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Laine, Esko

Ljungberg, Johannes; Sidenvall, Erik

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New medical knowledge in the parish: mass vaccinations in rural Finland, 1802–1825

Esko M. Laine

A smallpox epidemic raged throughout Finland in the late eighteenth and early nineteenth centuries.[1] Most of the available statistical information about it is based on annual reports (*tabeller*) from the parishes, written by the local clergy. From 1749 onwards, rectors in every parish were obliged to record annually, as exactly as possible on a printed form, the number of infants born and deceased persons in each parish, categorized according to age, gender and social status. As such, the documentation requested and administered by the Swedish Table Office (*Tabellverket*) is considered to be among the world's oldest demographic statistics.[2] The clergy were responsible for reporting demographic data from their parishes to the Commission of Statistics (*Tabellkommissionen*), which operated under the Royal Chancery (*Kanslikollegium*). Besides the number of persons deceased, clergymen were supposed to record the causes of death, the ages of women who gave birth and the character of recent accidents. Pastors were also expected to make notes on weather conditions, the quality of crops and the circumstances of farming in general.

1 Markus Brummer-Korvenkontio, *Virusten ja prionien luonnonhistoriaa: Myyräkuumeesta SARS: iin, Ebolasta AIDS:iin ja arboviruksesta lintuinfluenssaan*. (Helsinki: Helsinki University Press, 2007), pp. 45, 61–2; Susanne Hakkarainen and Henna Sinisalo, *Tappava tauti, pelätty pelastaja – isorokon ja rokotuksen historiaa* (Helsinki: Suomen lääketieteen historian seura, 2012), pp. 140–1; Johanna Viitaharju, 'Rippikoulun käynyt ja rokotettu', http://kulperi.blogspot.com/2020/11/rippikoulun-kaynyt-ja-rokotettu.html [accessed 1 November 2021]. In 1980 the World Health Organization declared smallpox to be the first epidemic whose natural strain has been totally defeated.

2 Peter Sköld, 'The birth of population statistics in Sweden', *The History of the Family*, 9:1 (2004), 5–21.

The idea of annual reports from parishes originated in the lively discussion about national resources that took place in mid-eighteenth-century Sweden. There was not only anxiety about the decline in population after the great famine from 1696 to 1698 and the plague epidemics that lasted until the 1710s; the debate also reflected the new European interest – which grew steadily throughout the eighteenth century – in taxonomy as a new form of information. Statistics helped not only to classify detailed information but also to handle large amounts of it, enabling conclusions and demographic comparisons between different areas. Beyond its practical use, all this information in itself was considered valuable. In collecting and utilizing this data, the Table Office had something in common with the extensive encyclopaedias of the *philosophes*.[3]

The annual reports submitted by pastors prove that smallpox varied significantly from year to year and from one parish to another. In 1799 the total population of Finland was about 830,000. That year almost 6,000 individuals died of smallpox in Finland out of a total number of deceased persons of around 22,600. In many parishes, such as Lappeenranta, Janakkala and Lapua, smallpox was the most frequent cause of death in 1799.[4] Occasionally, the annual toll was less than 1,000 individuals, but in 1803 nearly 7,200 persons died of the disease. A good thirty years later, in the late 1830s, the number of victims was nearly the same, 7,000. The disease was endemic and highly contagious. Most of the victims were infants, small children or young people, which accentuated the significance of inoculation of babies and young children.[5]

3 Thomas Ihre, *Abraham Bäck: Mannen som reformerade den svenska sjukvården* (Stockholm: Atlantis, 2012), p. 65; Elina Maaniitty, 'Befolknings- och folkhälsofrågornas framväxt i Sverige på 1700-talet', *Historisk tidskrift för Finland*, 105:4 (2020), 441–69 (445–9).

4 Mikkeli, Kansallisarkisto Mikkeli (KM), Lappeenranta seurakunna arkisto ('parish archive', SeA), Kuolleet 1786–1801, I C:3, p. 174; Hämeenlinna, Kansallisarkisto Hämeenlinna (KHä), Janakkala SeA, Väkilukutaulukot 1749–1844; Vaasa, Kansallisarkisto Vaasa (KV), Lapua SeA, Väkilukutaulukot 1774–1877, II Df:4.

5 Stockholm, Riksarkivet, Collegium Medicum, E 3 Årsberättelser från provinsialläkare, IV (1801–1807); Bertel Bonsdorff, *The History of Medicine in Finland 1828–1918* (Helsinki: Societas scientarum fennica, 1975), p. 91; Seppo Koskinen and others, *Suomen väestö* (Gaudeamus: Helsinki, 2007), p. 61; Frank M. Snowden, *Epidemics and Society: From the Black Death to the Present* (New Haven, CT: Yale University Press, 2019), pp. 89–90.

From 1804 onwards, local clergymen started to make preliminary notes in the margins of the annual reports concerning vaccinated individuals in their parishes.[6] In 1807, in order to help the clergy identify a proper practicable vaccine, the chapter of Porvoo diocese sent illustrations of 'genuine' and 'not-genuine' vaccines to the parishes.[7] From the outset, the vaccination project was a typical phenomenon of the Enlightenment in that it was based on new, experimental knowledge. In 1796 a British country physician, Edward Jenner (1749–1823), invented a new method of vaccination based on his observations on a self-limiting disease, cowpox, which was caused by another orthopox virus closely related to smallpox. Jenner was the first physician to use this virus type as a prophylaxis against smallpox. Thanks to Jenner's observations, patients no longer needed to contract smallpox itself, either naturally or via inoculation, in order to achieve immunity.[8] The first person in Finland to perform a vaccination with cowpox vaccine instead of variolation was Anders Boxström (1766–1849), who served as acting district physician in Turku in 1802. Vaccine taken from cowpox was called 'not-genuine'.

6 Gösta Lext, *Studier i svensk kyrkobokföring 1600–1946* (Gothenburg: Göteborgs universitet, 1984), pp. 92, 135–6, 177, 212, 322–3.

7 Turku, Kansallisarkisto Turku (KT), Huittinen SeA, II Df: 3.Väkilukutaulut 1805–1850; Joensuu, Kansallisarkisto Joensuu (KJ), Kuopio SeA, II Bk: 3. Aidolla rokotteella rokotettujen luettelo 1848; KM, Käkisalmi SeA, Rokotusluettelo 1845; Porvoon tuomiokapitulin kiertokirje joulukuussa 1807, as reprinted in A. J. Hornborg, *Sammandrag af Domkapitlets i Borgå härförinnan otryckta Cirkulärbref (1725–1829) i alfabetisk och kronologisk följd utarbetadt* (Borgå, 1872), p. 263; Heikki S. Vuorinen, *Tautinen Suomi 1851–1865* (Vaajakoski: Tampere University Press, 2006), p. 162. In Swedish, the variolation method was called *ympning med skyddskoppor* ('grafting the protective poxes'), Jenner's method of vaccination. In Vanaja the pastor recorded in 1804 that eight children were inoculated (*ympade*). The next year, 1805, he used the word 'vaccination'. Whether or not this indicates a change from variolation to Jenner's method is impossible to know, however; KHä, Vanaja SeA, Väkilukutaulukot 1749–1805.

