disease cannot be distinguished with precision, but smallpox is more likely meant in most sources, as it was the most dangerous of these diseases.<sup>5</sup>

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<sup>3</sup> Subsequently, in the late 19<sup>th</sup> and early 20<sup>th</sup> century, Jenner’s “arm-to-arm” type of vaccination will be replaced with vaccination by the lymph of calves infected with the vaccinia virus (Mihailović 1951, 143).

<sup>4</sup> Those are: *bonke*, *brke*, *brše*, *cvečke*, *kazamak*, *koze*, *kozice*, *kozjače*, *kraste*, *mrse*, *nepomenuše*, *osuci*, *patule*, *sipanice*, *šeše*, *štroka*, *stroka* (Jeremić 1935, 111; Mihailović 1951, 143).

<sup>5</sup> A circular letter from the Department of Public Health at the Ministry of Internal Affairs to all district administrations, mentioning a past epidemic of measles and ordering vaccination to prevent the onset of smallpox, claims specifically that otherwise even more lives could be lost, “all the more, as the great pox [*smallpox*]

The Serbian name for cowpox, *kravlje boginje* (*kraste*, etc.), means literally that (*krava* – “cow”), and its use as prevention led to the appearance of another name for smallpox – *prirodne boginje* (“natural pox”), obviously to signify the disease that humans naturally contracted, in order to differentiate it from the cowpox that was “unnaturally” caused, i.e. only artificially inserted for inoculation.

### 3.2. The Cure (or Rather, Prevention)

The Latin term *inoculatio* (or the less commonly used *insitio*) was originally used in horticulture, and meant grafting – the insertion of matter from one plant into a cut in the trunk of another. The similarity of this procedure to the insertion of pox matter under the skin justified the name. In English, both the domestic term *grafting* and the one of Latin origin, *inoculation*, were used. Another term for the procedure when patients were inoculated with smallpox was *variolation*, coming from the name of the disease itself (Bennett 2020, 27–28).

The new term for the new immunising procedure, inoculation with cowpox – *vaccination* – comes from Jenner’s Latin name for cowpox, *variolae vaccinae* (*vacca* – “cow”); it was coined by the surgeon Richard Dunning in 1800, and while some criticised the term, Jenner himself started using it in the following year (Bennett 2020, 86–87).<sup>6</sup>

The Serbian terminology of the analysed period mostly uses two terms: *каламљенъ* (*kalamljenje*, modern Serbian *kalemljenje*), and *пелцованъ* (*pelcovanje*), both signifying grafting.<sup>7</sup> (In this article, we shall mostly translate them as “inoculation”, as more frequently used in English today.) While sometimes the texts specify *which* form of pox was grafted, most frequently they contain no elaboration, or speak of grafting *against* smallpox, which does not help determine if smallpox or cowpox was used. Thus, in some cases when inoculation is mentioned prior to the Rules, we cannot

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is in itself a more severe and worse disease than the small one [measles]. (“*тимъ више, што су велике богинъ и по себы тежа и гора болестъ одъ оны ситны*”) A similar phrasing can be found in a letter to the Army chief of staff (AS: MUD-S, III/144, 379, 399/1841).

<sup>6</sup> Some authors, such as Riedel (2005, 24), incorrectly claim that Jenner himself coined the term *vaccination*.

<sup>7</sup> Again, variations on the theme of grafting also existed: *cepljenje*, *navrtanje*, *ucepanje*, *urezivanje* (Mihailović 1951, 143).

be certain if variolation or vaccination is meant, though the former is more likely, as the old form of inoculation was widespread.<sup>8</sup> In the period after the passing of the Rules, as variolation was outlawed, its uses are explicitly mentioned as grafting of the “natural” or “human” pox, and those where nothing is specified can be reliably assumed to mean vaccination.

The word *vakcinacija/vakcinisanje*, which has since become the most common term in Serbian for the procedure (*pelcovanje* having become rare, and *kalemljenje* quite obsolete in this context), is only very rarely encountered in documents of the period. For example, a letter from the Ministry to the Government of the City of Belgrade (*Upraviteljstvo varoši Beogradske*) in 1841 does mention the word in three instances,<sup>9</sup> but the term *kalemljenje* is used in all other places in the document. Vuk Karadžić’s famous Dictionary does not contain any words related to *vakcina*, but it does contain *kalam*, *kalamiti*, *kalamljenje* (Karadžić 1852, 52, 250). Thus, when “vaccination” is used in this text, it should only be understood as a translation (used to avoid indefinite repetition of “inoculation”), and not as an indicator that a word with the same root was used in the Serbian sources there mentioned.

## 4. SMALLPOX IN EARLY 19TH-CENTURY SERBIA

### 4.1. The Spread of the Disease and Variolation

Smallpox was fairly frequent in 18<sup>th</sup> and 19<sup>th</sup> century Serbia. It had an endemoepidemic pattern. Outbreaks occurred practically every year, causing many losses and leaving many survivors fully or partially blind, and many more disfigured by pox-marks. The occurrence seems to have been intensified in the 1830s, which correlates to similar developments in neighbouring countries (see Memmer 2016, 17). However, the forces meant to battle the disease were unfairly outnumbered during this period, as there were only a few formally educated physicians in the entire country, most of them foreigners (Mihailović 1951, 141; Stanojević 1953, 1039–1040; Katić 1967, 338–339; Đorđević 1983, 150–158; Matović, Spasić 2013).

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<sup>8</sup> It is unfortunate, but worth noting that even some competent historians, such as Radoš Ljušić (2004, 441), talk in brief overviews of “*kalemljenje*” as if it were a single procedure, although mentioning examples that clearly relate to two completely different procedures – variolation and vaccination.

<sup>9</sup> “изъ ланскогъ списка вакциниране дъце дознало”, “средствомъ благотворнимъ вакцинираногъ одъ поморне болести велики краста или богиня сачуваю”, “средствомъ вакцине” AS: MUD-S, III-144, 387/1841.

Multiple outbreaks of the pox are documented in the surviving source material, mostly in winter, when the population was most susceptible. Many of these reports originate from the military, which can partially be attributed to the state of the archival material, but it should be noted that the army was in itself a suitable terrain for the transmission of infectious diseases; also, in the 1830s it still performed a number of functions that were later transferred to the jurisdiction of the police and local administration, and thus military reports included information about outbreaks of disease in civilian communities as well.<sup>10</sup> The known outbreaks varied in their strength and scope, and the reports in the level of detail, but mostly the officers informed their superiors of the location of the outbreak and the overall state of the affected, and the number of deceased, usually only classified by sex, or with a short designation if they were mostly children or adults, young or elderly people, though one unusual report informs of the deaths of 13 people of both sexes, of which six persons were taxpayers.<sup>11</sup>

It was a well-known fact that smallpox could leave even its survivors with tragic consequences. As an illustrative (albeit extreme) case, we could take that of one Stojana Vulićev from the village of Ćovdin in the Mlava County,<sup>12</sup> who was left blind as a result of smallpox in 1835, and was subsequently strangled by her husband Radovan in February of 1836, because of her blindness. Radovan confessed his crime to the county captain and awaited trial. The case is documented only in the report of Colonel Petar Tucaković, Commander of the Central Military Command (*Коммандант Средоточне Военне Команде*), to Prince Miloš on 20 February 1836 (AS: KK, XIV, 1710/1836), and its aftermath is not known.

How did the population and the state cope with smallpox prior to the introduction of vaccination? Amateur specialists in variolation, known as *beležari*, *bilježari* (“markers”) or *pelcari* (“grafters”) appear in the sources, and it seems they were called upon relatively frequently. They usually took lymph from patients who were suffering from a mild form of smallpox – nevertheless taking precautions, with minimal contact. For example, Mladen Žujović recounts in his memoirs how his aunt, who had been a grafter in

<sup>10</sup> See e.g. AS: KK, XIV, 663/1835; XV, 1652/1835; X, 212/1836; XIV, 1760, 2008/1837; X, 835, 838, 886/1838; XIV, 2069, 2077, 2091, 2191/1838; XXXVII, 1605, 1664/1837.

<sup>11</sup> “и зато исто време умрло е одъ велики богиня 13. душа одъ обоегъ пола, гди рачуни се 6. глава, кое су данакъ плаћале.” Report by Colonel Stefan Stojanović to Prince Miloš of 9 December 1837 (AS: KK, XIX, 584/1837).

<sup>12</sup> The territory of Serbia was divided into three levels of administrative units: the *okrug*, *srez* and *opština*, which will be translated as district, county and municipality respectively.

the 1820s, did not let the patients enter her house, but merely pulled their hand through the window from the outside. The inoculation was performed with a silver needle, as silver was not prone to rust and possessed certain antiseptic properties, and thus could be easily kept in a hygienic condition (Žujović 1902, 5, fn. 1; Mihailović 1951, 143–146).

Still, the procedure was performed only in need, and not in any systematic way, as general prevention. A local community would summon a grafter (or make use of a local one, if available) to protect those who had not yet developed immunity (mostly children) from a nearby outbreak of the pox; if there was no threat in the vicinity, nobody went out of their way to secure inoculation.

For example, in a report of 7 January 1838, Major Pavle Binićanin informed General Jovan Obrenović that 11 people (six men and five women) had died of smallpox in the village of Vranići, after which the villagers had summoned a grafter (*пелцарѣ*), Bojo Knežević from the village of Goračići, also in the Čačak District, who began performing inoculations of the healthy villagers; Binićanin remarks that those inoculated bear the disease much more lightly (AS: KK, XIV, 2077/1838). Here, the villagers or local authorities seem to have arranged for a grafter on their own. In other cases, we see petitions to superiors: for example, in the letter of Captain Petronije Andrejević to General Jovan Obrenović of 16 March 1838, Andrejević reports an outbreak of smallpox in many villages of his (Crna Reka) county, and asks the General if he could send Đorđe the grafter from Karanovac, underlining that he would have a lot of work and make a tidy profit (*Ibid.*, 2191/1838).

Other reports, e.g. the letter from Lazar Tošić, dated 14 February 1838, describing his own inoculation in Karanovac (perhaps by the same Đorđe?), show the usual circumstances and consequences of such a procedure: it was usually undertaken only when an immediate risk of contagion existed (Tošić reports that three people in his house were dangerously ill), and the inoculated person also expected to go through the full (albeit usually lighter) course of the disease and had to remain in isolation to avoid infecting others (AS: KK, XIV, 2092/1838).

For those already affected by the pox, isolating them from those who were not immune was also a regular measure, particularly in organised environments such as the army. For example, in March 1835, 30 soldiers were reported to be ill with *boginje* at the barracks in Kragujevac (17 of the smallpox and 13 of measles). Measures were taken to prevent the spread of the disease: a hospital (*шпиталь*) was formed at the barracks, isolated from other soldiers: it consisted of 8 rooms, one of which was a *lazaret* (where newly admitted patients awaited diagnosis), and in the others the patients were sorted according to their illness. The commander supervised them on



a daily basis. Ten days later, the number of patients had already halved (15, though 12 of them suffering from smallpox, the more severe of the diseases), but Councillor Teodor Herbez, along with Military Minister Mileta Radojković and Councillor Arsa Andreić (Andrejević), suggested to the Prince that he order those district captains who have not yet sent their new recruits to postpone sending them until further notice, since most recruits who had arrived until that point had not been previously ill with the pox and thus had no immunity against it. In the next report, Herbez tells the Prince that the danger of the “epidemic disease of pox” (*эпидимическе болести богинь*) appeared to have passed, as 14 days had passed without any further recruits falling ill (AS: KK, X, 141, 144, 146/1835). Sometimes, on the other hand, it was the healthy who distanced themselves from the diseased community, leaving their houses in favour of forests or fields until the danger subsided (Đorđević 1983, 160).

