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The Plague at Vetlyanka, 1878–1879: The Discourses and Practices of Hygiene and the History of Emotions

That our senses, or rather our sensibilities, may be more subtle is proven by examples of senses made disproportionate by illness [Radishchev 1941: 139–40].

La volonté de nettoyer veut un adversaire à sa taille. Et, pour une imagination matérielle bien dynamisée, une substance bien salie donne plus de prise à l'action modificatrice qu'une substance simplement ternie. La saleté est un *mordant* qui retient l'agent purificateur [Bachelard 1948: 42].¹

During the second half of the nineteenth century, society began to reflect on the perception of smells and what it meant for ideas of sensitivity and fastidiousness. At this time a heightened awareness of the olfactory side of everyday life was accompanied by an education in self-observation brought about by epidemiological framing and connected with a particular understanding of cleanliness and hygiene. Until the very end of the nineteenth century — the point when the discoveries of Louis Pasteur and Robert Koch came to be widely known and acknowledged — general notions of hygiene, pathogenesis, and the aetiology of disease were highly eclectic and inconsistent [Lécuyer 1986: 67–139]. This inconsistency encouraged both

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¹ 'The drive to clean demands an adversary of equal force. For the dynamic material imagination, a highly polluted substance gives more scope for this cleanliness drive than does a substance that is merely slightly soiled. Dirt is the *dye fixative* for the action of cleaning.' Italics original.

a constant emotional tension, particularly acute at times of epidemics, and the development of a range of practical measures which cannot be classified according to a single paradigm, but which may be roughly divided into two approaches — quarantine and hygiene [Baldwin 1999: 4–7].

The epidemics, mostly of cholera, which devastated the countries of Europe on several occasions during the nineteenth century, played an important part in the formation of new medical concepts, influenced the development of the perception of disease, and finally assisted in the establishment of bacteriology as an independent discipline. There is a wide research literature devoted to various aspects of the cholera epidemics.¹ It is all the more interesting to follow the discourses and reactions provoked by another no less dreadful disease which was nevertheless considered to have been conquered during the period of lively medical and social discussions that immediately preceded the discoveries made by Pasteur and Koch. The present work will focus on the outbreak of the plague which occurred at the settlement of Vetlyanka (Enotaevka District, Astrakhan Province) in 1878–79 — the last plague epidemic in Europe in the pre-bacteriological period. I shall take it as an example to reveal the ideological premisses that underlay the discourses and practices that arose in response to the epidemic, and to describe the conflicts between different social forces that began during, and as a result of, the epidemic.

Hygiene as civilisation

In 1876, two years before the Vetlyanka epidemic, the Russian Empire sent a delegation to Brussels to the first exhibition in Europe devoted to hygiene and rescue (*Exposition d'hygiène et de sauvetage*). Unlike the international sanitary conferences which had taken place regularly since 1851 and were attended on the one hand by politicians and diplomats and on the other by specialists (epidemiologists, chemists, medical professionals and demographers) and were directed towards establishing a standard system of measures against epidemics [Howard-Jones 1975: 9], this exhibition was intended for the general public. Modelled on popular industrial or art exhibitions, the hygiene exhibition took the form of a large-scale educational project which would be able by means of the exchange of ideas and innovations to unite the whole sphere of Western European culture on the ground of a common aspiration towards progress. 'Progress' in this case had both a very wide meaning (a bright future for humanity) and a very narrow one (the fruits of the triumph of town

¹ For discussions of the Russian material, see, for example, [Baldwin 1999; Bogdanov 2005; Henze 2011].

planning).¹ Economic and political goals were pushed into the background, and the main objective was proclaimed to be education for the sake of the future well-being of humanity *en masse*. Subsequent national and international popular hygiene exhibitions were imbued with the same progressive and didactic impulse.²