8 Elizabeth A. Fenn, *Pox Americana: The great smallpox epidemic of 1775–82* (New York: Hill and Wang, 2001), p. 33. 'Inoculation' is the accurate term for variolation and vaccination by Jenner's method. Inoculation in the sense of implanting the germs of a disease to produce immunity is first recorded in English in 1722, vaccination as the practice of vaccinating in 1800; see Robert K. Barnhart, *Dictionary of Etymology* (Edinburgh and New York: Chambers, 2006), p. 1191. In Finnish and Swedish, the corresponding words are *rokonistutus/ympning* (inoculation) and *rokotus/vaccinering* (vaccination); Hakkarainen and Sinisalo, *Tappava tauti*, p. 139.

In the course of time, however, the meaning of that concept varied; factitious vaccines of different kinds could be called by that name.[9] Because of its utility and undeniable benefits for public health, vaccination became an essential part of a patriotic endeavour pursued by learned societies supported by the (Swedish) Crown.

The aim of this chapter is twofold: to map how vaccination of the masses was carried out in rural Finnish parishes between 1802 and 1825, and to explore in what ways the reactions of the common people reveal something about their general attitudes towards the new practice that came with the Enlightenment. The study is based on an extensive investigation of Finnish parish archives. There are two kinds of source material for a study of vaccination practices in the early nineteenth-century Finnish Church: the annual reports of pastors and vaccination records, including diaries, usually recorded by sextons.[10] The latter provide a great deal of useful information about vaccination practices and the vaccinators themselves. Vaccination records containing names, ages and the social status of vaccinated individuals before the year 1825 are preserved from twelve Finnish parishes (Iitti, Ilmajoki, Kisko, Liljendal, Liperi, Loppi, Mouhijärvi, Puumala, Sahalahti, Rautalammi, Somero and Vihti). Apart from Liperi, Puumala and Rautalammi, all were located in the southern or western parts of country. Altogether, there are twenty-seven vaccination records in digitized form from Finland from 1805 to 1927. The oldest preserved vaccination record from the year 1805 (Ilmajoki) contains, besides thirty-seven names, additional information on the age and social status of the vaccinated individuals.

Vaccination carried out in practice

In most cases, sextons vaccinated children and young people in the villages. In some parishes, low-ranking clergy participated in this

9 In some parishes the vaccinators tried to compensate for a shortage of vaccine by using vaccine taken from already vaccinated children who had developed immunity; Hakkarainen and Sinisalo, *Tappava tauti*, p. 149, and Snowden, *Epidemics and Society*, p. 87.

10 There is no equivalent term in English for the Finnish word *lukkari* (Swedish *klockare*), which has been translated as 'precentor and organist' or 'sexton'. Besides singing and assisting the pastor, other duties of the *lukkari* included teaching small children and various other services. In this chapter, the term 'sexton' best reflects the role of the *lukkari* as performing various ecclesiastical assignments and as vaccinator.

work as well. In Kannus (Mid-Ostrobothnia), for example, the sexton Jacob Nikander and the chaplain Johan Gabriel Borg together vaccinated 264 children in one summer. In Vihti (Uusimaa), the chaplain Adolph Bäckvall was in charge of vaccination. In 1807 the chapter in Porvoo advised parishes to delegate vaccination to the clergy if the sexton in a parish was unable to manage it alone. The condition for transferring this responsibility was that it could be done without hampering the spiritual duties of the clergy. In Mouhijärvi (Satakunta) the rector's wife, Catharina Polviander, got down to business by vaccinating sixty-six children in 1814 alone. According to the annual report from Suodenniemi in 1807, Madame Polviander had also vaccinated a young girl there seven years earlier.[11] In Liljendahl (Uusimaa), the parish would have preferred a midwife as vaccinator but could not afford to hire one. Therefore, the local clergy had to take care of that task themselves until 1908, when the first midwife in the area began her work.[12] In Suonenjoki (Savo), in addition to the sexton, the assistant vicar Karl Fredrik Bergh, assisted by two students, also implemented the vaccination programme in 1822 after a long wait for the vaccine.[13]

Before the vaccination, the preacher called on parishioners to enrol their children for the programme at Sunday service. His duty was limited to informing parish members about vaccination; if necessary, he encouraged, exhorted or enlightened them about its benefits. In 1803 the chapter reminded the clergy of their duties in this regard for the first time. However, it did not supply any detailed instructions as to how the clergy were supposed to carry out this task. The clergy are likely to have employed tactics similar to those of the Swedish kings in persuading the peasantry to participate in castle-building in Ostrobothnia: pointing to benefit and protection for themselves. In 1815 the Economic Society noted the difficulties the clergy were facing in advocating vaccination. It suggested that every parish should establish a committee under the pastor, which

11 KT, Mouhijärvi SeA, Rokotusluettelot 1814–1843; KV, Kannus SeA, Väkilukutaulut 1805–1877; Porvoon tuomiokapitulin kiertokirje, 23 February 1807, reprinted in Hornborg, *Sammandrag af Domkapitlets*, p. 263; Seppo Myllyniemi, *Vihdin historia 1800–1918: Vihti Venäjän vallan aikana* (Jyväskylä: Vihdin kunta, 1990), p. 243. Suodenniemi is a neighbouring parish of Mouhijärvi.

12 Anders Allardt, *Liljendals sockens historia* (Lovisa: Östra Nylands förlag, 1980), p. 370.

13 KJ, Suonenjoki SeA, Piisp. tark. pk. 4–5 August 1822, § 16.

would share the clergy's burden by dispelling the fears common people had about vaccination. If resistance against it was zealous, governors ordered civil servants to calm tempers at the parish assemblies.[14]

Before 1827, clergy could not compel parents to permit the vaccination of their children. Their authority was based solely on the ability to convince and persuade the suspicious parents by advising them. This perfectly reflects the true Lutheran belief in the spoken word as a powerful tool. In the autumn of 1802 Professor Josef Pipping, a passionate advocate of vaccination, appealed to the 'enlightened clergy' in the newspaper *Åbo Tidning*, urging them to do everything in their power to stop the spread of false rumours concerning the dangers of vaccination. He did not specify what kind of rumours he had heard, though.[15]

The sextons and the lower clergy vaccinated children either separately or, in rare cases, together. The vaccinator advised the parents to return in a week for inspection. Some parents refused to do so, however, because they feared that the vaccinator would take vaccine from the immune child in order to use it for somebody else. They believed that the use of factitious vaccine produced by vaccinated individuals would diminish the immunity in the body of the first-vaccinated child.[16]

In the event of failure, the parents were advised to return after a while. In Liljendal, for example, a one-year-old infant, Carolina Gustava, daughter of a maid, had to be vaccinated twice in 1805 because the first attempt failed. In the case of an eight-year-old boy, Isaac Andersson, the procedure had to be repeated twice after two earlier failures.[17] In some parishes, such as Sahalahti (Häme), the

14 Porvoon tuomiokapitulin kiertokirje, 8 October 1803, reprinted in Hornborg, *Sammandrag af Domkapitlets*, p. 262; Myllyniemi, *Vihdin historia*, p. 243. On persuasion techniques in early modern Finland, see Maria Julku, '"For your own benefit and defence:" persuading peasants to participate in castle building in early modern Ostrobothnia', in Kari Alenius, Maija Kallinen and Maria Julku (eds), *Tieto vai mielikuvat? Kohtaamiset, representaatiot ja yhteisöt muuttuvassa maailmassa* (Rovaniemi: Societas Historica Finlandiae Septentrionalis, 1986), pp. 115–30.