Even a single case of the pox could be cause for some degree of alarm. On 28 July 1837, Herbez (now signed as the Temporary Chief of the Military-Police Chancery – *Привременный Шефъ Военно-полицайне Канцеларіе*) reported to Miloš that the Chief Military Commissioner, Major Jova Veljković, had reported to him that many soldiers in Kruševac were suffering from colds, but that one had come down with *богинь* – thus either smallpox or measles, but the former is more likely – and asked for a doctor to be sent to tend to them. Herbez awaited Miloš decision on this matter (AS: KK X, 656/1837). Regardless of what decision the prince made, the inquiry itself illustrates the severity of the situation.

## 4.2. The Beginnings of Vaccination

The first known publication in Serbian regarding vaccination dates back to 1804. Naturally, it was published not in Serbia – where the First Uprising against the Ottoman occupation had only just broken out – but in the Metropolitanate of Sremski Karlovci, then under Habsburg rule.<sup>13</sup> It was published by Metropolitan Stefan Stratimirović himself, and entitled “An instruction regarding cowpox, for the purpose of eradication of the natural pox, which, in accordance with the allhighest order, the Archbishop of Karlovci, Metropolitan Stefan, recommends to Serbian parents and elders”.<sup>14</sup>

<sup>13</sup> For an overview of the position of Serbs in Vojvodina, see Popović 1990.

<sup>14</sup> “Наставленіе о кравіихъ оспахъ, ради истребленія природныхъ оспицъ, кое по всевысочайшему повелънію, Архіепіскопъ Карловачкій, и Митрополітъ Стефанъ, сербскимъ родителямъ, и старешинамъ препоручаетъ.”

It is a short pamphlet, 13 pages long, addressed to the general public. It describes first the dangers of smallpox, including the high death rates, and many partially successful attempts of treating or preventing the disease (with a focus on classical inoculation), turning to a description of Jenner's discovery and the benefits of inoculation with cowpox. It even exaggerates the spread of vaccination, claiming that there is no area in the world, "even with the most stupid Peoples" (! – "и кодъ самы глупъйши Народа"), where the practice was not already known. It then proclaims that his Majesty the Monarch has ordained that vaccination be introduced for the good of his subjects; juxtaposing the dramatic examples of death or disfiguration caused by smallpox to the mild consequences and immunity to smallpox caused by vaccination, the text claims that parents who omit to vaccinate their children shall be seen as killers in God's judgement, underlining that the emperor had had his son and heir vaccinated.<sup>15</sup> The text ends with a passionate appeal to the readers to support vaccination, claiming that the eradication of smallpox depends on them (Митрополитъ Стефанъ 1804).

While this text technically could have reached the relatively few educated readers in Serbia during the First Uprising, it certainly did not initiate a vaccination endeavour in the country that was struggling with the war effort and institution-building. It was only well after the Second Uprising, in the politically and economically more stable conditions of the 1820s and 1830s, that information about vaccination begins appearing in the Serbian sources. By that time, several other publications in Serbian were available, all printed in Buda (Stanojević 1953, 1032–1034).

The oldest known cases were vaccinations in the Obrenović family – Jovan Obrenović's son Obren in 1822 and Prince Miloš's son Mihailo, on 27 January 1826 (Đorđević 1983, 169; Mihailović 1951, 147). In a letter to Miloš Obrenović not two months after Mihailo's vaccination, on 14 March 1826, Aleksa Simić informs the prince of a purchase of "the freshest cowpox" (*найсвежѣи кравльи краста*) that was to be sent by stagecoach from Vienna (AS: KK VII, 331/1826). This shows at least an intention to continue the practice, and it seems to have been gradually spreading into the general population after the princely examples were provided (Đorđević 1983, 169). Still, these cases seem to have been relatively sporadic and the attempts to vaccinate met with a lot of resistance. Prince Miloš's personal physician,

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<sup>15</sup> The Emperor and heir in question are Franz/Francis I (previously Franz II as the Holy Roman Emperor) and Prince Ferdinand (future Emperor Ferdinand I), though their names are not mentioned in the text – since they would, quite obviously, be well-known to the contemporary reader. The minister of war, Erzherzog Karl/Charles (Francis' brother) is the only official personage mentioned by name.

Bartolomeo Cuniberti,<sup>16</sup> remarked on this “There is no need to particularly underline that the introduction of the inoculation against pox had also met with great resistance. This all the more since it is known that it has not been accepted without resistance even in much more civilised countries in Europe; how could one expect it to be different in Serbia, where only the first steps on this path were being taken”.<sup>17</sup> He also claimed that the general population began noticing that the vaccinated were truly consistently safe from smallpox only in 1835, when an epidemic broke out, and that the prince was praised for introducing vaccination (Kunibert 1901, 467). However, this should not be taken to mean that the opposition to vaccination was completely overcome: as we shall soon see, it would persist as a force to be reckoned with in the decades to come.

Writing of approximately the same period, Dr Emmerich Lindenmayer<sup>18</sup> remarked that the first vaccinations were performed rather undiligently, since the people had no faith in the vaccine’s effectiveness, and most state officials shared the same views. In his opinion, an increase in the number of physicians, mandatory vaccinations of new recruits in the army since 1830, as well as an order by Prince Miloš that officials’ children should be vaccinated first to give an example, helped increase the vaccination rates (Lindenmayer 1876, 44; Mihailović 1951, 151–152).<sup>19</sup> We have not succeeded in finding this order: it is possible that it existed, but, given the fact that

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<sup>16</sup> Bartolomeo Silvestro Cuniberti (1800–1851), an Italian, worked first as a doctor in Constantinople, and then as the personal physician of the pasha of Belgrade. In 1828 he came to the personal service of Prince Miloš, with the right to keep a private practice as well. He left Serbia together with Prince Miloš, after the latter’s abdication in 1839, later returning to Italy. His book on the Serbian revolution and Prince Miloš’s first reign – half memoir, half historiography – is a valuable source for the period (Maksimović 2017, 13–14).

<sup>17</sup> “Nije potrebno isticati naročito, da je uvođenje kalamljenja boginja takođe naišlo na veliki otpor. Ovo tim manje što se zna da ono bez protivljenja nije primljeno ni u mnogo uljuđenijim zemljama u Evropi; kako se moglo iščekivati da će drugojačije biti u Srbiji gde su na ovom putu činjeni tek prvi koraci.”

<sup>18</sup> Emmerich Lindenmayer (1806–1883), born in Tschakowa/Csákova in Banat, Austrian Empire, arrived in Serbia in 1835 and soon became the chief army physician, afterwards reaching the post of the Chief of the Department of Public Health in 1845, which he held until his retirement in 1859. His book *Serbien, dessen Entwicklung und Fortschritt im Sanitäts-Wesen, mit Andeutungen über die gesammten Sanitäts-Verhältnisse im Oriente*, published in 1876, is the first systematic history of Serbian medicine. See more about his life and work in Dimitrijević, Vacić 2013.

<sup>19</sup> “sie impften zuerst die Beamtenkinder, indem die Beamten laut ausdrücklichen Befehles des Fürsten Milosch for Allen Andern ihre Kinder impfen lassen mussten, von diesen impften sie dann weiter mit dem eklatantesten Erfolge, weil das Volk glaubte durch die Kuhpocke im Orte auch schon ihre Kinder gefährdet zu sehen.”

Lindenmayer wrote his memoirs many years after the events and that his chronology is sometimes unreliable (Mihailović 1951, 147), it is also possible that he wrongly attributed to Miloš the order that was, in fact, passed only in the Supplement to the Rules in 1842.

In April 1837, Dr Hermann Meinert, then the physician in Aleksinac, asked the District Administration to enable him to perform vaccinations by supplying him with vaccine matter, ordering for a list of all unvaccinated persons in the district to be created, having the municipality head be present at the vaccinations and forcing the parents to bring their children to be vaccinated, as well as providing him with a good riding horse and a fee for the procedure. The Administration, unsure if this was a good course of actions, forwarded the matter to the Council, which in turn consulted Prince Miloš. It claimed that it was certain that the intention was extremely useful for the preservation of lives, but uncertain whether the doctor would be able to implement his plans, and thus the prince's decision was required. It is possible that such administrative conundrums would have persisted longer, had an epidemic of smallpox in early 1839 not prompted the Department of Public Health (a specialised department of the Ministry of Internal Affairs) to decisive action (Mihailović 1951, 152–153).

The Ministry sent its initiative for passing the Rules to the State Council on 18 April 1839 – already in a period of political turmoil preceding Miloš's abdication. The accompanying act, signed by the Minister, Colonel Đorđe Protić, and the Temporary Chief of the Department of Public Health, Dr Karol Pacek<sup>20</sup> (who also drafted the text), explains how the pox spreads among the people of Serbia almost every year and that the Rules were meant to put a stop to that. However, they also warn that the number of district physicians is currently insufficient to commence full-scale inoculation, and they recommend beginning the procedure with the help of military and city physicians, so the disease could be prevented as soon as possible. As the Council did not adopt the Rules right away, likely as it was preoccupied with the political changes (including Prince Miloš's abdication on 1 June), a new letter was sent on 15 June, advising the commencing of inoculation with the aid of physicians in the Šabac and Podrinje districts, as well as Belgrade

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<sup>20</sup> A Slovak born in Hungary, Dr Karol Pacek (1807–1876) worked in Serbia from 1833, first as an army physician in the rank of captain, and afterwards as the Chief of the Department of Public Health. He was the personal physician and close friend of both Prince Miloš and his son Mihailo, and left Serbia together with Mihailo Obrenović when he was banished in 1842, returning only in 1859, when Miloš Obrenović was restored to power, although no longer as a practicing physician, but merely as the monarch's advisor (Matović, Spasić 2013, 219; Maksimović 2017, 35–37).

itself, until the Regulation on the Naming of District Physicians could be passed, but reminding the Council that the process could not be initiated without the adoption of the previously proposed Rules. The Council then sent the draft to the Regency on 20 June, and it was finally signed on 5 July without any particular comments from the regents, and formally published on 8 July (AS: DS, 163/1839; see also AS: MUD-S, 321/1839).<sup>21</sup>

## 5. CONTENT OF THE RULES

### 5.1. A Preamble for the Masses

The Rules start with a lengthy introductory text (more than a page long) that we might call a preamble, given that it is not normative in character, but rather explains the reasons for the passing of the Rules. This is not uncommon for regulations of the period, but the length is extraordinary: such preambles were usually no more than a few lines in length, briefly describing the *ratio legis* or occasion for the passing of this or that act. Apparently, the controversy regarding vaccination was strong enough that a detailed explanation was deemed to be in order. Lindenmayer (1876, 58), for example, refers to the contents of this introduction as “conclusions meant for the people” (*“für das Volk berechnete Aufschlüsse”*). To help the reader gain better understanding of the spirit of this text, we shall quote the first passage in its entirety:

Among all the wasting diseases that assault mankind, none has spread further or taken more victims than the pox. It has been more harmful to mankind than even the plague itself; given that it has not only destroyed so many men, but also countless people, even if they recover from this disease, cry for the remainder of their days blind, deaf, mute, maimed and disfigured. Over 400,000 men have been dying in Europe annually from the pox. Our Fatherland also rarely numbers a year in which one or another of its regions is not be assaulted by it. The pox assaults everyone once in their lifetime, if the life does not succumb sooner to some other disease. No age, no

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<sup>21</sup> A draft text with some corrections and modifications was also preserved in the Council’s archive, but the changes are mostly terminological and stylistic, aiming to describe the procedures, etc., more clearly; it seems that no major substantive change was made.

sex, nor any bodily composition is safe from it. From the cradle to the deathly shroud, we can serve as its prey. Its treatment, when it manifests, is highly doubtful.<sup>22</sup>

The text goes on to explain that measures of strict quarantine for the diseased have been suggested by some (implicitly experts), but that this is not only very expensive, but also almost impossible to achieve in practice when the disease has significantly spread. Therefore, it is easier to avoid the pox “if the affinity towards it is shut down in the body” (“*ако се наклоностъ спрема нѣи у тѣлу угаси*”), which can be done in two ways. The first is the inoculation of human pox on healthy people, which makes the course of the disease somewhat lighter. This procedure is claimed to have been in use in the whole of Europe until 40 years earlier, and still in use in some uneducated areas deprived of physicians, but it is stated that its consequences are very uncertain and it is full of danger, and thus it not only cannot be advised, but must be forbidden. On the other hand, there is the inoculation with cowpox, discovered by Dr Edward Jenner in 1798, which is qualified as safe, low-risk, easy to perform and thus had already spread throughout educated Europe 40 years earlier. Thus the Council and the Regency, after consulting the Department of Public Health (*Оддѣленіе Санитета*) of the Ministry of Internal Affairs, decided to introduce this method to support public welfare – and here the normative part of the Rules begins.