Russia prepared for the exhibition very carefully: after a series of announcements the *Pravitelstvennyi vestnik* [Government Herald] published the rules for participants, and the heir to the throne was named as honorary president of the organising committee, which consisted of prominent medical men [Mezhdunarodnaya gigienicheskaya vystavka 1875]. Professor Aleksei Dobrosлавin from the Imperial Academy of Medicine and Surgery, a well-known physician specialising in hygiene, was the curator of the Russian collection, which consisted of 154 exhibits. After the exhibits had returned from Belgium it was decided to establish a permanent museum where they could be seen by anyone who was interested.³ An even more important institutional result was the Russian Society for the Protection of Public Health, set up in 1887; its honorary president was Grand Prince Pavel Alexandrovich, and its president Nikolai Zdekauer, professor of medicine. The society received the right to publish a specialised journal devoted to questions of medicine and hygiene.⁴ Participation in the exhibition, the foundation of a society which had similar functions to those of the French *Comité de la santé publique*, and the opening of the museum were regarded both by the authorities and by the learned public as matters of national and social importance. Their organisers made no secret of their desire to affirm Russia's place in the European cultural model, which a prominent place had begun to be afforded to public health ever since the middle of the nineteenth century, thanks to the efforts of scientists and physicians — the German and French theoreticians of experimental medicine, physiology, bacteriology and chemistry Justus von Liebig, Max von

¹ As Barton Benedict remarks, the encyclopaedic exhibitions of the nineteenth century constructed the image of the ideal city of consumers, projecting a purified world without poverty, war, social problems and almost without nature [Benedict 1983: 5].

² The first hygiene exhibition in Germany took place in Berlin in 1883 (it should have opened two years earlier, but the exhibits had been destroyed in a fire at the warehouse) and was visited by 844 997 people; the first in Britain was in 1884 (London, 4 167 000 visitors), in the Austro-Hungarian Empire in 1887 (Vienna), in France in 1889 (Paris), and in the Russian Empire in 1887 (Warsaw) and 1893 (St Petersburg).

³ On the composition of the collection and what became of it, see [Lelina 2006: 103–107]. Hygiene museums based on exhibition materials were also set up in Germany (in Berlin and Dresden after the exhibitions of 1883 and 1911) and in Britain (in South Kensington after the London exhibition of 1884).

⁴ Up to 1882 the Society's journal was *Zdorovye* [Health], founded 1874 and published by the Society 1878–82, but in 1884 a new journal, *Trudy Russkogo obshchestva okhraneniya narodnogo zdравиya* [Proceedings of the Russian Society for the Protection of Public Health] was founded (1884–90, renamed in 1891 *Zhurnal Russkogo obshchestva okhraneniya narodnogo zdравиya* [Journal of the Russian Society for the Protection of Public Health] and published from 1914 to 1917 as *Gigiena i sanitariya* [Hygiene and Sanitation]).

Pettenkofer, Robert Koch, Rudolf Virchow, Louis-René Villermé, Ambroise Tardieu, Louis Pasteur, and the British practical hygienists Edwin Chadwick, Thomas Southwood Smith, and John Simon.

The idea of cultural exchange and communication inspired by the urge to civilise was explicitly formulated in the Russian brochure dedicated to the Brussels exhibition. 'It is essential that different nations should educate each other, that every discovery and every measure that could further the well-being of society should become available to the whole of mankind. <...> Only under these conditions may one hope for fewer and less severe national catastrophes, and for an improvement in the life of both industrial and agricultural workers' [Mezhdunarodnaya gigienicheskaya vystavka 1875: 3].

The role of hygiene in reducing national catastrophes and in rescuing those endangered by them becomes clear when one considers the epidemiological context, which was particularly relevant to mid-nineteenth-century Europe, and to Russia in particular. The occasion for the first international sanitary conference in Europe (Paris, 1851) and the first conference on hygiene (Brussels, 1852) was the cholera epidemic of 1841–50, during which 110 000 people perished in France alone [Bunle, Lévy 1954: 34–35]. Means of averting and treating cholera, typhus, plague and malaria were discussed at the conferences that followed [Bynum 1993: 421–34]. During the second half of the nineteenth century each epidemic made the discussion of town planning, social order and public hygiene every more relevant. 'Just as fires improve the appearance of cities, one may say that epidemics improve their health,' wrote Vasily Kashkadamov of the Institute of Experimental Medicine in 1909, summing up half a century of the struggle for public health [Kashkadamov 1909: 54].