15 *Åbo Tidning*, 4 September 1802; Gunnar Soininen, 'Suomalaisen almanakan lääketieteellisistä kirjoituksista', in Kustaa Vilkuna (ed.), *Suomen almanakan juhlakirja* (Helsinki: Helsingin yliopisto, 1957), pp. 97–106.

16 Porvoon tuomiokapitulin kiertokirje, 8 October 1803, reprinted in Hornborg, *Sammandrag af Domkapitlets*, p. 262; Myllyniemi, *Vihdin historia*, p. 243.

17 KHä, Liljendahl SeA, Rokotusluettelot 1805–1822.

sexton commented on the efficiency of the vaccine in the margin of the vaccination diary. In 1816 the vaccine had not met expectations in ten cases out of forty-six.[18] It is possible that failures of these kinds diminished the peasants' confidence in the vaccination.

The youngest known vaccinated child in Finland was only six months, the oldest in her teens.[19] The vaccination of infants and young children was based on an idea that was typical of the medicine of that period: being infected under the age of four was considered a bad sign for the prognosis.[20] Most vaccinations took place in villages. In this way, vaccination made the Enlightenment tangible in the midst of everyday life for the peasantry. A sexton started in one village and later moved on to the next. The vaccination season normally began by July at the latest (but in Kisko as early as April) and continued until November, to take advantage of the best travelling conditions.[21] After finishing their work, vaccinators handed over the records to pastors who read them aloud at the parish council in the presence of adult parishioners, recording the number of vaccinated people in the annual report. The parish council confirmed that the records were correctly compiled. From 1803 to 1825, a total 37.8 per cent of children and young people in Finland were vaccinated.[22] After the first quarter of the nineteenth century, the numbers of those who had been exposed to smallpox or had been infected decreased significantly. Minor new epidemics nevertheless occurred after 1825,

18 KHä, Sahalahti SeA, Rokotusluettelot 1816–1878, 2.

19 KV, Ilmajoki SeA, Rokotusluettelo 1805–1863, 2; KM, Iitti SeA, I He: 1 Rokotettujen lasten luettelo 1811–1857. In Iitti (south-east Häme) in 1811, the youngest vaccinated child was likewise six months, the oldest four years old.

20 Rosén von Rosenstein, quoted in Martin Jägervall, *Nils Rosén von Rosenstein och hans lärobok i pediatrik* (Lund: Studentlitteratur, 1990), p. 84.

21 KM, Puumala SeA, I He: 1. Rokotusluettelot 1814–1888; KHä, Sahalahti SeA, Rokotusluettelot 1816–1878; KT, Kisko SeA, I He: 1. Rokotettujen lasten luettelo 1814–1871; KJ, Liperi SeA, I He: 1. Rokotuspäiväkirjat- ja luettelot 1815–1899.

22 Kaarlo Jalkanen, *Lukkarin- ja urkurinvirka Suomessa 1809–1870* (Helsinki: Suomen kirkkohistoriallinen seura, 1976), pp. 164–5. Besides sextons and district physicians, midwives and lower clergy also practised vaccination; Oiva Turpeinen, 'Lastensuojelu ja väestökehitys: Lastensuojelun lääkinnällinen ja sosiaalinen kehitys Suomessa', in Panu Pulma and Oiva Turpeinen (eds), *Suomen lastensuojelun historia* (Helsinki: Lastensuojelun Keskusliitto, 1986), pp. 269–470 (pp. 334–5).

but the vaccination of children between 1803 and 1825 had a crucial impact on the development of smallpox in Finland.[23]

Before turning to the implementation of the vaccination policy in rural Finnish parishes, the medical debate with a focus on variolation in eighteenth-century Finland and Sweden should be considered.

Variolation as an instrument against smallpox

Inoculation had been utilized for hundreds of years in Asia and Africa, but the method was almost unknown among Europeans until the early seventeenth century. The procedure consisted of deliberately implanting the live *Variola* virus in an incision on the patient's hand or arm. The inoculator sucked up vaccine from a pustule on a person who was infected but still in relatively good condition. Then, with the parents' permission in the case of children, he applied the vaccine evenly to the skin. English physicians reportedly used the variolation method by the 1720s. In Finland, Herman Dietrich Spöring (1701–1747), who had been appointed professor of medicine at the Academy of Turku in 1728, mentioned this treatment for the first time as early as 1737.[24]

The first variolation experiment in Scandinavia was performed by Professor Johan Haartman. He used this technique to protect young Maria, daughter of his predecessor in the office, Johan Leche (1704–1764), on 19 November 1754. Leche's three other children, who were not inoculated, later died of smallpox. In Turku, Haartman experimentally inoculated eighty-two individuals, both gentry and common people, using variolation. At that point it became generally accepted in Finland, and from 1757 also in mainland Sweden.[25]

23 Koskinen and others, *Suomen väestö*, p. 61.

24 Fenn, *Pox Americana*, p. 32; Arno Forsius, 'Spöring, Herman Diedrich (1701–1747)', in *Biografiskt lexikon för Finland*, 4 vols (Helsinki: Svenska litteratursällskapet i Finland, 2008–2011), I (2008), pp. 628–30; 'Ylioppilasmatrikkeli 1640–1852', https://ylioppilasmatrikkeli.helsinki.fi/henkilo.php?id=U653 [accessed 1 November 2021]; *Almanacka eli ajan-tieto meidän Wapahtajam Christuxen syndymän jälkeen wuonna* (Turku, 1805), p. B 2[r]; Iréne Sjögren, *Mannen som förlängde människolivet*: *En trilogi* (Stockholm: Carlssons, 2006), p. 26; Hakkarainen and Sinisalo, *Tappava tauti*, p. 143.

25 Sjögren, *Mannen som förlängde*, pp. 32–3. The Danish anatomist Thomas Bartholin (1616–1680) displayed the variolation method in 1666 in Europe, but it did not arouse much interest in learned circles at the time.

It is recorded that the variolation method was in use during the eighteenth century, at least in Ostrobothnia, where district physicians showed a genuine enthusiasm for it. The district physician Barthold Hast (1724–1784), for example, asserted that he had vaccinated as many as sixteen thousand children there between 1768 and 1784. This personal claim, however, is unconfirmed and probably heavily exaggerated. In addition, the rector of Karleby, Anders Chydenius, was well known for his predilection for travelling around his parish vaccinating people.[26] According to the annual reports of district physicians to the *Collegium Medicum*, medical professionals in mainland Sweden in the eighteenth century were often too busy with the increasing numbers of people with venereal diseases to be able to vaccinate as much as their Finnish colleagues did, particularly in Ostrobothnia.[27]

Haartman's role model at this time was the distinguished Swedish *archiater* Nils Rosén von Rosenstein (1706–1773). In his home Dr Haartman advocated Rosenstein's cures and highly valued his views on smallpox. Rosenstein, especially in his almanacs, spoke strongly in favour of vaccination. He believed firmly that mass inoculation, combined with burying the clothes of children killed by smallpox, would enable humankind to get rid of smallpox permanently.[28]

Besides Haartman in the Academy of Turku, Pehr Gadd (1727–1797), professor of chemistry, also spoke up for inoculation. In the thesis *Om förmon af kopp-ympningens widtagande i Finland*

26 Turpeinen, 'Lastensuojelu ja väestökehitys', p. 331; Peter Sköld, *The Two Faces of Smallpox: A Disease and its Prevention in Eighteenth- and Nineteenth-Century Sweden* (Umeå: Umeå University, 1996), p. 270; Forsius, 'Haartman, Johan (1725–1787)', in *Suomen Kansallisbiografia*, 10 vols (Helsinki: Suomalaisen Kirjallisuuden Seura, 2003–2007), IV (2004), pp. 425–7; Mattia Haltia and Antti Vaheri, 'Johan Haartman – Suomen lääketieteen isä', *Duodecim*, 122:23 (2006), 2919–28.