## 5.2. The Normative Text

The main text of the Rules can be divided into two parts. The first, Arts. 1–14, with no special subtitle, regulates the competence for and the organization of the inoculation, the price to be paid for it and the administrative procedure, while the second part, Arts. 15–20, entitled

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<sup>22</sup> “Измеђъ свію опустошаемы болестій, кое родъ човеческій нападаю, ни една се ніе веѣма распространила, и выше жертвій одвукла, као богинѣ. Оне су човеческомъ роду шкодљивіе быле него и сама куга; будући су не само толико людий потрле, но осимъ тога безчисленни, ако болестъ ову и преболу, слепи, глуви, неми, сакати и нагрѣени заостале своје дане проплачу. Преко 400000 людій умирали су у Европи преко године одъ богиня. Наше Отечество такође редко кою годину числи, у којой не бы еданъ или другій му предѣлъ нѣима нападанъ быо. Богинѣ нападаю свакогъ у животу еданпутъ, ако животь одъ друге какве болести пре не клоне. Никаква старость, никаквѣй поль, нит’ икаквѣй тѣлосоставъ може се одъ нѣи сачувати. Одъ колевке до покрова смртногъ, можемо имъ као грабежъ служити. Нѣіово є леченѣ, кадъ се укажу, весма сумнително.” All translations in the article are by the author.

“Physicians’ Instructions” (*Наставленія Лекара*) contains detailed medical instructions for the vaccination itself. While the first part has almost three times the number of paragraphs, its text is, in fact, shorter by a third: two and a half pages against slightly over four. There is, thus, more strictly medical than legal matter in the Rules, but the entire contents have been “juridified” by being placed in a legally binding form.

In the first part, the management and control of the inoculation process is placed under the jurisdiction of the Department of Public Health, which was to ensure that there is always enough high-quality matter for inoculation, and that it is distributed to the persons in charge of it (Arts. 1–2). The Department was to issue licences, but also orders, for performing inoculation to district physicians and surgeons (regardless whether they operated in cities or villages), to military physicians, but also to those whom the Department itself acknowledges as skilful (Art. 3).<sup>23</sup> Obviously, this was meant to allow for the recruitment of existing grafters, who did not possess formal medical education, but many of whom had enough practical experience and skill that their participation in the vaccination effort would be of use to the understaffed Department.

Returning somewhat to the didactic tone of the preamble, Article 4 proclaims that no one other than the aforementioned persons is allowed to perform the inoculation, and that the inoculation of natural human pox (as it had been previously performed in Serbia) is especially forbidden, as it is dangerous and its results uncertain. It is further specified that none but the persons listed in Article 3 may collect the matter from inoculated children, because unskilled inoculation can easily lead to other diseases, such as scabies, scrofula, syphilis, etc. It is proclaimed that anyone transgressing these rules is to be punished, but the punishment is not specified. This is not unusual for Serbian criminal law of the period, as the exact penalty was still often left to the judge’s discretion. The principle of legality was introduced only by the Penal Code of 1860.<sup>24</sup>

Article 5 further prescribes that physicians are to be paid by the patients for every successful inoculation – one *cvancik*<sup>25</sup> by townspeople and half a *cvancik* by villagers; if the inoculation was not successful, the physician was

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<sup>23</sup> “кои се истымъ Оддѣленіемъ за вѣште признаду”

<sup>24</sup> See more on the development of Serbian criminal law and the Penal Code in particular in Mirković 2017, 156–170; Nikolić 2017.

<sup>25</sup> A corrupt form of the German word *Zwanziger*, this signified an Austrian silver coin of 20 Kreuzer, minted since the time of Maria Theresa, which was widely in use in Serbian-speaking territories at the time, since domestic silver minting had not yet begun (Stanojević 1925, 405).

to repeat it free of charge. If someone proved that they could not afford to pay the physician (again, the means of proof is not specified), their inoculation was to be paid from the state budget. Parents of vaccinated children were to allow physicians to extract the matter from their children free of charge (Art. 6).

A local official was always to be present during the inoculations and to control and co-sign the protocol (log) kept by the physician: it could be either the district chief, his deputy, the county chief, or the local priest (Art. 7). The protocol was to contain the first and last name of the inoculated person (if it was a child – the parents' names and marital status as well), date of inoculation, age, number of injections used for inoculation and the number that proved efficient, whether the person was able to pay or not, as well as from which child<sup>26</sup> the matter was taken (Art. 8). To verify the procedure's success, the physician was supposed to examine the inoculated person on the eighth day after the procedure, again in the presence of one of the local officials, and to write down the number of successful injections. On the same eighth day, the physician was to issue a certificate of inoculation with cowpox (Art. 9).

The time of inoculations and examinations was to be determined by the physician, and the place by the local elder (Art. 10) – a compromise obviously meant to insure some degree of convenience for both sides. Either way, the inoculation was to begin in April and to be performed until the end of September (Art. 11). After the end of October, the physicians had a duty to submit their protocols, containing all the necessary data and signatures, to the Department of Public Health (Art. 12).

An interesting role was assigned to priests in Article 13. In addition to potentially supervising the inoculation, priests were also required to submit (and thus implicitly to make) a list of people who were not inoculated to the chief,<sup>27</sup> who was then to report it to the physician. (This proved to be difficult in practice, as we shall later see.) It is not specified that the physician was supposed to do anything with the information provided (e.g.

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<sup>26</sup> Although, as we shall see soon, it is nowhere stated that the matter is only to be taken from children, as adults were also inoculated, it seems that the legislator presumed here that most of the vaccinated population will be children. Also, even when adults were vaccinated, children were most commonly used for transmitting matter, as that reduced the risk of contracting other diseases through vaccination.

<sup>27</sup> It is not specified whether the district or county chief is meant. It is possible that either was valid (depending on the proximity of the parish to a district or county centre), since that seems to be prescribed immediately afterwards, in Art. 14.



to appeal to those persons to get inoculated), but it is prescribed that priests were supposed to remind their congregations at least once every three months not to omit to vaccinate their children, by presenting the dangers that come from such omissions, “and that for such negligence they shall be held accountable even to God himself” (“и да ће за небреженіе то и самоме Богу одговарати”). We can see here the same spirit present in Metropolitan Stefan’s pamphlet, as well as in other similar literature of the time – the idea that, although the state did not directly punish vaccination avoidance, such people would be responsible before God for any unfortunate consequences that their children (as yet unable to decide for themselves) suffered as a result.

Finally, when the pox appeared somewhere, the local elder was required to inform the nearest (district or county) chief right away, and he was to report this immediately to the Ministry of Internal Affairs, so that inoculation could be initiated without delay (Art. 14).

The second part consists of practical medical information relevant for the process of inoculation. Article 15 contains a description of cowpox, claiming that it does not seem unnecessary, given that the matter for inoculating humans is taken from cows. This is followed by a description of the macules (pox marks) and their evolution during the course of the disease, as well as of the other symptoms that accompany them. In the end it is reiterated that such is the course of real cowpox, and only it is acceptable as a protective means against human pox.

Article 16 describes the course of properly transferred cowpox in humans, going into detail regarding the appearance of the pox-marks day after day for 14 days, and also describing other symptoms, such as swelling and fever, with remarks meant to help physicians differentiate the transferred cowpox from other diseases.<sup>28</sup> After the detailed description, the article lists once again the key points the physician needs to monitor in order to identify the cowpox, repeating briefly the evolution of the symptoms.

The physician was to take the matter for further inoculation only from a person with whom the course of disease matched the description in Article 16, on the seventh or eighth day after inoculation, and only if the person is (otherwise) completely healthy. He is specifically instructed never to use people who suffer from scrofula, venereal diseases, scurvy, scabies or any

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<sup>28</sup> For example, it is stated that the glands in the patient’s armpits sometimes swell and hurt slightly, but that this change lasts only for a few hours, and never the entire day and night.

other chronic disease,<sup>29</sup> as well as anyone in whom the cowpox did not take its regular course. Finally, the physician was always to use the “prettiest” (*найлепша*) and cleanest unharmed macule; if only one had appeared on the patient’s body, it was not to be used (Art.17).

Article 18 contains environmental or personal counterindications against inoculation. Firstly, it is stated that although inoculation can be performed at any time (of the year) with the proper precautions, it is still better to avoid doing it during a harsh winter or high summer heat (obviously, due to an increased risk of complications), unless specific circumstances, such as an epidemic of smallpox or the distance of the patient’s residence from the physician, demand so. The correlation of this norm with Article 11, which decreed that inoculation was to be performed from April to September, is not completely clear. On the one hand, this could serve as an explanation why Article 11 omits the colder months of the year – not just the winter months, but also late autumn and early spring. But, on the other hand, Article 18 mentions heat as equally problematic, yet all the summer months fall within the inoculation period. Presumably, this only meant that days or periods of unusually high temperatures were to be avoided. Finally, it seems that Article 18 allowed for inoculations to be performed outside the previously prescribed period of April to September, but we cannot tell for certain whether this was left to the physician’s own discretionary (medical) judgement, or if an approval of the Department of Public Health would be required.

Children under six weeks of age, children that were actively teething or “weak girls” (*слабе девойке*), during their menstruation, were not to be inoculated, if the date could be postponed. Finally, it is stated that persons suffering from glands, scabies, rickets, venereal diseases or *красава глава* (lit. “scabbed head”, possibly scalp ringworm, *Tinea capitis*) could be inoculated, but that matter for inoculation is never to be taken from them.

Article 19 contains detailed instructions for the inoculation procedure itself. The details and manner in which they are given show that the legislator – likely aware that even poorly educated persons would be performing the procedure – did not want to leave anything to chance. For example, the article begins with a description of the furrowed needle (lancet) to be used in inoculation: it is stated that it is a steel or silver

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<sup>29</sup> While not every chronic disease is necessarily an infectious one, a great number of them are, and it was certainly more reliable to exclude any suspicious case outright.

needle with a furrow in the middle (bifurcated needle), that copper or bronze needles are unsuitable,<sup>30</sup> and that the needle must not be rusty or otherwise unclean, and that it must be properly cleaned after the procedure. One would expect the several latter instructions to be unnecessary for a trained medical professional, even in the mid-19<sup>th</sup> century: but as we have seen already, not only fully trained professionals were to be assigned the task, given the deficit of personnel.

It is also interesting that the description includes an alternative method. After describing how the physician should insert the needle with the inoculation matter into the skin without drawing blood, the Rules say that “some” (*нѣки*) rather scratch the skin with the needle until liquid appears, and put the inoculation matter there. While the first method does seem to be the one recommended by the Rules, there is nothing to indicate that the second was considered less viable in any way: no comparison is given, in effectiveness or otherwise.

Some supplementary practical instructions are also given: how to wash and soften the inoculation spot when the patient’s skin is dry and hard, but also how to wrap the spots in a soft linen cloth if someone’s shirt is very thick and coarse, to prevent the coarse fabric from rupturing the macules.

The last, Article 20, talks of the preservation of inoculation matter. The recommended methods are: between two pieces of glass (one of which is slightly recessed), in a sealed glass tube, in an ivory lancet, in a dented feather shaft, or on a thread soaked in it and also sealed in a glass tube.<sup>31</sup> Basic instructions are provided for each method. It is then proclaimed that dry matter cannot be preserved for more than four months, while liquid matter in properly sealed glass tubes can preserve its potency for several years. (It is unclear from the same text whether the same applies to other previously described methods.) Finally, it is stated that the crust of cowpox does not provide good matter, and thus should not be used.