The notion of 'rescuing those in peril' was a very broad one. It included both emergencies (natural and man-made disasters, infectious diseases and wars) and everyday life, from the field of public hygiene (which was regulated primarily by police medical regulations) to private matters such as bodily exercise, diet, the choice of clothing and footwear, and housing. Since disease was regarded as being caused in the main by a lack of harmony between the body and its environment, overexertion or mollycoddling, 'hygiene' became the description of choice for the optimal (i.e. moderate) regime of work and leisure (for schoolchildren, students, and practitioners of the liberal professions) and regulation of working conditions for factory and agricultural work. There was a special section or stand at the hygiene exhibitions for each of these spheres, with the relevant educational and advertising materials. As they accumulated knowledge about pathology, epidemiology, bacteriology, physiology and chemistry, each of these hygiene exhibitions

offered the public a more and more wide-ranging and well-grounded paradigm.

The presentation of such models was accompanied by the propagation of new hygienic practices. Epidemics were the laboratory in which they were developed, perfected and inculcated. It would be no great exaggeration to say that from the second third of the nineteenth century onwards, in the period of industrialisation and the growth of cities, it was ‘rampant infectious diseases’ and the measures taken to prevent and eradicate them that stimulated legislative initiatives in the fields of town building, public health, and so forth, determined various everyday practices of a public and private nature, and also gave rise to a specific sanitary discourse which combined the ideology of medical science, focused upon the disease, its aetiology, symptoms and treatment, with that of the social sciences and humanities, focused on the human being as the victim of the disease and of the circumstances or poor living conditions the amelioration of which might also eliminate the disease [Baldwin 1999: 5; Hamlin 1998: 201–213]. The popular press became the conduit for new ideas and concepts. Sessions of medical societies were reported in periodicals with detailed reporting of contributions on public hygiene, the reports on amenities submitted by the city administrations were published, as were monthly data on mortality from infectious diseases and information on the measures taken by the municipal authorities against ‘insanitary conditions’.

Controlling miasma

That hygiene appeared on the agenda in Russia in the second half of the nineteenth century is explained by a large number of closely interconnected causes. To list them briefly: the creation of medical statistics, which made it possible to analyse the data concerning births, illnesses and deaths,¹ the growth of cities and the consolidation of urban infrastructure, which provoked an interest both in municipal administration and in the ‘physiology’ of the city, industrialisation, the establishment of military sanitation in the wake of the defeat in the Crimean War (and its development during the Turkish campaign of 1877–78),² changes in the class structure of society [Freeze 1886:

¹ One of the first major statistical research publications was Konstantin Arsenyev’s *Statistical Outlines of Russia* (St Petersburg, 1848). In the 1860s and 1870s the collection of statistical data became one of the fundamental methods of epidemiology and preventative medicine; statistics were also widely applied in the sanitary discourse. For example, Yuly Yanson’s monograph *Comparative Statistics of Russia and the Western European States*, vol. 1, *Territory and Population*, is continually cited in Andrei Kraevsky’s writings on medicine and sanitation.

² The development of such areas of medicine as field surgery in the 1850s — 70s awakened considerable interest in society. Despatches on the sanitary condition of the army, reports and letters from the theatre of war, and the press campaigns of authoritative doctors, above all Nikolai Pirogov, formed a new outlook on war. Pirogov, drawing on his experiences in the Crimean War [Pirogov 1866] and

11–36], the institutionalisation of medicine in the provinces, and the change in the social role of the physician [Frieden 1977: 540–542]. All this led to an expansion in the understanding of hygiene. Epidemics were an important factor in the extension of hygienic supervision and the interiorisation of habits of self-supervision.

It seems that in the nineteenth century hardly a year went by without ‘rampant infectious diseases’¹ in the Russian Empire. Most frequent, and most frightening, were the epidemics of cholera (1823, 1829–33, 1847–48, 1852; 1853–54, 1859, 1865–66, 1871–73, 1892–95; in total there were outbreaks of cholera in Russia in forty four of the years from 1823 to 1914, causing about two million deaths). They were followed by typhoid, typhus, relapsing fever, diphtheria, dysentery, scarlet fever, smallpox, intermittent fever (a vague term used in the second half of the nineteenth century to describe a set of symptoms that could indicate malaria, pneumonia, septicaemia, tuberculosis or other illnesses) and plague (1837, 1878–79). Besides epidemics there were also constant epizootics (Rinderpest, anthrax and glanders) which did great economic harm; some animal diseases were communicable to humans.