27 For example, in Bergslagen County in Sweden, the district physician Carl Blom only vaccinated fifty people in 1771. The number of vaccinated people did not increase between 1769 and 1771; see Stockholm, Riksarkivet, Collegium Medicum, E 3 Årsberättelser från provinsialläkare, I: Årsberättelser från provinsialläkare (1769–1779).

28 Joh[an] Joh[ans]son Haartman, *Tydelig underrättelse, om de mäst gångbara sjukdomars kännande och motande genom lätta och enfalliga hus-medel, samt et litet res- och hus-apothek* (Åbo, 1765), p. 228; Turpeinen, 'Lastensuojelu ja väestökehitys', pp. 330–1; Jägervall, *Nils Rosén von Rosenstein*, pp. 78–9; Sjögren, *Mannen som förlängde*, pp. 27–33. According to Brummer-Korvenkontio, *Virusten ja prionien luonnonhistoriaa*, pp. 47–9, the variolation method was an invention by Indo-Iranian physicians.

(1763), Gadd eloquently described the intrusion of smallpox into the remotest parts of Finland. Like Haartman and Rosenstein, he considered smallpox the most damaging of all the infectious 'foreign epidemics'. He also shared their opinion that inoculation was the safest available method for relieving the symptoms of the infected and obstructing the transmission of smallpox in the population. On the basis of the learned literature of his time, he was convinced that inoculation would work for everyone equally, regardless of age, body weight or gender.[29]

Nevertheless, a comparison of the death rates of infants and children before (1751–1775) and after (1776–1800) inoculation by the variolation method in Finland shows that the differences in favour of inoculation are surprisingly small. The factual basis in which the learned scientists had believed so firmly turned out to be a disappointment.[30]

Sextons become vaccinators

Vaccination was promoted early by the Finnish Economic Society (*Finska hushållningssällskapet*).[31] Shortly after its establishment in 1797, it approached the governors asking for advice on how it could best promote vaccination efforts in the country. However, it had no staff at its command to implement the decisions made by the board. District physicians were obviously involved in the vaccination programmes from the very beginning, but in the early nineteenth century there were only twenty of them in the entire country.[32]

Besides the Economic Society, the *Collegium Medicum*, the highest authority on medical matters in Sweden, grappled with the same problem. In 1794 Swedish physicians had been discussing the idea of using parish sextons for some minor medical jobs, but

29 Pehr Gadd and Otto Bökman, *Politico-oeconomisk afhandling, om förmon af kopp-ympningens widtagande i Finland* (Åbo, 1763), pp. 5–8; Haartman, *Tydelig underrättelse*, p. 228.

30 Turpeinen, 'Lastensuojelu ja väestökehitys', p. 332.

31 Jani Marjanen, *Den ekonomiska patriotismens uppgång och fall: Finska hushållningssällskapet i europeisk, svensk och finsk context 1720–1840* (University of Helsinki: Helsinki, 2013), pp. 8–10, 14–16, 19.

32 Bonsdorff, *The History of Medicine in Finland*, pp. 22–3; Mervi Naakka-Korhonen, 'Kuu ja terveys', in Eija Starck and Laura Starck (eds), *Kansanomainen ajattelu* (Helsinki: Suomalaisen Kirjallisuuden Seura, 2007), pp. 79–96 (p. 79).

at that time it had led nowhere. Subsequently, Professor Josef Pipping (1760–1815) advocated providing that kind of employment for sextons. Unlike the majority of common people, sextons could usually read and write fluently. In addition, their duties had already been expanded from purely ecclesiastical functions towards medical tasks, as the royal edict of 1755 had required them to practise medicine as phlebotomists.[33] The governor of Savo-Karelia Province, A. H. Ramsay, agreed with the proposal. The chapter in Porvoo, however, opposed it, fearing that new obligations would disturb the sextons' 'actual duties' as teachers of children in elementary instruction and as church musicians. The chapter in Turku contented itself with merely recording the proposal without any comment. The Economic Society accepted the idea and proposed it to the King in Council. In March 1803 King Gustav IV Adolf (r. 1792–1809) confirmed the charter for sextons as vaccinators. He repeated this assent in April 1804, simultaneously with the authorization of the Economic Society as the official actor and supervisor of vaccination activities in the country.[34] In 1803 the Economic Society founded a vaccination committee, which would be in charge of vaccination efforts on its behalf. It tried to promote vaccination by rewarding sextons and clergy for every successful vaccination with a premium of 12 shillings. Each district physician was responsible for vaccination in his area. In parishes all over the country, the responsibility, in practice, was in the hands of the clergy.[35] In his study on the role of sextons in Finland between 1809 and 1870, Kaarlo Jalkanen concludes that approximately half of all vaccinators were sextons.[36] They practised vaccination in parishes for years, gradually gaining experience and polishing their often rather modest medical skills.

33 Kaarlo Jalkanen, *Lukkarin- ja urkurinvirka Suomessa 1721–1809* (Helsinki: Suomen kirkkohistoriallinen seura, 1986), p. 72.

34 Bonsdorff, *The History of Medicine in Finland*, p. 22; Jalkanen, *Lukkarin- ja urkurinvirka Suomessa 1809–1870*, pp. 161–2; Arno Forsius, *Sosiaali- ja terveydenhuollon kehitys Hollolassa ja Lahdessa vuoteen 1865* (Hämeenlinna: Lahden kaupunki, 1982), pp. 97–8; Vuorinen, *Tautinen Suomi*, p. 162.

35 KT, Turun tuomiokapitulin arkisto, A I: 29, 430. Turun tklin pk. 9 October 1799; Jalkanen, *Lukkarin- ja urkurinvirka Suomessa 1809–1870*, p. 162.

36 Jalkanen, *Lukkarin- ja urkurinvirka Suomessa 1809–1870*, p. 362.

The first parishes to implement vaccinations (1803–1804)

Vaccination by Jenner's method began earlier in some Finnish parishes than in other parts of the Swedish realm.[37] First in line was the tiny Nauvo, located about fifty-five kilometres from Turku by road and thus close to the city from which the policy was dictated. As early as 1803, a total of 308 children were vaccinated there 'without fatalities', as the pastor pointed out in his annual report. In the next year, 1804, the vaccination project got off to a good start, not only in the city of Turku but also in Pöytyä, Sauvo, Vampula, Halikko and Rymättylä (Varsinais-Suomi), Eurajoki, Suodenniemi and Vesilahti (Satakunta), Närpiö, Korsnäs and Pörtom (Ostrobothnia), Porvoo, Sipoo and Siuntio (Uusimaa), Akaa, Sääksmäki, Vanaja (Häme) and Tohmajärvi (Karelia). Apart from Tohmajärvi, all these parishes were located in western Finland. The parishes that started vaccination in 1805 included further parishes in southern Finland around Helsinki, as well as along the west coast – Pertteli, Raisio (Varsinais-Suomi), Perho, Siipyy, Veteli, Ylihärmä (Ostrobothnia), Pohja, Tenhola, Vihti, Espoo, Helsinki (Uusimaa), Hattula and Renko (Häme). These observations show that the vaccination project was surprisingly successful in the in the west and south; but the further north or east it proceeded, the more problems and obvious yet passive resistance it encountered.