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<sup>30</sup> The main reason for this is that these materials are softer and might break during the procedure. Steel needles were the strongest and most durable, while silver possesses antiseptic properties.

<sup>31</sup> All these methods were used for transportation of the vaccine across Europe, although it generally proved less durable than smallpox matter, and thus shipments were frequently unusable (Bennett 2020, 123–124).

### 5.3. Austrian Influences

Although no foreign model was mentioned in the correspondence preceding the adoption of the Rules, it is no surprise that the Serbian lawmaker consulted the legislation of the neighbouring Austrian Empire in drafting them – particularly given the fact that most Serbian physicians had been educated in either Austria or Hungary. The Austrian *Regulation on the Inoculation with Cowpox in the Imperial-Royal States*, passed on 9 July 1836,<sup>32</sup> was a significantly longer document, consisting of 56 paragraphs, and despite some differences, similarities can still be noticed even on a casual glance. Both documents are divided into two parts, the first, shorter one, concerning the administrative organization of vaccination, and the second, longer one, providing medical instructions to the personnel performing the procedure.

In the Austrian document, both sections (*Abschnitte*) have titles, as well as separate numbering of paragraphs. The first section, containing 16 paragraphs, is called “Regulation regarding the administration” (*Vorschrift in Bezug auf die Leitung*), and the second, with 40 paragraphs, “Regulation for physicians and surgeons who engage in inoculation with cowpox” (*Vorschrift für Aerzte und Wundärzte, welche der Kuhpocken-Impfung sich widmen*). Obviously, the Serbian Rules apply the same model in a somewhat simplified and shortened form. As the first section of the Austrian Regulation also contains some purely medical provisions (such as the rules for the preservation and transport of vaccine matter in §9–11), and the second some instructions to physicians on how to *organise* vaccinations in cities to maintain a steady supply of fresh lymph (§18–20) one might even say that the Serbian Rules contain a more precise division of subject matter.

The first part of both regulations contains more differences, for obvious reasons. Not only was the administrative division and structure of organs in the two countries different, but there were vast differences in the availability of educated medical professionals. Thus, for example, the Austrian provision that nobody other than licensed physicians and surgeons could perform inoculations, and if there were still physicians and surgeons who were not trained to vaccinate as part of their studies, they had to get special authorisation to vaccinate (§3). This was obviously a rule of a country which had a large number of formally educated doctors, and had only to provide for those older generations of them who had not learned to vaccinate during their studies. As such, it was obviously inapplicable in Serbia, which

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<sup>32</sup> *Vorschrift über die Kuhpocken-Impfung in den kaiserl. königl. Staaten: vom 9. Julius 1836*. Wien: k.k. Hof- und Staats-Aerarial-Druckerey.

is why the Serbian Article 3 made a completely different exception – that for licensed skilful personnel *without* formal training. Other administrative complications, such as military physicians needing a special license from the civil authorities in order to vaccinate civilian children (§6), or the founding of a special vaccination institute (*Impfungsanstalt*) in the capital of each province (§8), were also quite unpractical in the situation in Serbia, and thus none of them were implemented.

The social and educational circumstances were also the cause for some adaptations. While the Austrian Regulation required parish priests and teachers (*Seelsorger, Volkslehrer und Schullehrer*) to advertise vaccination twice per year (§13-a), the insufficient spread of schooling in Serbia led to the latter being excluded.<sup>33</sup> The spreading of pro-vaccination pamphlets among the population (§13-c) was likewise not included due to the much higher degree of illiteracy, and the provision of §13-f on vaccination in orphanages due to the absence of such formally organised institutions in Serbia at the time.

It is interesting to note that the Rules did not initially include more drastic orders and restrictions meant to stimulate vaccination, but the Supplement of 1842 would introduce such or very similar measures (see more below). Such is the case with §13-b ordering landowners, people of upper social strata and state officials to set the example for others by allowing for their children to be vaccinated first, or §13-d banning the unvaccinated (or parents who would not vaccinate their children) from receiving government stipends, education in public schools or social assistance for the poor. It is possible that these measures were seen as too extreme (and thus potentially unpopular) at first, and that they were only resorted to when the initial iteration of the Rules failed to provide the desired results.

The technical medical provisions contain far more similarities, as has already been noted by Vojislav Mihailović, who has published the Serbian translation of some excerpts from the Regulation (Mihailović 1951, 149–151).<sup>34</sup> Without any pretensions to medical knowledge, we can note the following. The Serbian Rules mostly follow the layout of the matter of their

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<sup>33</sup> Although we must underline that the obligation of the priests to remind people to vaccinate their children was made twice as frequent (at least once in three months) perhaps precisely because they were the only ones who bore the duty.

<sup>34</sup> However, his translated text contains a serious methodological flaw: although the fragment flows from §7 to §15 in apparent continuity, in fact, some paragraphs are taken from the first and some from the second section of the Regulation, and are not a single integral piece of the text. The name of the original act is also misspelled in fn. 5, with “*Fortschritt*” (“Progress”) instead of “*Vorschrift*” (“Regulation”), likely a typographic error caused by the similar sounding of the words.

Austrian template in this regard, but compressing the essential information and omitting some of the details. Professional medical terminology is less frequent in the Serbian Rules, and that which is used is sometimes briefly explained – obviously for the benefit of the self-taught vaccinators – while the Austrian lawgiver saw no need for such clarifications, relying solely on formally trained physicians and surgeons. Some specific parts were skipped entirely, such as the long table comparing the course of the disease in unvaccinated and vaccinated patients through four periods, contained in §10. The lists of people who are not to be vaccinated, and of people from whom the matter is not to be used, are also partially different. The only piece of information that is present in the Serbian Rules and absent in the Austrian Regulation is the description of the course of cowpox *in cows*, probably deemed unnecessary in Austria, but of potential practical use in Serbia.

Mihailović's (1951, 160) expert assessment of the text of the Serbian Rules is that they are well-written for the time, and that their author was obviously an expert well-acquainted with contemporary medicine. He concludes "The Rules contain everything that such instructions should contain, nothing that is of relevance has been left out".<sup>35</sup> Even if he did not perform a detailed comparative analysis with the entire text of the Habsburg Regulation, his assessment that the text was of high quality in itself seems sufficient.

## 6. OBSTACLES IN PRACTICE

### 6.1. First Efforts and Initial Distrust

The course of vaccination can be followed through source material, primarily documentation from the Department of Public Health, kept in the State Archives of Serbia. Unfortunately, the Department's collection is far from ideally preserved: many documents have been lost, and the registers and protocols for some years are missing, making it much harder to search through the existing documentation. Thus, the picture laid out here will not be complete – but the available material is nevertheless sufficient for a clear general outline.

The Department sent the text of the Rules to every district and city in a fairly large number of printed copies (e.g. 50 for the city of Belgrade, 100 for each district), of which a few were to be kept by the administration, and

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<sup>35</sup> "U Pravilima je obuhvaćeno sve ono što takva uputstva treba da sadrže, ništa nije propušteno, što je od važnosti."

the majority to be distributed to local courts via county chiefs (in villages), or to the citizens in cities.<sup>36</sup> Administrative supplies – mostly forms for vaccination certificates (*feda*)<sup>37</sup> were also sent on a regular basis and in much greater numbers, and district physicians requested more when they ran out.<sup>38</sup> The district chiefs claimed to have instructed their subordinates to advertise vaccination as prescribed (see, e.g., AS: MUD-S, III-144, 540/1841); how honest and intense their efforts were, can only be speculated, but they were met with opposition nonetheless.

According to Lindenmayer's memoirs, the very first vaccination effort, from the summer of 1839 to the fall of 1840, was indeed a success, with all doctors and other authorised vaccinators working as quickly as they could, a large number of people being vaccinated and disaster averted. (As we shall see later, even this data varied drastically by region: his assessment might be unrealistically optimistic.) However, as the people started believing that the risk had passed, any zeal that existed among the masses waned, and the vaccination rate dropped again, increasing the risk of infection (Lindenmayer 1876, 58–59; Mihailović 1951, 160).

The distrust towards vaccination is visible in many preserved documents, and many common people showed preference towards the old method of inoculation, to which they were accustomed. The refusal of the masses to allow their children to be vaccinated is a common theme in the correspondence of the local authorities and physicians with the Department of Health; in many cases, a physician would visit a village in vain, since no family would volunteer their children for inoculation with cowpox. Threats and insults were not uncommon either. Instructions and urgings of the Department for officials and physicians to try educating and influencing the people (quite similar in tone to the Preamble of the Rules) are a common reply (e.g., AS: MUD-S, III-144, 765, 1013, 1969/1841).

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<sup>36</sup> AS: MUD-S, III-105, 224, 335, 545, 571, 761/1840. The number of copies for distribution to citizens was obviously far too small for widespread distribution, and the exact mode of dissemination is not fully clear.

<sup>37</sup> The word was derived from the German *die Fehde*, which among a plethora of other meanings, signified a certificate, letter of confirmation (Mihailović 1951, 179).

<sup>38</sup> The numbers varied – e.g. 100 reams with 1600 fedas for the Požarevac District, 20 reams with 640 pieces for the City of Belgrade and for the Krainski District, etc. The supplies were likely distributed. See AS: MUD-S, 1840, III-134, 336, 547, 572, 769, 1090, 1117, 1600, 1656.

Dr Anton Groder,<sup>39</sup> the physician of the Šabac District, left valuable notes, later published by Vojislav Mihailović, which provide a good illustration of the situation. Upon arriving in Šabac in July 1839, freshly appointed as the district physician, Groder encountered a large scale epidemic of smallpox. He obtained two tubes of vaccine matter from Belgrade and inoculated 10 children with it; the children were ordered to come to the city school on the eighth day, so that matter for further vaccination could be taken from them. As many unvaccinated children as possible were supposed to come to be inoculated in this way – but only eight turned up. Groder claims that parents were unwilling to bring their children to the school, wishing for the doctor to come to their houses, not understanding that the vaccination was done “arm-to-arm” and that all the children needed to be in the same place. Having vaccinated the few children who had been brought and having taken as much matter as he could from the previously vaccinated ones, he made and executed a plan with the help of the county chief: he went to the nearest village of Drenovac, vaccinated the children there with the fresh matter, and then, eight days later, selected 16 of them with good macules and brought them to Šabac, together with their parents. The local authorities had in the meantime spread the word that it would be the last vaccination in the city that year, and that it was mandatory for all unvaccinated city children to attend, or their parents would be punished.<sup>40</sup> The plan was a success: a large crowd gathered, Groder vaccinated 90 children on that occasion, with no complications afterwards, and the citizens even rewarded the villagers who had brought their children to supply the vaccine (Mihailović 1951, 163–164).

In some villages, Groder encountered not only vaccination boycotting, but direct opposition: crowds of armed peasants, angry and loud, claiming that they would not allow for their children to be vaccinated, distrustful towards the procedure’s effectiveness or afraid that it might cause severe illness. In most cases, as he claims, reasoning of the local authorities and their explanations of the prophylactic value of cowpox, as well as threats of punishment, produced the desired results: the villagers calmed down and dispersed, sending their wives with the children. However, this was not always the case: sometimes the women and children even ran away into the woods to avoid vaccination! It was only after some time had passed, as Groder

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<sup>39</sup> Anton Groder (1808–1885), born in Vienna, worked first in Vienna and Pest, and moved to Serbia in 1839, first as a temporary and soon permanent district physician, and member of several scientific societies in Serbia. He was very integrated in the local community and remains in fond memory of the citizens of Šabac (Mihailović 1951, 170–171; Maksimović 2017, 76–77).

<sup>40</sup> Presumably fined, but Groder does not specify – and it is possible that neither did the county chief.



claims, that people started noticing that while many unvaccinated children fell ill and died, the vaccinated ones remained healthy. He also provides the examples of a mother who let her children be inoculated, but was not vaccinated herself, and died of smallpox afterwards, and of a man who had almost all of his large family vaccinated – 11 people – everyone except himself and his favourite three-year-old son: both the man and the boy later died of the pox, while the rest of the family did not fall ill. Nevertheless, his overall impressions of the local authorities' and the population's cooperation, as well as the success of vaccination as a whole, are positive (*Ibid.*, 164–165).