‘Rampant infectious diseases’ spread fear among the population not only because of the high associated mortality and the lack of any really effective treatment, but also because of their mysterious origin. The general explanation of pathogenesis was the miasma theory, which was developed in the second half of the eighteenth century in France and subsequently adopted throughout Western European culture and, with various refinements, persisted until Pasteur’s discoveries were recognised [Corbin 1986: 22–34 and *passim*]. It was based both on the medical theories of antiquity and on the fermentation theories proposed in the sixteenth and seventeenth centuries by Girolamo Fracastoro and Georg Stahl. These theories were used up to a certain period to explain the results of chemistry and epidemiology. Thus Stahl’s formula *nihil aliud est putrefactio quam perfecta fermentatio* (from his treatise *Zymotechnia* of 1697) was brought back into use in the 1840s by Justus von Liebig and the followers of his ‘zymotic theory’ [Ravich 1872: 2]. Those discoveries which raised the suspicion that pathogenesis might have other causes remained peripheral [Wilson 1995: 140–141].

Franco-Prussian War [Pirogov 1871], regarded war as a ‘traumatic epidemic’, changing the emphasis from medical intervention as such to preventative measures and sanitary administration [Pirogov 1879: 40]. These postulates were to be extended by the hygienists of the 1870s — 80s to peacetime practice, with the call to make use of the experience gained in wartime for the struggle against epidemics and social problems (see, for example, [Skvortsov 1881a]).

¹ According to the 1866 Quarantine Regulations, these were plague, yellow fever, Asiatic cholera ‘and certain other diseases particularly dangerous in view of their infectious nature’.

The miasma theory saw bad vapours resulting from fermentation or decomposition as the cause of illness: anyone who breathed them in ingested some sort of morbid principle which could then develop into sapraemia, intermittent fever, swamp fever or an range of other diseases, including the plague. The source of the miasma, be it natural or man-made, could be detected by the smell. Equally suspicious on account of their smell were swamps (it was believed that swamp air was full of disease-bearing underground gases and the products of the decomposition of vegetable matter in the stagnant water), cemeteries, hospitals and prisons, latrines, laundries and slaughterhouses. Any strong or unpleasant smell was seen as a potential cause of debility, illness and death [Oesterlen 1873].

Physicians attempted to come to conclusions about the salubriousness of different localities, living quarters or rooms on the basis of the miasma theory.¹ Natural miasmas — harmful swamp vapours or bad ‘ground air’ — made ravines and low-lying places dangerous; no less harm could be caused by the smells of people and animals, the miasmas of refuse and excrement, or the stale air of corners and cramped rooms. One reason for the spoiling of the atmosphere was considered to be overcrowding: observations made in prisons and workhouses were gradually extrapolated to include theatres, universities, churches and factories [Radakov 1876].

The question of how diseases were transmitted and spread gave rise to many debates. The miasma theory saw a combination of factors in the climate and environment, as well as individual susceptibility, as the reason for why people fell ill. At the same time there was the idea of ‘contagion’ — an undefined source of infection resulting from direct contact with a sick person, for example, through touch, through their personal effects, crockery or air.² At some points medicine concentrated on the human being, his bodily structure and habitat, and at others on the diseases and their manifestations. At the end of the 1860s, as more and more contradictory and unexplained facts accumulated, there was a ‘contagion revolution’, and the miasma theory was more and more often modified in the light of the theory of contagion [Ackerknecht 1948: 562–593; Bourdelais 1998: 21–39]. Some diseases were declared to be miasmatic in nature, others contagious (including syphilis, glanders, anthrax, measles, smallpox, scarlet fever and diphtheria), and others a mixture of the

¹ Holiday resorts could be classified in this way, for example [Simansky 1881].