A typical congregation among those parishes where vaccination began early was Pöytyä. It was small but located twenty-four kilometres from Turku. According to the annual report, the pastor recorded the vaccination of fourteen children as early as 1804. From 1806 onwards, however, vaccination seems to have ceased totally, until 1811. The explanation for this sudden break was probably the progression of the disease: in that particular year, no one died of it in Pöytyä.[38]

In the nineteenth century, the post of sexton was life-long. Nevertheless, the old sexton of Pöytyä, Matti Matinpoika Tenlund, gradually lost his ability to work. In 1779 he asked the parish to hire his son Mikko to assist him. The parish council declined this request for two reasons. The young Tenlund, unlike his father, was

37 Anto Leikola, 'Eurooppalainen luonnontiede', in Matti Klinge (ed.), *Kuninkaallinen Turun Akatemia 1640–1808: Helsingin yliopisto 1640–1990* (Helsinki: Otava, 1987), pp. 679–703 (p. 703).

38 KT, Pöytyä SeA, Väkilukutaulukot 1804–1811.

in their opinion a maverick who did not show due respect to his elders, including his own father. Moreover, his ability to read music was not satisfactory. In short, he was immature in many respects. Young Tenlund was, however, talented at bloodletting. He knew the most frequent internal diseases, and he could vaccinate. He had even extracted teeth. In addition, the younger Tenlund was known to be a good teacher. In this situation, the members of the parish council had to deliberate as to whether they should attach greater value to the skills of the old school or prefer the new. Their choice, to elect young Tenlund, reflected their preparedness for the new era and its challenges. This decision made Pöytyä one of the first parishes in the entire country when it came to vaccination.[39]

In the Province of Häme, developments were similar in outline. In Renko and Vanaja, for example, one sexton, alongside his other duties, vaccinated seventy people in the spring of 1805, and an additional seventy-three children later in the same year. During the following years the urgent need for vaccination seemed not to have been fulfilled until 1814, when the sexton again vaccinated seventy-six children in Renko in one year.[40] In Siuntio, too, in the western part of the Province of Uusimaa, the same pattern was repeated.

Parishes like Pöytyä are especially interesting in the context of the Enlightenment, because they illustrate how quickly innovations could spread in the Finnish countryside in the late eighteenth century if the circumstances were favourable. They also show how the reception of innovations was dependent on the needs of the peasantry on the one hand – that is, the practical usefulness of the new knowledge – and on the degree of activity on the part of the clergy or sextons when it came to implementing vaccination on the other.

In most cases, it is difficult to tell who was the *primus motor* behind local vaccination. Sometimes enlightened clergy encouraged sextons on their own initiative, but there were also examples of the opposite. In Oulunsalo in northern Ostrobothnia, the rector

39 Aulikki Ylönen, *Pöytyän, Yläneen ja Oripään historia vuoteen 1865* (Helsinki: Pöytyän, 1969), pp. 850–2. In Munsala in 1797, the parish granted a 'pension' to the decrepit sexton Mats Svedjelin in order to get rid of him, even though the entire concept was unknown in Church Law; see Bertel Nyholm, *Kyrkan i Munsala: en historisk översikt med anledning av Munsala kyrkas 200 års jubileum 1992* (Munsala: Munsala evang. luth. församling, 1992), p. 279.

40 KHä, Renko SeA; KHä, Vanaja SeA, Väkilukutaulukot 1804–1813; KHä, Siuntio SeA, Väkilukutaulukot 1804–1816.

recorded in the annual report that he did not know how many persons were vaccinated in the parish in 1813, because he had not received the list of vaccinated persons from the sexton.[41] Similarly unaware of vaccination efforts in their own parishes were the rectors in Elimäki in 1807, Käkisalmi in 1812, and Rautu and Hämeenkyrö in 1814.[42] In Pernaja the initiative lay entirely in the hands of the chaplain Samuel Ceder, who besides his ordinary pastoral duties at an iron mill vaccinated children in area of Pernaja and Strömfors. Instead of the rector, it was he who kept a record of vaccinated children as well. In these cases, the duties of rectors seem to have been limited to the passive recording of children vaccinated by others.[43]

What the clergy actually knew about vaccination can scarcely be studied in detail. However, it is possible to make some observations by analysing their book collections. According to Tuija Laine, the most important source of information for clergy on medical issues was a 'house-doctor' manual called *Tydelig underrättelse om de mäst gångbara sjukdomars kännande och motande* ('Clear information about the identification and prevention of the most frequent diseases'), which was written by Johan Haartman (1725–1789) in 1763. It was often found in parish book collections because the author, in 1774, voluntarily donated 1,200 copies to clergy in the dioceses in Sweden and Finland 'for the good of the common people'.[44] In this book, Haartman described the nature and progression of smallpox in four stages, conveying useful knowledge about how infected patients should be treated and medicated. Intended for those who did not have access to a physician, Haartman's book concentrated on practical advice.

Besides academic publications, the early Finnish- or Swedish-speaking press distributed information on smallpox and its treatment by means of almanacs and articles intended for the common people, simultaneously advocating vaccination as a means of

41 Oulu, Kansallisarkisto Oulu (KO), Oulunsalo SeA, II Df:1 Väkilukutaulukot 1810–1814.

42 KM, Käkisalmi SeA, Rokotusluettelot 1842–1847; KM, Rautu SeA, II Df: 2 Väkilukutaulukot 1812–1814; KHä, Hämeenkyrö SeA, Väkiluku- ja kuolleisuustaulukot 1812–1814; KM, Elimäki SeA, II Dg:2 Kuolleisuustaulukot (Väkilukutaulut) 1811–1877.

43 KHä, Pernaja SeA, Väkilukutaulukot 1807–1813.

44 Tuija Laine, 'Katederilta kansan pariin: Suomalainen lääketieteellinen kirjallisuus 1600- ja 1700-luvuilla', in Raimo Jussila and others (eds), *Tieto ja kirja* (Helsinki: Suomen tietokirjailijat ry, 2001), pp. 190–210 (pp. 197–8).

preventing smallpox.[45] The first article concerning smallpox, 'Cuinga yhteisen kansan pitä heidän Lapsians Wartoman, jotca tulewat rupuljin' ('How common people should take care of children who are infected with smallpox'), was published in the Finnish almanac of 1764. In the previous year, 1763, roughly 23 per cent of the population had died of smallpox. In that article, the writer, presumably Professor Johan Leche, advised various treatments for infected children, ranging from healthy nutrition to vinegar-water and buttermilk, and with pleas to protect children from draughts, cold and damp. Inoculation, however, was not a part of his toolbox.[46]

Parishes with delayed implementation (1814–1817)

Other parishes started later but nevertheless implemented vaccination relatively soon. One example is Rantsila (northern Ostrobothnia). Judging from the annual report from 1814, there is no evidence of any vaccination in the parish before that year. After the first twenty-three vaccinated children, the sexton continued his efforts the next year, 1815, by vaccinating sixty-two children. In 1816 the rate was slightly lower; but in 1817, again, a further twenty-six children were vaccinated.[47] Almost the same can be noticed in Lapinjärvi (eastern Uusimaa). Vaccination efforts there too began rather late, in 1812. In the next year vaccination hit record heights, with 308 vaccinated children. In 1814 this rate fell sharply to 179, and in 1815 to 36. Vaccinations began late in both cases; but by avoiding interruptions, both parishes managed to keep smallpox under control despite the late start.[48]

45 'Lyhyt Historia Rokosta eli Rupulista', *Turun Wiikko-Sanomat*, 3 February 1821. In 1805 the Economic Society assumed responsibility for the content of the Finnish almanacs; see Aulis J. Alanen, 'Almanakka talouden ja sivistyksen opastajana', in *Suomen almanakan juhlakirja* (Helsinki: Helsingin yliopisto & Weilin & Göös, 1957), pp. 117–18.