Similar obstacles can be encountered in other sources. In his report of 23 June 1841, Đorđe Novaković, the physician of the Aleksinac District, once again asked the Ministry to forbid the practice of inoculation with the natural pox in the physician's absence, as he had learned that people in several villages had initiated such procedures on their own. He also suggests that all priests be forbidden to participate in such affairs, as some had done in cases that he was aware of, and had been instructed to discourage the people from engaging in the dangerous procedure and to accept vaccination (AS: MUD-S, III-144, 870/1841).

A report from the Smederevo District to the Ministry, dated 8 October 1841, shows that very few villagers were interested in vaccination despite both the physician's and the archpriest's appeals, and that in the end "some villages have replied 'when the pox appears nearby, we will call the doctor', and some 'the pox has come before, yet we survived nevertheless'".<sup>41</sup> (AS: MUD-S, III/144, 1454/1841).

On 5 January 1842,<sup>42</sup> the Court of the Peace in Rača wrote to the chief of the Lepenica County in the Kragujevac District to report that smallpox had appeared in the houses of Stefan Marković and Marinko Veljković, with one person falling ill in each. The Court had ordered for both houses to be placed under guard, as it had previously (time span not specified) done with the house of Živulo Nešić, when the pox had appeared there, in order to preserve the health of the municipality.<sup>43</sup> However, the local people

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<sup>41</sup> "нека села одговорила су кадъ се появе близу богинъ зваћемо доктора а нека и досадъ су богинъ долазиле пакъ ми опетъ остаяли живи."

<sup>42</sup> The document itself is dated January 5th, 1841; however, the note on the back indicates that it was received on January 5th, 1842, and it was filed under a number for 1842. We presume, thus, that the Court made a scribal error, particularly given the fact that it was the beginning of the year, and that one might have easily miswritten last year's number by force of habit.

<sup>43</sup> Although isolation was not prescribed by the Rules, there were other instances of it being used or recommended to prevent the spread of contagion. See also e.g. AS: MUD-S, III/144, 975/1841.

were asking for their children to be inoculated with smallpox from the two patients, as the community had previously done in 1833 with the help of a certain Old Man Marinko from Košarno – “or, that is, on their own” (“или пећу сами”), as the Court comments. As no one had died as a result of the inoculations in the 1833 case, the population hoped to achieve the same success now. The Court forwarded their plea to the chief, urging him to let the people inoculate themselves with the pox if at all possible, as they “could not by any means dare to inoculate with a doctor and matters” (“ерь доктором се и материама никако усудити немогу пелцовати”). The chief of the Kragujevac District forwarded the issue to the Ministry, claiming that he could not grant what the plea was asking, as it was against the Rules, particularly Articles 4 and 14, and hoping that the Ministry could solve the people’s plight. However, he also remarked that the district physician was not currently in his home district, having been sent to the Čačak District to fight the disease that had appeared there (AS, MUD-S, I-39, 73/1842).

On the other hand, as the gravity of individual pox cases varied greatly, this also affected the popular attitude towards using smallpox for inoculation: the belief that lighter cases were better for inoculation was also prevalent in Serbia. In a report to the Administration of the Aleksinac District of 23 June 1841, the chief of the Aleksinac-Ražanj County notes that the pox had appeared in the village of Glogovice, and one person has already died, but that the villagers claimed that that pox (i.e. the particular manifestation of it) was dangerous, and he asks for the district physician to be sent to them and to bring a better pox for inoculation (AS: MUD-S, III/144, 1235/1841). At the very least, this shows a certain degree of confidence in the medical profession.

The distribution of vaccine matter was managed by the Ministry of Internal Affairs, which can be seen from the surviving documents. Thus, for example, on 3 March 1842, the Department of Health wrote to the Army chief of staff to request cowpox matter for inoculation, asking that 10 tubes be requested from the Army Doctor Lindenmayer and sent to the Ministry. On 6 March, it was reported that the tubes had been received. On the March 10, two were immediately forwarded to the Administration of the Belgrade District, to be given to the district physician. On 12 March, the Ministry sent two feathers with vaccine matter to the Government of the City of Belgrade, with the recommendation that it be handed to the city physician for his use (AS: MUD-S, I-39, 378, 400/1842).

As was frequently the case across Europe, at a time when transportation methods were still not fully reliable, sometimes the dispatched smallpox matter was no longer usable by the time it reached its destination.<sup>44</sup> In one case in the Podrinje District in 1841, the matter had arrived in a usable state, but had dried up by the time the local authorities managed to persuade the population (after previous failed attempts – by initiating judicial proceedings) to send any children to be vaccinated (AS: MUD-S, III-144, 773/1841). Generally speaking, in the more obvious cases, physicians noted that the matter was dry and stale and that it could not be used; however, in others vaccination was attempted, but it could be noted that the infection did not proceed as usual (see, e.g., AS: MUD-S, III/144, 358, 1005, 1095, 1490/1841). However, if the prescribed procedures – regarding not just inoculation, but subsequent examinations – were not implemented, this led to the most dangerous cases, as the inoculated people falsely believed themselves to be immunised against smallpox.

## 6.2. The Incident in Gurgusovac: A Case Study

A troubling case occurred in the town of Gurgusovac<sup>45</sup> in January 1842. The first piece of information about it can be found in a letter of the Ministry of Internal Affairs to the Administration of the Gurgusovac District on 19 January. The Ministry states that it had come to its attention that multiple children who had been inoculated with cowpox by the district physician of the Aleksinac District, Đorđe Novaković, had fallen ill and died. In order to decide how to act upon this matter, the Ministry demanded a detailed and unbiased report on the situation (AS: MUD-S, I-39, 116/1842).

A report by the Administration of the Aleksinac District, dated 22 January, says that another child had died since 19 January, referring also to a regular report of 15 January, where it was stated that children who had been inoculated by the district physician the previous summer had started to fall ill and die of smallpox. In a reply of 26 January, the Department of Health responds to a report that nine children (eight of them in the same village), who had been inoculated by the district physician the previous year, had died of smallpox. The Department inquires whether the (cow) pox had been

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<sup>44</sup> Naturally, most cases proceeded without such complications; in some documents, the vaccine matter is expressly stated to be “fresh and good” (“свѣжа и добра”) (e.g. AS: MUD-S, III-144, 358, 773, 859/1841).

<sup>45</sup> The town was renamed to Knjaževac in 1859, after a visit by Prince (*Knjaz*) Miloš.

successfully grafted on the children, and whether they had been taken back to the physician for an examination after the prescribed time (AS: MUD-S, I-39, 145/1842).

In response to this, a vaccination report for the town of Gurgusovac was compiled (dated 31 January 1842), listing people who had been inoculated with cowpox by the district physician Đorđe Novaković, including those who were also inoculated with the natural pox “on top of that” (“као и они лица која су преко тога и природнимъ богињма каламљна”). A total of 103 people had been inoculated, mostly children. The youngest patient was approximately six months old (the table lists “½” under “age”), and the oldest was 30 years old. Four pricks were made on all of them, and all four were successful with most patients (77), with none taking in only 12 cases. Naturally, all patients survived the procedure. However, 74 of them were inoculated again with natural pox, of which 4 died, and 18 persons decided on their own to take the natural pox “on top of” the doctor’s (“сама преко Докторови богиња природне примила”), likely meaning that they had been infected with smallpox during the course of the received cowpox vaccine. Of those, 9 – a staggering nearly 50% – also died. Two remarks accompany the tabular report: 1) that 121 persons had also been spontaneously infected with the pox, with no grafting involved, of which 33 had died, and 2) that a further 363 people had infected each other with the pox (obviously also for prophylactic purposes), of which 15 had died (AS: MUD-S, I-39, 143, 235/1842).

From the accompanying letter we find out that Dr Novaković had arrived in Gurgusovac on 2 October 1841, and that the vaccinations had taken place from the 3 October through to the end of the month. The district and county chiefs did not assist him in the process, as the former had left to his home with the Ministry’s approval, while the deputy in charge of executing the duties of the county chief was in the county centre, and thus they had left the local priest to assist the physician. The two had, however, not compiled a vaccination protocol, as the physician had supposedly told the priest that it was his own duty and that he would write the protocol and send it himself, but that he had not done so at all. The Administration had subsequently discovered that some people had infected themselves with smallpox, including some who had done so over the grafted cowpox, and had sent them all to the District Court to be investigated as transgressors, but they had all claimed that they were forced to do so, as they had seen some children who were inoculated with cowpox subsequently fall ill with smallpox, some of whom had even died. The Administration then decided to form a committee, also inviting Đoko Novaković to take part in it, to investigate the success of the inoculations. They wrote to the Administration of the Aleksinac

District, asking it to send the physician back to file his report, so it could be both sent to the Ministry and used in the District Court's investigations, but despite two urgings, neither the physician nor the report arrived. The report was finally made by the committee composed solely of administrative personnel and presided over by the priest. After Novaković was summoned to Gurgusovac for the third time, the reply came that he had caught a cold travelling from Aleksinac to Banja and that he was now bedridden, and thus he could not come, but could reply in writing if anything was needed. Finally, the Ministry was asked to advise the District Court whether to insist on the persecution of the persons who had infected their families with smallpox (*Ibid*, 235/1842).

On 5 February the Chief of the Aleksinac District, Petar Radoiković, reported to the Ministry that smallpox has appeared in the town of Banja (Banja County) and that three children had already died. Measures to contain it were ordered, however, the county chief reported that multiple denizens of Banja had had their children inoculated with natural pox "through old women" ("*нреко баба*"), as they were afraid to let the district physician Novaković inoculate them with cowpox (AS: MUD-S, I-39, 238/1842).

On 11 February, replying to the Ministry's inquiry of 26 January regarding the deaths of the nine village children, the chief of the Aleksinac District reported that the previous summer Novaković had first inoculated eight children in the village of Katun, whom he had then examined eight days later, then inoculated a further 20 children with the matter taken from them. Again, eight days later he examined the second group of children and inoculated a further 80, but then he did not return to examine them, as he had left for Gurgusovac to perform inoculations there, and had instead sent an assistant of his, a local denizen and *terzija* (tailor), Andrija Mančić. Mančić arrived 10 or 15 days later, examined the children and reported the success of the vaccination to the villagers. However, some five weeks later smallpox reappeared, and six of the 80 most recently inoculated children and four from the batch of 20 died of it, while five of the initial eight also fell ill. Similarly, in Krajevo, the physician first inoculated six children, then examined them eight days later and inoculated a further 103 people, of which one child died, on one the physician found that the pox had not been successfully grafted, and one man's inoculation mark turned into a wound that caused some of his flesh to fall off and his arm to shrivel up; also, one of the houses where the initial six children were inoculated was affected with smallpox at the time when the report was written (AS: MUD-S, I-39, 280/1842).

Without any context, one might presume this to be a story of an incompetent physician performing his job poorly and then evading responsibility. However, Novaković was anything but incompetent: an immigrant from the

Habsburg lands,<sup>46</sup> he was the first professional surgeon in Serbia, spoke and wrote in six languages and was known as one of the few educated doctors who managed to win the trust of the broader masses (Maksimović 2017, 61). Naturally, these general favourable facts say nothing of the individual case: the problems in Gurgusovac and its surroundings still may have been the consequences of Novaković's mistakes. Nevertheless, in context, they seem to paint a slightly different picture: that of a man stretched too thin, attempting to do a job that would require several people for it to be done properly, and making mistakes in the process.