² The medical debates around the notion of *contagium vivum* or *contagium animatum* went back to the seventeenth century, when the microscope was invented. It was at this period when the idea of an ‘animate cause’, already conceived of in antiquity, was first applied to the aetiology of the plague. However, for lack of any experimental medicine the contagionists were unable to provide any decisive proof of their theory. The polemic with the ‘miasmatics’ lasted, with varying degrees of success, until the middle of the nineteenth century, even though in reality the two theories did not contradict each other [Wilson 1995: 140–175].

two (cholera, typhoid, dysentery and plague) [Pashutin 1879: 90–91]. ‘Miasma’ and ‘contagion’ were not only the subject of constant medical arguments, but also aroused great interest amongst all educated people. The connexion between hygiene and the ideas of progress and civilisation played a great part in drawing attention to what would otherwise have seemed highly specialised questions. Interpreted in terms of progress and the public good, sanitation and hygiene became a matter of social significance, and indeed constituted an entire sanitary hygienic utopia based on ideas of social harmony.¹

A direct consequence of the popularisation of the miasma theory was a demand for cleanliness which was now medically motivated. The most diverse publications, from penny pamphlets to courses in domestic economy, attempted to explain the rudiments of pathology ‘on the fingers of one hand’ and convince their readers of the necessity for self-discipline and self-supervision. Dr Aleksei Dobroslavin wrote in a brochure aimed at the lower classes: ‘If we breathe air emanating from rotten matter, if we drink water that contains it, if we live on ground in which there is much of it, this will always have harmful consequences for our bodies. <...> Some villages are no better than swamps! You can’t cross the street without plunging up to your knees in mud. <...> Marshland is harmful because it contains much decaying matter. But neither do manure and mud in the street remain undisturbed, but are soaked by the rain or by the passage of cattle and waste water, and also decompose, rot and infect the air with stench and putrefaction’ [Dobroslavin 1878: 21].

In some cases it was literally a question of control, insofar as not all social groups were regarded as equally capable of appreciating the danger. See, for example, this passage from a book on home management discussing the care of linen: ‘One of the better-known means of preventing many illnesses and of maintaining better health is to observe exceptional cleanliness in all parts of our bodies, all our clothing and all our existence, for life and the way we live it. <...> Uncleanliness in clothing, beds or living space infects the air about us, leads to poor health and is the reason for disease and debility; this can easily be prevented by giving more care and attention to this aspect of hygiene. <...> There is no doubt that this sort of extremity has no place in a properly regulated household, where the working classes are also subject to unremitting attention. This attention should require of the servants that they wash their hands and faces every day, change their linen frequently, and take care not to get any

¹ It would seem to be no accident that this happens several decades later in Russia than in France or Britain, for example, and coincides with the social crisis of the 1850s and 60s: the propagation of the idea of progress requires both a conception of the economic rationalisation of production and a certain level of solidarity within society [Zilsel 1945: 325–349].

sort of dirt on their clothes, in a word, that their object should be cleanliness first and foremost' [Shchigrovskaya 1859: 263–265]. Thus works of scholarship and popular brochures, public lectures, reports and articles in newspapers all tried to influence not only the public mood and ideology, but also everyday practices. Nevertheless, it took decades — and serious perturbations — for these recommendations to be recognised by state and society as of vital importance, and for olfactory vigilance to become habitual.

The Vetlyanka epidemic: October 1878 — May 1879

Let us briefly recall the history of the outbreak of plague at Vetlyanka.¹ Its centre was the large Cossack settlement of Vetlyanka (243 homesteads and a population of about 1 700), situated on the right bank of the Volga in Enotaevka District, Astrakhan Province, half-way between Astrakhan and Tsaritsyn. The first deaths, from an unidentified disease, were recorded at the beginning of October 1878, and the epidemic was officially declared over, and quarantine lifted, on 27 May 1879. During that time 446 people in the settlement fell ill, of whom 364 died, and the plague also spread to the neighbouring villages. However, the epidemic was not reported in the press until two months after it had begun, at the end of December 1878 [Pravitelstvennyi vestnik. 16 December 1878; Golos. 23 December 1878]. Up to that point the local authorities had attempted to hush up the extent of the outbreak. For example, on 20 December 1878 the provincial gazette published the following statement by the chief of police for Astrakhan: 'In view of the rumours circulating in Astrakhan about an epidemic in the settlement of Vetlyanka, Enotaevka District, I consider it my duty, in order to allay the fears of the inhabitants of the city, to make it universally known that the authorities have taken the strictest measures to put an end to the epidemic and that there are not, nor have there been, any cases of the illness in Astrakhan' [Astrakhanskies gubernskie vedomosti. 20 December 1878]. After its official confirmation it took a few days for the news to migrate to the front pages from the local news section. Regular reports of the numbers of sick and dead began to be published.² Letters from neighbouring towns and districts tell of

¹ For a general outline of the Vetlyanka epidemic see [Vasilyev, Segal 1969: 226–246; Supotnitsky, Supotnitskaya 2006: 349–385].