46 Soininen, 'Suomalaisen almanakan lääketieteellisistä kirjoituksista', pp. 97–8.

47 KO, Rantsila SeA, II Df:1 Väkilukutaulut 1814–1817.

48 KHä, Lapinjärvi SeA, Väkilukutaulukot 1812–1815. Other examples are Hauho (Häme), Haukivuori (southern Savo), Valkeala (eastern Häme), Tyrnävä (southern Ostrobothnia) and Ilomantsi (northern Karelia). In Hauho, only 2 children were vaccinated in 1812. The next year the number rocketed to 115. Corresponding rates in Haukivuori were 5 and 80, and in Valkeala 0 and 115, respectively. In Tyrnävä (Southern Ostrobothnia), the number of vaccinated persons rose in one year from 10 to 134.

In the parish of Huittinen (Satakunta), vaccination began relatively late, in 1810. The subject had, however, been discussed during the dean's inspection in 1804. The dean expressed his gratitude to the sexton, Johan Savonius, for his good work as a phlebotomist and a teacher. He accepted the excuse for the delay in vaccination, which was allegedly due to the ongoing training of Savonius in the relevant skill. In Huittinen Savonius was known not only for his proficiency but also for his sobriety, a characteristic which in many parishes could not be taken for granted.

In Kisko, vaccination only began in 1816, and partly for the same reason. The old sexton, Jonas Lydman, had served the parish honourably for twenty-six years. In his last years, however, he was unfit for work without assistance. Finally, in 1815, the parish council elected a new sexton, Emmanuel Lindroth, who started vaccination immediately. For his devoted labours in respect of medical care, the *Collegium Medicum* granted Lindroth a silver goblet as a reward.[49] In 1813 the Economic Society similarly awarded a young sexton, Mikko Kääriä in Joutseno (Karelia), a medal for his 'industrious and successful use of instruments in vaccination'. Kääriä had started vaccination in Joutseno in 1807. In 1813 the parish expressed satisfaction with his work by raising his salary for the same reason. This gesture was remarkable because some years before, parishioners had adopted quite a different attitude to vaccination and to the young sexton.[50] The coming of the new generation of sextons substantially speeded up vaccination efforts in many parishes. They managed to win parishioners' trust and convince them of the utility of the new knowledge. From this point of view, the young sextons can be considered the true torchbearers of the Enlightenment, one of the many neglected categories of Enlightenment agents in the European North.

Implemented vaccination as an obligation (1812)

In 1812 the civil authorities added a spot in the template for the annual report where the local pastor was expected to fill in the

49 KT, Huittinen SeA, II Cd: 1, 131. Rov.tark.pk. 3 July 1804 § 43; Seija Väärä, 'Kiskon ja Suomusjärven historia historiallisen ajan alusta kunnallishallinnon uudistamiseen 1347–1865', in Anja Sarvas and Seija Väärä (eds), *Kiskon ja Suomusjärven historia*, I (Jyväskylä: Kiskon ja Suomusjärven kuntien ja seurakuntien historiatoimikunta, 1998), pp. 105–629 (pp. 440–1).

50 Jari Ropponen, *Joutsenon historia* (Jyväskylä: Joutsenon kunta ja seurakunta, 1997), pp. 216–17.

number of vaccinated children in his parish. This revision implied that a pastor could not just ignore this issue without running the risk of being held responsible for misconduct in office. The sources indicate that this reform led to a significantly increasing number of vaccinated children in Finnish parishes all over the country, including Koski, Isokyrö, Jokioinen, Karjalohja, Karttula, Kauhajoki, Laukaa, Sotkamo and Tampere.[51]

In Askola (Uusimaa) the rector spoke openly in favour of vaccination, but his words went unheard. In order to exculpate himself with regard to the lack of recorded vaccinations, he copied his words to the parish assembly in his annual report for 1811, stating that 'vaccination should not be neglected'. In 1812, however, he was reluctantly compelled to record 'none' in answer to the question about the number of vaccinated persons. Finally, in 1813, he had his way when the parents of fourteen children allowed them to be vaccinated. Later in the same year, twenty-nine other children were vaccinated.[52]

Not only the parish clergy but also bishops reminded parents and clergy of the importance of vaccination during episcopal inspections. In Juva (Savo), for example, in the spring of 1816 the local clergy gave an account of vaccination efforts in the parish to the bishop in the presence of the congregation. The bishop urged mothers to ensure that their children were vaccinated in due time, using the 'genuine vaccine' for the purpose. To the clergy, he pointed out that the supervision of vaccination was one of their duties.[53]

Among the Finnish clergy, there were nevertheless some individuals who got away with hardly doing anything to promote vaccination for a surprisingly long time, despite increased pressure from above. In Hankasalmi and Eräjärvi (northern Häme), for example, no

51 KT, Koski SeA, Väkilukutaulukot 1813–1815; KV, Isonkyrö SeA, II Df:3, 31. Väkilukutaulukko 1812; KHä, Jokioinen SeA, Väkilukutaulukot 1812–1814; KHä, Karjalohja SeA, Väkilukutaulukot II Df:3 1802–1811 ja II Df:4, 1812–1813; KJ, Karttula SeA, II Df:1, 82. Väkilukutaulukot 1775–1877; Jyväskylä, Kansallisarkisto Jyväskylä (KJy), Laukaa SeA, Väkilukutaulukot 1812–1815; KO, Sotkamo SeA, II Df:1, 197–209. Tilastot ja väkilukutaulukot 1812–1815; KHä, Tampere SeA, Väkilukutaulukot 1812–1822.

52 KHä, Askola SeA, Väkilukutaulukot 1811–1812. In Nummi (Uusimaa), the pastor recorded in his report 'Vaccinering försummat' ('vaccination neglected'); KHä, Nummi SeA, Väkilukutaulukko 1811.