### 6.3. The Price of Being Too Few

Other cases also show that the number of available physicians was obviously insufficient. For example, on 12 March 1842, one Spiridon Perini submitted to the Ministry of Internal Affairs a certificate as proof of his inoculation skills, with a request that he be accepted into state service in some district, pledging his devout service and continued efforts in professional self-improvement. The certificate is private in nature, dated 8 March 1842 in Belgrade, where the signed individuals (nine male names, five of them Greek) confirmed that Spira Pirini ("*Г. Спира Пирини*") had inoculated their children and that they were very satisfied with his skill and effort. No formal medical education is mentioned in either document. In a letter of 16 March 1842, the MIA instructed the district physician of the Belgrade District, Dr Pavle Šteker, to instruct Pirini on how to diagnose the pox and inoculate with cowpox, and once he was satisfied with his student's competence, to issue him a certificate of competence and to inform the Ministry (AS: MUD-S, I-39, 425/1842).

While recruiting informally taught assistants was a necessity, not even all the available professionals were up to the task, as can be seen from the case of Dr Jovan Cotpo (or Cotpa – both spellings are used), who was first reassigned from the Čačak District to the Kruševac District due to drunkenness and neglect of his duties (which in turn led to a loss of trust of the local population); however, as he also continued with the same vices in Kruševac, coupling them with a confrontation with and insults of the district

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<sup>46</sup> His origin remains a mystery: while it is known that he took the name Đorđe Novaković upon converting to Orthodox Christianity, two versions of his previous life exist. According to one, he was born Leopold Ehrlich in 1792 in Galicia; according to the other he was born in Lemberg (Lviv) as Eduard Has (Maksimović 2017, 61).

chief, on 22 August 1841 he was finally condemned by the Appellate Court to a permanent loss of rights to be employed as a physician. Prince Mihailo signed for the verdict to be executed on 24 September (AS: MUD-S, III-144, 2305/1841). Nevertheless, Cotpa's service in the vaccination effort was demanded until the very end: a letter from the Ministry to the Administration of the Kruševac District from 20 September 1841, instructs that Cotpo is to be sent to perform vaccination in his district, if the judicial inquest does not get in the way – even though he had previously not been allowed to vaccinate in June, precisely because of the investigation against him and the fact that the people had refused to let Cotpo vaccinate their children due to his drunken excesses (AS: MUD-S, III-144, 665, 854, 1342/1841).<sup>47</sup>

Employment of such a man until the last minute, dubious as it might be, illustrates the scarcity of medical personnel and the urgent need for more vaccinations. Groder also remarks that he could not inoculate more than a single county during one summer, since he had to come to every place three times with 8-day breaks – first for the initial vaccination, then for the second round from the previously vaccinated, and finally to examine everyone who had been vaccinated, issue certificates and take a fresh supply of vaccine matter (Mihailović 1951, 165).

Despite all the difficulties, the effort was genuine, and vaccination was performed both in urban and rural areas. A report from 1841 shows that even some children in a “Gypsy” camp had been vaccinated (AS: MUD-S, III-144, doc. No. missing /1841). While most of the vaccinated were children, efforts were made to convince adults who had not had the pox to be inoculated as well (*Ibid.*, 380/1841). As it had been even before the Rules, special attention was given to vaccination in the military, where there was a risk of recruits coming from various areas of the country infecting others in their units, but at least military discipline allowed for more efficient inoculations (e.g., AS: MUD-S, III-144, 786, 1629, 1941/1841).

A brief overview of the results of the entire first period of vaccination can be seen in the letter of the Minister of Internal Affairs, Colonel Cvetko Rajović, co-signed by the Head of the Department of Health, Dr Pacek, dated 11 March 1842, which proposed the passing of the Supplement to the Council. The letter declares that the protocols regarding the inoculation with

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<sup>47</sup> Though other numerous cases of refusals of vaccination might tempt one to think that the distrust towards an individual doctor could have been just an excuse, the details of the case leave little doubt there. A letter from 28 May 1841, states that “every patient, even if lying in a perilous condition” (“свакій ако и опасно лежећій болестникъ”) was unwilling to be treated by Cotpo, due to his reputation (*Ibid.*, 665/1841).

cowpox, created by the district physicians in the past two years and kept in the Ministry of Internal Affairs, show that the inoculation was not performed with the desired success even in districts where district physicians are in place, with the sole exception of the Požarevac District. The letter claims that this is “in the greatest extent because of a superstition, which deters the simple folk from this institution useful for them, and because the officials who dwell among them, poorly and almost in no way set an example”.<sup>48</sup> It underlines again the use of inoculation with cowpox and the risks and dangers of inoculation with “natural pox” (*природне богинь*), which make it necessary to forbid and terminate “this practice deadly for humankind” (*“ово за човечий родъ убитачно дѣло”*), and recommends and introduces the useful one. After the text of the draft itself, the letter reiterates that it is only in the described and no other way that the Ministry hopes to achieve the desired goal, since all other both milder and stricter public admonitions and recommendations of the Ministry have met with poor success (AS: DS, 139/1842).

Thus, during a period when some countries, which had started vaccination earlier and had better medical staff coverage, were already introducing revaccination – for example, Austria expanded its Regulation to include revaccination in 1840 (Memmer 2016, 18) – Serbia was still struggling to get a sufficient number of people vaccinated at all. Measures had to be taken to improve the situation – and the proposed Supplement was soon introduced.

## 7. SUPPLEMENT TO THE RULES

The Regulatory supplement to the Rules for the inoculation of pox was signed by Prince Mihailo Obrenović on 29 April 1842, and published on 7 May, a mere four months before he was forced to abdicate. Unlike the Rules themselves, the Supplement did not contain any strictly medical norms: it focused solely on measures for stimulating people to get vaccinated. The reason for this, stated in the preamble, is that the Ministry of Internal Affairs had shown the prince “that so far there has been little success in the welfare action of inoculation with cowpox”.<sup>49</sup> Lindenmayer (1876 104–105, 429), on

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<sup>48</sup> “и то найвише збогъ суевѣрїя, кое прость народъ одъ овогъ за нѣга полезногъ заведенїя одвраћа, и збогъ тога, што имъ чиновници међу нѣма налазећи се, слабо и готово никако примѣрь у томе не даю” In this context, it does not seem too unlikely that Miloš had previously ordered state officials to have their children vaccinated first.

<sup>49</sup> “да се досадъ слабо успѣвало у добротворномъ дѣлу каламљня кравльи богиня”



the other hand, attributes the need for this to the population's laxer attitude towards the pox due to the initial success of the vaccination – although, as stated before, his chronology might at times be faulty. Either way, the nature of the changes is summarised very efficiently in the table of contents of his book "The law on vaccination of the year 1839 is made stricter".<sup>50</sup>

All officials and state clerks, as well as priests and *kmets* (village elders), were obliged to inform the population of the Rules on every suitable occasion, and particularly in the spring and whenever human pox appeared. They were supposed to enthusiastically recommend the Rules as a welfare intention of the Government, which was only interested in the best way for preventing the suffering and deaths caused by the pox (Art. 1).<sup>51</sup> On the other hand, anyone who dared to spread the word that inoculation with cowpox was useless or harmful, or who tried to persuade anyone to oppose the Rules, would be harshly punished, as a transgressor "of any of the most important and most useful Regulations" (Art. 2)<sup>52</sup> – a broad formulation allowing the courts to pronounce heavy penalties in such cases.

Furthermore, all officials, especially those belonging to the police, priests and village elders, had the duty to let the physicians inoculate their children before others – obviously, in order to set a good example for the general population and to let the people see that the procedure was harmless. If any of these officials or elders tried delaying or opposing the measure, the physician was to immediately report it to the Ministry, which would order the official in question to be treated as a disobedient and non-diligent servant of the state (Art. 3). This was obviously to be interpreted in the context of the Regulation on State Officials of 17 March 1842,<sup>53</sup> which meant that the officials in question could be demoted or even discharged from service.

A range of restrictions was prescribed to stimulate the vaccination of young people. No young man would receive a government stipend starting from 1843, if he could not prove that he was either vaccinated or had had the natural smallpox; the same obligation would apply to those already receiving stipends, also from the start of 1843, or they would lose their allowance (Art. 4). Similarly, any young man who had not obtained immunity to smallpox in either of those ways would be refused admittance to the Gymnasium (high

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<sup>50</sup> "Das Impfgesetz vom Jahre 1839 wird verschärft."

<sup>51</sup> This article did not exist in the draft submitted to the Council on 11 March, but is present already in the first draft of the Council.

<sup>52</sup> "као съ преступникомъ буди кое одъ найважнии и найполезнии Уредба."

<sup>53</sup> Уредба о чиновницима, Сборникъ законъ и уредба, и уредбены' указа, изданы' у Княжеству Србскомъ, одъ Априла 1840. год. до Конца Декембра 1844. г. II/1845, Београдъ: Књигопечатња Княжества Србскогъ, 165–175.

school), the Lyceum (forerunner of the University of Belgrade)<sup>54</sup> and the Theological School, starting in 1843 (Art. 5). Finally, no such young man, from the same date onwards, could be taken as an apprentice in any craft or employed in a store; the master or merchant who violated this rule would be fined between one and five thalers (Art. 6).<sup>55</sup>

As a final and most restrictive measure, it was proclaimed that a person who had not obtained immunity to smallpox could not marry – in cities from 1843, in villages from 1844.<sup>56</sup> Any priest who married a couple without having asked for and received proof of their immunisation would be strictly accountable to the ecclesiastical authorities (Art. 7).

Finally, officials, priests, physicians and village elders who showed particular fervour in the action of inoculation would be given a commendation by the government, and possibly, “according to circumstances” (*no обстоятелствима*), also a “decent” (*пристойна*) reward (Art. 8). The mention of circumstances (absent in the original draft) might mean either that rewards would be given only to those individuals in whose cases the circumstances merit it (i.e. who distinguish themselves to the highest degree), or that they would be given if financial circumstances allow it – or both.

As mentioned before, a number of these measures originate in the Austrian Regulation of 1836: whatever had caused those measures to be omitted in 1839 was no longer a strong enough reason in face of the facts. It is worth noting that the draft submitted on 11 March contained another provision (positioned as Art. 7 there – i.e. before the mention of rewards) that was supposed to authorise the district chiefs to impose quarantine on houses where smallpox appeared, starting from 1843 – closing them and forbidding any outside contact for as long as the pox was in the house.<sup>57</sup> Since we have seen already that isolation was sometimes practiced even before the Rules were passed, one might speculate that this provision was

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<sup>54</sup> On the structural and organizational changes in this main institution of higher education in modern Serbia, see Mirković 2008, Mirković 2014.

<sup>55</sup> The original draft suggested only judicial responsibility; the concrete height of the fine was added in the final version.

<sup>56</sup> The original draft contained a simple provision proposing “that no such person be permitted to get married” (“ни едномъ оваквомъ лицу да се не дозволи венчати се”). The delay of application of this norm and the penalty for priests were introduced later.

<sup>57</sup> “Окружимъ Началничествима да се даде властъ, да оне куће, у којима бы се одъ почетка 1843. год. природне богинь появили, подъ затворъ стави и сваку мешавину съ ньоме за време докле годъ богинь у нъой существовале буду, прекрати и забрани.”

considered too restrictive considering that people often would introduce similar measures themselves, if practically possible, and that in cases where there were practical problems with imposing quarantine the provision would remain useless.

## 8. THE MEASURES IN PRACTICE

### 8.1. The Overall Progress

The period after the passing of the Supplement shows mixed results. On the one hand, some of the new measures managed to take hold, and the renewed effort to advertise and spread vaccination yielded some results. On the other hand, it was not easy to dispel the scepticism and fear of the vaccine in some circles, particularly among the uneducated rural population, and the Department of Public Health was still understaffed.

Already on 17 May 1842, the chief of the Smederevo District reported the following to the Ministry of Internal Affairs. Although in a previous report, of 3 October 1841, he had reported that the people of his district were not willing to let their children be vaccinated, now the district physician and the chief's assistant were sent to two villages (Cerovac and Bašin) where, using the matter from Kragujevac, they successfully vaccinated everyone who had not had the smallpox, and then did the same with a few children in two more villages. The chief expressed his firm belief that all the villages in the district would follow this example and that the task would thus be successfully accomplished (AS: MUD-S, I-39, 1031/1842).