53 KM, Juva SeA, Piisp. tark. pk. 9 March 1816.

children were vaccinated before 1821.[54] In Loppi (southern Häme), vaccination began in 1817; in Viljakkala (northwest Häme), it only started in 1825. In Karvia (Satakunta), the first eight children were vaccinated in 1813. After a break of four years, vaccination was resumed, with sixty-five vaccinated individuals in 1817.[55]

In some parishes, such as Eräjärvi, the delay was caused by two factors. The old sexton was famously capable in his duties as precentor and phlebotomist, but such duties as teaching, not to mention vaccination, were beyond his ability. At the same time, the parishioners complained during an inspection by the dean in 1812 that the chaplain who was in charge of the dependent parish was seldom present. The absence of a pastor and the limited ability of the sexton in combination led to a failure to start vaccination until 1821.[56]

The Vaccination Act of 1804 did not explicitly require sextons to undertake vaccination. In the absence of proper sanctions, sextons who neglected their duties as vaccinators could easily get away with it unpunished. This was considered fair if the sexton was practically unfit for work because of old age but had diligently served the parish for decades.[57] In Viljakkala, for example, the unimpressive performance of a sexton in the teaching of children, for which the dean rebuked him at an inspection in 1825, probably implied poor skills in the other duties of a sexton as well.[58] In Kankaanpää the sexton Matti Tesolin was by all appearances an honourable person and a skilled professional; but his frequent long absences from his post, for unknown reasons, significantly exacerbated the problems in respect of vaccination during the years 1810–1836.[59]

Parishes with poor implementation of the vaccination policy

Some parishes, mostly located in northern and eastern Finland and far away from the major coastal cities in the south, were prevented

54 KJy, Hankasalmi SeA, Väkilukutaulut 1812–1821; KHä, Eräjärvi SeA, Väkilukutaulu 1821.

55 KHä, Loppi SeA, Väkilukutaulukko 1816; KHä, Loppi SeA, Rokotusluettelot; KHä, Viljakkala SeA, Väkilukutaulut 1806–1826; KT, Karvia SeA, II Df:1,19, Väkilukutaulukot 1805–1840.

56 KHä, Eräjärvi SeA, Rov.tark.pk. 7 July 1812, 4, 10.

57 Jalkanen, *Lukkarin- ja urkurinvirka Suomessa 1809–1870*, p. 166.

58 KHä, Viljakkala SeA, Rov. tark. pk. 25 March 1825, § 42.

59 KT, Kankaanpää SeA, II Df:1. Väkilukutaulukot 1805–1850; Martta Sevio, *Kankaanpään seurakunnan vaiheita vuoteen 1970* (Rauma: Kankaanpään seurakunta, 1970), pp. 52–3.

from implementing vaccination due to various problems. The worst of those is likely to have been the poor availability of vaccine. Although it was not a very complicated chemical product in the early nineteenth century compared to modern vaccines, neither clergy nor sextons were usually able to produce it themselves. In order to be able to vaccinate locally they needed the vaccine, which was kept in the central stores of the Economic Society in Turku.[60]

In Suonenjoki (northern Savo), Karl Fredrik Bergh complained about the lack of vaccine in his annual report for 1810: no child could be vaccinated under these conditions. Shortage of vaccine had forced the parish to live in distress and anxiety for years because the Economic Society had not delivered the orders from Turku. The first remarks on vaccination found in annual reports from Suonenjoki are from 1804. The attempts made by the local clergy to solve the supply problem were a bitter failure.[61] The same pattern was repeated in Haapajärvi (mid-Ostrobothnia) in 1813. When new consignments of vaccine arrived the next year, it was possible to vaccinate 196 children and young people. In Artjärvi (Uusimaa), the rector tried to explain that no one had been vaccinated in 1815 by claiming that there was no vaccine there. In the context of relatively unimpressive numbers before and after, however, it is possible that lack of vaccine was an excuse for some other problem.[62]

In Maaninka (northern Savo), vaccination was significantly delayed because of the lack of a suitable vaccinator. In 1812 the rector was convinced that there was nobody in the surrounding area who could run the vaccination efforts. In the years that followed, he repeatedly had to face the same problem, until the parish finally managed in 1816 to find an energetic vaccinator who vaccinated 231 children in the course of one year.[63]

Most sextons only practised as vaccinators within the limits of their own parishes, but there were exceptions. For example, the sextons in Hirvensalmi and Masku, Eric Relander and Henric Lundelin, travelled around the provinces of Savo and Viborg

60 Jalkanen, *Lukkarin- ja urkurinvirka Suomessa 1809–1870*, p. 162.

61 KO, Reisjärvi SeA, II Df:1,13,18. Väkilukutaulukot 1806–1814; KJ, Suonenjoki SeA, Väkilukutaulut 1804–1810.

62 KO, Alavieska SeA, II Df:2, 25–31. Väkilukutaulukot 1811–1814; KO, Haapajärvi SeA, Väkilukutaulukot 1813–1814; KHä, Artjärvi SeA, Väkilukutaulukot 1814–1816.

63 KJ, Maaninka SeA, Väkilukutaulukot 1812–1819.

as vaccinators. On these visits, Eric Relander vaccinated eight hundred children, simultaneously training followers to continue his job as vaccinator in the most remote villages. P. W. Sumelius, the sexton of Kangasala (Häme), vaccinated almost one thousand children in his own parish and in addition a large number of others in the surrounding area.[64] In the old mother parishes, as in Kokkola (Mid-Ostrobothnia), each dependent parish (Veteli, Ala-Veteli, Perho, Kaustinen) had a sexton of its own. This permitted a division of duties. According to an agreement, the sexton of Ala-Veteli, Mats Kaitfors, dedicated himself to medical matters including vaccination. Because of this arrangement, vaccinating could be started in the area in the spring of 1804. Up until 1869, good results in respect of vaccination based on a sexton's medical skills created opportunities for skilful and experienced sextons to seek better-paid posts in the wealthier parishes. The new Ecclesiastical Act (1869), however, no longer included any requirements pertaining to medical readiness or skills.[65]

In most parishes where there was overt resistance to vaccination, it was passive by nature. In Säkylä (Satakunta) in 1806, the pastor lamented the unwillingness of parents to have their children vaccinated. Despite encouraging words and educational leaflets, nobody had taken up the opportunity. The vaccination of the first children in Säkylä was delayed until 1814. Both there and in Viljakkala, resistance to vaccination reflected old-fashioned thinking. Perhaps simple indolence also played a part in the neglect of vaccination.[66] In Säkylä, the number of deaths from smallpox was relatively small in comparison to other causes of death in the 1790s. In Viljakkala, though, smallpox killed several farmers up until 1808, when the epidemic suddenly eased off for a while.[67] It is possible that this

64 Jalkanen, *Lukkarin- ja urkurinvirka Suomessa 1809–1870*, p. 165.

65 KV, Veteli SeA, Piisp.tark.pk. 23 February 1804, § 5; Reija Satokangas, 'Isostavihasta seurakuntahallinnon uudistukseen (1722–1864)', in Kyösti Elo, Reija Satokangas and Jouko Vahtola (eds), *Iin seurakunnan historia* (Jyväskylä: Iin seurakunta, 1998), pp. 97–176 (pp. 137–8); Reija Satokangas, 'Seurakunta muuttuvassa maailmassa (1865–1980)', in *Iin seurakunnan historia*, pp. 177–331 (pp. 231–2).

66 KT, Säkylä SeA, Väkilukutaulut 1806–1819; Raili Nurminen, *Säkylän historia*, I (Jyväskylä: Säkylän Kunta ja Seurakunta, 1970), pp. 381–3; Hakkarainen and Sinisalo, *Tappava tauti*, pp. 150–1.