Nevertheless, opposition still existed, showing that the popular attitude towards vaccination was slow to change. In a letter of 2 June 1842, to the Administration of the Belgrade District, the Ministry states that it had discovered that the vaccination effort was being undermined by some "ill-minded people" (*зломишљњника*), who destroyed the cowpox pustules on the seventh or eighth day after the inoculation, so matter for further vaccinations could not be taken from them. The Ministry instructed that such people be arrested and delivered to the local court of the peace as violators of Art. 6 of the Rules (AS: MUD-S, I-39, 1054/1842).<sup>58</sup>

Qualified medical personnel that could perform the vaccinations were still in short supply. On 11 June 1842, the Administration of the Crna Reka District reported an epidemic of smallpox both in the district centre (Zaječar) and in several villages, with multiple children having died. They

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<sup>58</sup> The fact that the text of the article is quoted in the letter might be indicative of the Ministry's expectations regarding the local officials' knowledge of the law.

implored the Ministry to have Dimitrije Kaparis, the district physician of the Požarevac District, sent to their district to inoculate the population, as he was the physician of the neighbouring district, and had successfully performed inoculations in several districts. On 17 June the Ministry wrote back, recommending that Kaparis (here referred to as the surgeon of the Požarevac District) be sent to Zaječar to perform the inoculations. If he had not yet finished the job (of inoculation) in the Jagodina district, they were advised to tell him to finish it as soon as possible and then to take over the task in Crna Reka District without delay (AS: MUD-S, I-39, 1176/1842).<sup>59</sup>

However, the work must not have proceeded at the desired pace, as the district chief replied on 23 June that the doctor had not finished the vaccinations in his own district (*Ibid.*, 1281/1842). A letter from the Ministry to the Administration of the Jagodina District, dated 10 July, shows that Kaparis had not yet been sent to Zaječar to perform vaccinations. The Ministry urged that this be done immediately if he had finished his work in the Jagodina District, and that he should speed up his work if he had not (*Ibid.*, 1403/1842). Finally, on 22 July the district chief reported to the Department of Health that Dr Kaparis has finished the inoculations in the Jagodina District on 16 July but that he would stay there until the 26 July in order to examine the children after vaccination and to rest, after which he would head to the Crna Reka District (*Ibid.*, 1491/1842).

Another example of medical personnel being stretched thin can be seen in a letter from the Ministry to the Administration of the Smederevo District, dated 22 March 1843. The Ministry sent 6 glass tubes with vaccine matter, recommending that they be immediately given to the district physician so that he could begin with the inoculations. The overall progress of the vaccination effort, including the change of the popular attitude towards the procedure, is painted in colours that sound somewhat too bright, given the overall picture,<sup>60</sup> but the Administration was still reminded to advertise the Rules

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<sup>59</sup> A stock of administrative supplies – 900 fedas and 20 reams of vaccination protocols were also sent to the district on this occasion, to be used by Kaparis in his work. Similar letters ordering the despatch both of administrative vaccination papers and protocols, as well as vaccine matter, were preserved in other instances as well; no major changes seem to have been made in this respect. See e.g. AS: MUD-S, I-39, 1504/1842; II-13, 512/1843, III-13, 1528/1846.

<sup>60</sup> “Inoculation has been underway for several months now almost everywhere in our Fatherland, which is greatly desirable, given the fact that the physicians are doing the said job well, and that people everywhere, even in the Rudnik and Čačak districts, where it has never been performed or known, eagerly ask for inoculation and gladly receive it, and even gives thanks for being thus protected from the misfortune and pestilence of the pox.” (“Калами се одъ више месьци готово свуда по нашемъ Отечеству, и то одвѣтъ пожелателно, по томе, што

and Supplement to the people in cooperation with the clergy, to strengthen support for the vaccination. However, it also instructed that, if smallpox had not yet appeared in the district and the vaccination could wait, the physician could commence with it in the Ćuprija District first, as the need was greater there, and only then return to Smederevo; the Administration was instructed to immediately notify the Ministry if that was possible, so it could order the procedure in the Ćuprija District (AS: MUD-S, II-13, 512/1843).

Mistakes during vaccination still happened in practice. On 3 July 1842, the Administration of the Belgrade District reported to the Ministry that two children in the village of Grocka, who had been inoculated with cowpox, had fallen ill with the natural pox 20 days later, and that one of them had lost its sight (AS: MUD-S, I-39, 1073/1842).<sup>61</sup> A later report, dated 11 June, specifies that the boy in question did not go blind, but merely could not open his eyes due to the pox on his face, and that he had recovered in the meantime. However, three more children who had been inoculated were reported to have fallen ill, one on the eighth and two on the fourteenth day after the procedure (*Ibid.*, 1196/1842). The details of the case do not provide information whether the cowpox had been fresh, whether the physician omitted to perform the necessary examination afterwards, etc., but either way this shows that the logistical problems still existed, undoubtedly at least partially caused by the insufficient number of personnel.

Although the preserved documentation is fragmentary, the vaccination reports do seem to be more routine in the subsequent years, and cases of people getting the pox despite being inoculated no longer appear (e.g. AS: MUD-S, III-35, 803/1843; III-13, 1625/1846).

Nevertheless, reminders for the application of the Rules were still frequently needed. For example, when the district physician of the Belgrade district, Dr Šteker, was about to commence inoculation in the Turin-Kolubara County, where this procedure had not been previously performed by any physician,<sup>62</sup> the Ministry of Internal Affairs sent a letter to the administration of the district (on 21 August 1842), recommending that they follow Article

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*лъкарима исты посао добро за рукомъ иде, и што народъ свуда, па јоштъ и у Рудничкомъ и Чачанскомъ окружию, гдѣ нигда то не рађено и познато было, тражи жельно каламљнь и радо га прѣма, па и благодари, што се њимъ одъ несреће и помора крављи (sic) богиня сачувава “)*

<sup>61</sup> The letter uses the word *обневидело*, which could imply both a permanent and a temporary loss of vision.

<sup>62</sup> “*гдѣ до сад никако лъкаръ каламио не*” This could imply either that no inoculations were performed at all, or merely that they were performed by self-taught individuals – though in the latter case, it is possible that only variolation was carried out.

8 of the Rules of 1839. Namely, that the district chief himself accompany the physician on the first visit in the county and try to persuade the people “in a nice way” (*лепимъ начиномъ*) to accept the new means of salvation from the pox, and only after the people develop the needed degree of respect for the procedure, would the district chief be allowed to leave the physician in the hands of the county chief, ordering him to be at hand to help the physician vaccinate as many people as possible (AS: MUD-S, I-39, 1661/1842).

On 16 January 1843, the Ministry wrote to the Government of the City of Belgrade, claiming that it had discovered that many children and even adults in the city were suffering from smallpox, and recommends that it call upon the people to vaccinate their children, especially through the city officials (*посредствомъ кметова и обштинара варошки*). It was further told to instruct the people that they could visit both the city physician and the garrison surgeon for this purpose, but also to remind them of the Rules and Supplement and the consequences for those who break them (AS: MUD-S, I-8/1843). Similar reminders exist in the correspondence with other local administrations.<sup>63</sup>

Groder wrote in his notes that the Supplement was of great help in securing the effectiveness of subsequent vaccinations, both directly and through orders by the minister of internal affairs and minister of education, that were repeated every year. He particularly underlines the provisions ordering officials and elders to provide an example by having their children vaccinated first. He concluded “And so it was. The inoculation proceeded entirely according to the law, as correctly and as successfully as it could be”.<sup>64</sup> It was only a decade or two later that a lax attitude towards vaccination reappeared, as the absence of smallpox reduced the fear of it in the general population, while officials started thinking too highly of themselves to attend vaccinations in person and keep promoting the cause – which led to a resurgence of smallpox in the 1870s and early 1880s (Mihailović 1951, 166–167). While this period, beyond any doubt, merits further research as well, analysing it in depth falls outside the scope of this article.

## 8.2. Financial Concerns

The vaccination fee was also an issue of some relevance, as it was also a deterrent to the procedure, at least as far as the poorer families were concerned. Although the Rules did foresee exemption for those who could

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<sup>63</sup> See e.g. AS: MUD-S, II-13, 512/1843.

<sup>64</sup> “*Tako i bi. Pelcovanje je išlo sa svim po zakonu, da nemože biti ispravnije ni uspešnije.*”

not afford the procedure, it was in all likelihood not so easy (and potentially shameful) to prove. Also, many poor families who were technically *able* to pay must not have considered a medical procedure of doubtful relevance and safety (from their point of view) to be the best way of spending their otherwise scarce means.

This issue was already noticeable in the first years of vaccination. For example, a letter from the chief of the Požarevac District to the Ministry on 12 April 1841, claims that the district physician was only then sending his vaccination protocols for 1840, as he could not complete them sooner, since not all the fees had been paid (AS: MUD-S, III-144, 1364/1841).

Even some officials considered the fees to be high: on 10 March 1843, the Administration of the Podrinje District petitioned the Ministry for citizens to pay only half a *cvancik*, as the villagers did. The Ministry took this appeal to heart and forwarded the initiative to the State Council, explaining how many city-dwellers were no richer than villagers, particularly as city life involved more expenditures than country life, and that even half a *cvancik* would be enough for the physicians, given the large amount of work. The Council and prince supported the initiative and the fee was unified on 23 September 1843 (Mihailović 1951, 172–173).

However, on 8 December 1843, the Council made an additional suggestion to the prince: to make the physicians inoculate the poorest for free, instead of those expenses being covered by the budget. The argumentation is slightly contradictory, claiming, on the one hand, that the existing provision could allow for abuse at the expense of the state, and on the other, that such a change would not cause much loss to the doctors, who had a steady regular salary. The prince asked for the opinion of the Ministry of Internal Affairs, which was opposed to this, pointing out that Serbian physicians were already paid less than their colleagues abroad, that there were means for preventing and persecuting abuse, and that the high numbers of fees charged would drop in a few years, when most adults will have been vaccinated and only newborn children would need inoculation, further reducing the physicians' income. The Council was again consulted and fought against this argumentation, claiming – again somewhat contradictorily – that it would not delve on the matter of comparative salary levels of physicians in Serbia and abroad, but that Serbia spent more from the budget on said physicians than any other European country, and that the better economic standing of the population and different civil relations in other countries allowed physicians to support themselves without any salary from the state. The Council then suggested a different change – that *all* persons be required to pay half a *cvancik*, without any exemptions for the poor. As they reasoned, persons so destitute that they could not pay such a small fee were certainly few – “and if someone

truly dwelled in such great poverty, that he is unable to pay this insignificant fee, then surely the doctors will have enough humanity to absolve him of it, as must be expected from educated people, who are, after all, sufficiently provided for in regard to their living”<sup>65</sup> (*Ibid.*, 173–177).

This letter cannot but be called presumptuous, but despite this (or possible *because* of this) the prince did not reply to it for a long time. The Council’s opinion is dated on 4 April 1844; it was only more than a year later, on 22 August 1845, that he sent a brief reply, calling the Council’s argumentation one-sided and weak. The matter was resolved only indirectly, but to the Council’s liking: the budget for 1846 prescribed a raise for physicians, while allotting no funds for the vaccination of the poor (*Ibid.*, 177–178).<sup>66</sup>

### 8.3. How the Clergy Could (Not) Help

While we have already seen in several examples that the role of the priests in convincing the wider population to vaccinate their children was by no means negligible, their function as record-keepers, prescribed by the Rules, could not be readily realised in practice. This was brought to the attention of the authorities in the summer of 1842.

On 23 July the Administration of the Šabac District wrote to the Consistory of the Šabac Eparchy, asking for the clergy to compile a list of uninoculated people in the district (according to Art. 13 of the Rules), writing in very pompous and dramatic language about people who, to their own detriment, would not say which of their children had not been inoculated or had had the smallpox. It also asked that the priests frequently remind their congregations not to omit having their children inoculated and thus put them in grave danger, in accordance with the same article (AS: MUD-S, I-39, 1654/1842).