67 KHä, Viljakkala SeA, Väkilukutaulut 1806–1860, 1, 13, 19, 43 and 47; KT, Säkylä SeA, Väkilukutaulut 1805–1810, 6, 8, 16 and 18; KT, Säkylä SeA, Väkilukutaulut 1815–1875, 7 and 24.

change lulled the peasants into a false sense of security. In Juva (Savo) in 1812, only one family showed up for vaccination. In the next year, 1813, the pastor lamented that all his efforts to promote vaccinations had come to a dead end. The number of people who died of smallpox in Juva fell rapidly from twenty in 1812 to only two in 1813; but in 1814 it once again rose alarmingly, to fifty-seven. In 1815 the parents of fifty children were willing to permit vaccination.[68]

Social differences played a part as well. In the annual report submitted by rectors, there were separate columns for vaccinated individuals among the gentry and among the common people. In most parishes, differences between the social groups as regards vaccination were not significant. In Luhanka (northern Häme), however, that was not the case. According to the records, no vaccination occurred there before 1815. In that year, finally, three children with a social background in the gentry were vaccinated. Until 1818, when the first child with a peasant background was vaccinated in Luhanka, vaccination was a concern for people of rank alone. Kontturi's study of Ostrobothnia district physicians' reports to the *Collegium Medicum* in the eighteenth century indicates that, at least initially, the main reason for avoiding vaccination among the common people was fear. The peasantry refused to have their children inoculated even though both the procedure and the vaccine itself were free of charge for everybody. A significant share of all the inoculated children in eighteenth-century Finland was thus made up of children whose families belonged to the gentry.[69]

Concluding discussion

This chapter has demonstrated the key role played by parishes, and particularly sextons, in implementing vaccination policies in rural Finland at the end of the long eighteenth century. A variety of starting points for the implementation has emerged in the course

68 KM, Juva SeA, II Df: 1. Väkilukutaulut 1812–1841.

69 Saara-Maija Kontturi, *Suomen varhaisen piirilääkärilaitoksen tavoitteet ja niiden toteutuminen* (Helsinki: Suomen lääketieteen historian seura, 2015), p. 101. According to the report of the district physician from the Province of Turku and Pori to the *Collegium Medicum* in 1800, most of the inoculated people belonged to gentry families; see Stockholm, Riksarkivet, Collegium Medicum, E3, Berättelse om gångbara sjukdomar i Björneborgs län 1800.

of the analysis. The poor implementation in areas far from major cities is striking and calls for further exploration. The available sources offer little explanation as to why such a large proportion of the common people in these parishes was not vaccinated. What this study has demonstrated is that they did in fact have ample opportunities to receive the new health-promoting measure. However, previous research on the culture and beliefs of the common folk in rural Finland may offer some hypotheses. Besides fear and prejudice, folk medicine – which still flourished in the early nineteenth century, especially in eastern Finland – is likely to have affected the willingness of parents to allow their children to be vaccinated. Remedies which were believed to be as effective as the vaccine were sauna, tar, salt and liquor. Different kinds of mixtures made of tar, honey, beer, camphor or vinegar were in common use as medication. Among the uneducated peasantry until the mid-nineteenth century, there was a strong faith in the healing power of fresh air or objects such as the teeth of a bear, rags from the clothes of deceased people and snake grease. Resorting to spells or magic was not excluded either.[70]

Although folk medicine and vaccination were based on different concepts of medical knowledge, there were nevertheless some similarities in their practices. Old folk ways of curing smallpox consisted of spreading a compound made of burbot's liver on the patient's skin. Unlike the vaccinator, the natural healer did not nick the skin of the patient. For many people in eastern and northern Finland in the early nineteenth century, the issue at stake was the difference between old and new, and between popular and academic knowledge. The vaccination efforts on the part of the Church and the Crown only made such differences visible in the everyday life of the common people in remote localities. Acceptance of the new knowledge encapsulated in vaccination took longer in rural areas far from the major cities.

Gary B. Ferngren has drawn attention to the rapid naturalization of medical theory in the eighteenth century as the specific causes of many diseases were discovered within a matter of a few decades.

70 U. K. Teittinen, 'Uudenkaupungin rauhasta kunnallishallinnon perustamiseen', in Martti Ruuth (ed.), *Juvan historia* (Pieksämäki: Juvan seurakunta ja kunta, 1957), pp. 173–455 (pp. 318–23); Naakka-Korhonen, 'Kuu ja terveys', pp. 80, 83–92; Mikko Europaeus, 'Kansankulttuuri', in *Pitäjä ison kiven takana: Lemin historia* (Jyväskylä: Lemin kotiseutuyhdistys & Lemin kunta, 2009), pp. 198–203.

According to him, belief in God's direct and immediate involvement in human sickness had begun to diminish long before this in the central areas of Europe and in the United States – even in the minds of the devout – with the rise of rational-speculative medical theories.[71]

Vilkuna has scrutinized the consequences of these events in detail. According to him, the sacred authority based on the law and divine order crumbled during the long years of Russian occupation.[72] Both Juva and Vilkuna point to the diminished confidence of the Finnish common people in direct divine intervention in crises as an outgrowth of the perceived absence of protective divine power during the atrocities of the Russian occupation. These interpretations may explain the rapid naturalization of medical attitudes as well. In areas where losses in both material and mental/psychological terms were comparatively serious, the common people were more willing to accept vaccination. In the rural parishes of northern and eastern Finland, by contrast, simple faith in Providence linked to folk medicine may have survived to a greater extent because of fewer bitter experiences of divine abandonment during crises.

In his circular letter of 1799, the Bishop of Turku, Jacob Tengström, harshly criticized the stubbornness of the common people in their attitudes to medicine, encouraging the clergy to enlighten the peasantry in favour of the new treatments. According to him, these 'wrong and harmful concepts' (beliefs to the effect that smallpox was a scourge sent from God) threatened to obstruct the work of vaccinators seeking to save the lives of innocent children. As a true patriot and supporter of the Enlightenment, he strongly emphasized the significance of reason as a gift from God for the benefit of the fatherland and humankind. Tengström firmly rejected the idea of immediate divine interference as heresy.[73] His letter brought the juxtaposition of old and new knowledge to the centre of the vaccination debate.

Judging by the absence of peasants from vaccination records in certain parishes, the idea of passive resistance might – as Tengström wrote – have included a perception of God's will. If infection by a horrible illness was God's will, then recovery would likewise lie

71 Gary B. Ferngren, *Medicine and Religion: A Historical Introduction* (Baltimore, MD: Johns Hopkins University Press, 2014), p. 172.

72 Kustaa H. J. Vilkuna, *Paholaisen sota* (Helsinki: Teos, 2006), pp. 580–1, 584–5.

73 KT, Turun tuomiokapitulin kirjekirja (missive) B I: 66, 342–9. Tklin kiertokirje, 27 November 1799.

solely in his hands. From that point of view, vaccination appeared to be unnecessary.[74] The scepticism of the Finnish peasants in northern and eastern Finland towards the new science is probably best understood from this perspective.[75] Apparently, two concepts of medical knowledge, the old and the new, coexisted among the Finnish peasantry. In most parishes located close to major cities, an early breakthrough for the new knowledge of 'Enlightenment', in the shape of vaccination, was a fact. At the same time, however, suspicions still prevailed for many reasons, at least in the remote countryside.

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74 Turpeinen refers to 'religious prejudice' against variolation in the late eighteenth century; but in the documents composed by the clergy in the time of mass vaccination, these kinds of protests are conspicuous by their absence; see Turpeinen, 'Lastensuojelu ja väestökehitys', p. 311.

75 Ferngren, *Medicine and Religion*, p. 172.

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