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<sup>65</sup> “а баш ако се ко и налази у таквом великом убожеству, да ову незнатну таксу платити у стању није, то ће ваљда лекари имати доста човечности да му такову опросте, као што се то мора очекивати од људи изображени, и кои су у осталом довољно за њиово уживљење снабдевени.”

<sup>66</sup> Only in 1859 – after the return of Miloš Obrenović to the throne – was this provision changed again, and every municipality was made to pay the fee for its poor residents. (Уредба којом се прописују нека правила за каламленѣ богиња. Сборникъ закона’ и уредба’, и уредбены’ указа’, изданы’ у Княжеству Србиі. (Одъ почетка до конца 1859. године). XII/1859. Бѣоградъ: Правителствена књигопечатња, 39).



The Episcopo Maksim Savić of Šabac, replied on 31 July 1842, reporting that all the priests in the eparchy had already been instructed to let their children be inoculated first, as well as to encourage their parishioners to inoculate their children. However, in response to the Administration's demand to provide a list of people who were not inoculated, he claimed that the Consistory is unable to comply, as it was seen that priests had no information of the fact other than from the protocols of the baptised, where more or less only newborn children were listed, and no distinction was made between the children who had had the natural pox and those who had been inoculated. (Obviously, this latter part of the argumentation was faulty, as those who had already had the pox did not need to be inoculated against it.) Thus, the Consistory believed that the *kmets* and courts of the peace could produce such lists more easily.<sup>67</sup> The letter also remarks in passing that the eparchy did not receive the Rules from the ecclesiastical authorities. Finally, if any priests were caught agitating against vaccination in any way, the district physician was encouraged to press charges through the lay authorities before the ecclesiastical courts (*Ibid.*)

The Administration then forwarded a copy of its own letter and the Consistory's reply to the Ministry, stating that it was now uncertain as to whether and how it was required to obtain a list of uninoculated people and asking for further instructions. It also requested that the Rules be sent to the Consistory, so it could distribute them to the priests and thus enabling them to play their role in the vaccination effort (*Ibid.*)

In response to this, on 21 August the Ministry of Internal Affairs wrote to the Ministry of Education (which was also in charge of ecclesiastical relations), relating the situation. A passage saying that the Ministry of Internal Affairs had sent 200 copies of the Rules to the Ministry of Education on 16 August 1839, has been struck out in the draft of the letter and replaced with one underlining that the Ministry of Internal Affairs has written confirmation from the Ministry of Education that it had received the said 200 copies and that it has not omitted to forward the necessary number to the Consistory to distribute to priests. Still, the Ministry continues, it suspects that the Rules could not be forwarded to the Šabac Consistory due to an insufficient

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<sup>67</sup> In addition to that, it is stated that the eparchy could only send such a proclamation to the priests in all three districts that belonged to it (and not just the Šabac District), which it was not authorised to do without instructions from higher ecclesiastical authorities.

quantity of copies, and thus asked for an estimate of a further number of copies that would be necessary so the Rules could be distributed to the priests (AS: MUD-S, I-39, 1654/1842).<sup>68</sup>

On the same day, the Ministry replied to the Administration of the Šabac District, informing it that although Article 13 of the Rules did specify that it was the priests' duty to forward the lists of uninoculated people to the civil authorities, they were unable to do so at this moment, while the number of uninoculated adults was still higher than that of the inoculated ones, and thus this duty could not be demanded of them at that time. Only when the number of inoculations in Serbia had grown to the point that only recently born children had not yet been inoculated would the priests be able to perform this duty, by forwarding lists of recently baptised children. The Administration was also informed that the Ministry had written to the Ministry of Education regarding the copies of the Rules, and that it hoped that they would soon be sent to all priests in the Šabac District, if they had not received them previously (*Ibid.*)

The case as a whole is illustrative of administrative miscommunication fairly typical for the time. While the idea of priests notifying the civil authorities of newborn children who had not yet been vaccinated was a legitimate one in a state where the Church was the only institution that kept birth records, the execution was faulty. No one had been notified that the priests' duty was not to begin until a certain vaccination rate had been achieved – if that had, in fact, been the original plan, and not a *post factum* realisation that the provision had been unrealistic beforehand. Furthermore, even as a half-measure, the forwarding of lists of baptised unvaccinated children still could have been useful, but not even this possibility was utilised. In all likelihood, the number of vaccinators was still too low for them to be able to functionally make use of such information while large masses of the population still remained unimmunised. Even the priests' role in promoting vaccination, while enacted in many cases, could have been made more efficient had copies of the Rules and clear instructions been sent on time.

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<sup>68</sup> It is worth noting that the Supplement was sent to the Ministry of Education on 23 May 1842 – before this correspondence – in 500 (and not 200) copies, to be sent to priests and courts (AS: MPS-P, IV-263, 832, 846, 1404/1842). There may have been earlier indications of the aforementioned problem, which led to the increase in the number of copies; perhaps the persons in charge simply made a better calculation this time, or more funds were allotted to the printing of the act.

#### 8.4. Healthily Ever After?

Of all the restrictive measures introduced in the Supplement, the requirement of a vaccination certificate is probably the most extreme. After all, in the other cases (of students, apprentices, and the never explicitly prescribed, but tacitly present soldiers), an individual entered a collective of people who might not be interested in their particular company, but who might be endangered if they brought the contagion of pox into their midst. In the case of marriage, two persons made a conscious decision to create a family with one another. While the restriction could certainly be considered in the interest of their children (or in-laws, for that matter – also a relevant factor in a period when most families were large cognate groups), the intervention nevertheless reaches much further into the private sphere. The lawgiver was obviously aware of this, since an additional year of *vacatio legis* was left for the implementation of this norm in rural environments (where it would certainly be harder to enforce) – the only exception of this sort in the whole Supplement.

The church protocols of the married from the period do not reflect this obligation in any way: the same printed form was used as before, in which the details of the newlyweds were filled in by hand. The closest thing that the form does contain is a general formulation that no obstacles to contracting the marriage had been found (IAB: CMK). While originally meant solely for matrimonial impediments acknowledged by canon law, this could have been extended in interpretation to include the *fedas* that the groom and bride had to submit to the priest.

Although we have no factual knowledge of the “obstacles” being interpreted in such a way, there is no doubt that the provision was applied in practice, because the deputies of several areas (a total of eight petitions by deputy groups at different administrative levels) at the Saint Andrew Assembly of 1858 complained about it and asked for it to be abolished (Radenić 1964, 70, 91, 99, 133–134, 137, 145, 164). The level of detail in those petitions varies from a brief, unexplained demand for the certificates needed for marriage to be abolished, submitted by the Dragačevo County, to elaborate and slightly dramatic descriptions of the problem in several other petitions. However, the key cause for all of them seems to be that the future spouses frequently had to travel fairly far (i.e. from their home village to the physician in the district centre – a journey of 16–17 hours is mentioned in one petition), which not only involved expenses and a waste of time, but was also considered indecent for young unmarried (betrothed) girls, particularly if it involved spending a night in an inn, as they were notorious places of ill

repute. This could tarnish a girl's reputation and bring shame to her family.<sup>69</sup> The petition of the Rača County also mentions future spouses who did not have the certificates being "squeezed" (*isceđuju*) for extra fines, since the priests knew well that the peasants respected their rank so much that they would rather pay even five or ten times more than they owed than press charges – suggesting demands for bribes and extortion. It is worth noting that the vaccination as such was no longer questioned. In response to this, Art. 7 of the Supplement was abolished on 24 January 1859, replaced with an order to house elders and police authorities to ensure that children were inoculated on time.<sup>70</sup>

As Radenić (1964, 14) points out, many of these problems could have been resolved simply through better organisation. The logistics could have been resolved in a way simpler and less demanding for the average person, and obviously there were insufficient safeguards against abuse – which, again, could be generally considered a flaw of the administration during the period in question, and not specifically of the smallpox regulations. However, the very fact that this provision was (at least in principle) enforced in practice must have contributed to the overall vaccination rate.

We have not succeeded in obtaining information regarding the application of all the measures prescribed by the Supplement. For example, no information was readily available regarding the demands for *fedas* for students and scholarship beneficiaries. The documents from the Ministry of Education collection that deal with stipends and admission contain lists of students, sums and administrative trails of their payment for every month, etc., but no mention of whether the students had submitted their vaccination certificates.<sup>71</sup> However, this is no proof that certificates were not required, but merely that no explicit record of their existence was kept in these archives, focused as they were on the financial aspect of the

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<sup>69</sup> A part of this issue was that vaccinators were obviously no longer travelling to every village. While the petition from the Smederevo District suggests that doctors should come to every village with a population of more than 100 to vaccinate children and simultaneously issue certificates (while people in smaller villages would travel to the nearest larger one), it appears that the increase in vaccination discipline in the meantime allowed for it to be moved to larger centres.

<sup>70</sup> Уредба, којом се укида 7-ма точка уредбе одъ 7. Мая 1842. год. да момцы и девојке имаю при венчаню подносити свештеницыма феде да су богиняма пелцовани. *Сборникъ закона' и уредба', и уредбены' указа', изданы' у Княжеству Срби. (Одъ почетка до конца 1859. године).* XII/1859. Бѣоградъ: Правителствена књигопечатња, 19–20.

<sup>71</sup> The folders of documents we have managed to go through were the following: AS: MSP-P, IV-263/1842, II-81, II-82, VI-495/1843; I-5, I-40, I-42, IV-53/1844.

scholarships. It is equally unlikely that individual student files would contain anything of the sort, as the certificates would only have been submitted for inspection, and not given to the organs of the Ministry. Unfortunately, the scope of this research did not allow for a deeper investigation of these files or the archives of the educational institutions from this period; the same goes for the admission of apprentices. While further research in this area would provide a valuable piece of the puzzle, we are inclined to presume that the provisions were indeed enforced, since the much more problematic provision regarding marriage was.

## 9. CONCLUSION

The first decades of vaccination against smallpox in Serbia provided numerous obstacles. The population, mostly uneducated, was sceptical and fearful of the new procedure. The administration that was supposed to manage it had not yet been firmly built and was prone to omissions. Worst of all, there was a great shortage of educated medical staff needed to perform the vaccinations.

However, in this context, the legal response to the situation can be praised for its quality, efficiency and adaptability. Given the fact that Serbia had only achieved its autonomy within the Ottoman Empire in 1830 and that its overall development was stunted by four centuries of Ottoman rule, the introduction of a legal framework for vaccination in 1839 seems to be quite timely. The Austrian Regulation of 1836 was a reliable, high-quality template for the Serbian act, but it was also well adapted to the local circumstances – both in the sense that the text was shortened and simplified without the quality seriously suffering, and that material modifications were made to account for the more difficult circumstances, such as the decision to allow skilled practitioners without formal education to take part in the vaccination, upon approval by a formally educated doctor.

The restrictions for the unvaccinated persons in the Supplement might seem drastic to the modern reader – after all, are not similar restrictions the subject of heated debate now, almost two centuries later, in the midst of the COVID-19 pandemic? However, several factors must be noted here. Firstly, the measures were not invented by the Serbian government: they were inspired by the Austrian Regulation. Secondly, the government first tried to make do without them: none of the more extreme measures made it into the Rules – it was only after the first norms proved insufficiently effective that they were added. And thirdly, and perhaps most importantly, they proved efficient in practice, and the spread of smallpox was stopped.

But not forever: as we have briefly remarked in the final section, the lax attitudes towards vaccination in the subsequent decades led to a decrease in vaccination rates and the resurgence of the pox. That, too, could be taken as a valuable lesson for modern times. Nonetheless, it certainly is (and hopefully will be) a subject for further research.

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Славено-Сербская Печатня Кралевскаго Всеучилища Пештанскаго. (Mitropolit Stefan. 1804. *Nastavljenje o kravijih ospah, radi istrebljenja prirodnih ospic, koje po vsevisočajšemu poveljenju, Arhijepiskop Karlovačkij, i Mitropolit Stefan, serbskim roditeljem, i starešinam preporučajet.* Pešta: Slaveno-Serbskaja Pečatnja Kraljevskago Vseučilišča Peštanskago)

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