² All the telegrams from Vetlyanka mention the weather and temperature, in accordance with the idea that had developed during the cholera epidemics of the previous decades that low temperatures kept the infection in check and prevented it from spreading, whereas the thaw would encourage 'putrescence' and the spread of miasma. These ideas evidently explain the fear of the spring that was prevalent in the second half of the nineteenth century, and calls to deal with the epidemic before the thaw. Compare: 'Take measures, while nature is still on our side, while the frost prevents the infection from spreading and keeps the working classes at home. Do not forget that the epidemic is raging not far from the Volga. Once the thaw starts, nature will become our enemy' [Golos. 29 December 1878].

panic there. The Saratov correspondent of the *Birzhevye vedomosti* wrote: ‘The news of the plague reached Saratov three days ago and immediately alarmed the whole population. Plague in Astrakhan Province, ninety-five people in every hundred dying!.. This was repeated a thousand times... In Enotaevka District there are dead bodies lying about the streets with no one to bury them, and the Governor has gone to organise quarantine’ [Birzhevye vedomosti. 23 December 1878]. There were rumours in the Don Cossack military province that some villages along the Volga ‘had died out completely, and that the plague was moving towards Tsaritsyn, and that everyone in the city who could had fled as far away as possible’ [Golos. 29 December 1878].

The panic was made worse by the fact that it was a long time before the disease could be identified. The doctors, whether they were working in Astrakhan Province itself or attempting to make a diagnosis on the basis of a description of the symptoms, came up with the most varied hypotheses. Some diagnosed ‘pneumotyphus’, others as ‘pleuropneumonia’, and yet others as ‘malaria’ or ‘intermittent fever complicated by swelling of the lymph glands’ [Minkh 1881: 41–42, 62–63]. The following communication appeared in the press: ‘Typhus has been raging for nearly a whole month at the Vetlyanka settlement of the Astrakhan Cossack troops, and it is said that it has now turned into actual plague. <...> The typhus continues to rage, and people are dying like flies’ [Golos. 27 December 1878, second supplement to № 356]. Rumours and contradictory press stories led people — both educated city dwellers and peasants — to suppose the worst. Everyone was afraid of contact with the infected area, people who had visited it and goods arriving from it — the Cossack troops who had been sent there to establish a sanitary cordon, their senior officers, people living in the towns round about, and even people living in St Petersburg and Moscow. The demand for goods from Astrakhan and Saratov provinces collapsed, and there was mass buying of disinfectants in the towns.¹ People living in the towns nearest to Vetlyanka did their best to leave, those who were unable tried to shut themselves away from the disease, and the peasants and Cossacks established cordons of their own to protect themselves from the people who were fleeing, as they were considered to be carriers of the disease [Astrakhanskie gubernskie vedomosti. 3 January 1879; 27 January 1879].

When the rumours were confirmed there was a new wave of panic: the plague had been thought of as a disease of the past, one that had been overcome. Immediately dozens of popular articles and pamphlets

¹ ‘There is panic buying of all preparations for the prevention of infection (in case it should appear) at the chemist’s; the price of unrefined carbolic has risen to a rouble and a half, sad though it is to note this illegal price rise at a time like this’ [Sovremennye izvestiya. 8 January 1879].

appeared detailing the aetiology of the plague and the means to prevent it,¹ not counting the dissertations, monographs and articles in scholarly publications.² The return of the disease led to the reassessment of some recent epidemics in the Caucasus.³ There was a great stir in St Petersburg about the case of the porter Naum Prokofyev, whom Dr Sergei Botkin, the Emperor's personal physician and the highest authority in Russian medicine, had mistakenly diagnosed with plague instead of syphilis [Cherepnin 1904].

Once the epidemic had been confirmed, the area around Vetlyanka was put into quarantine and the conveyance of goods along the Moscow road across Enotaevka District was forbidden [Astrakhanskije gubernskie vedomosti. 27 December 1878]. A few days later the Vetlyanka post stage ceased operation, and supplies of disinfectant — copperas, carbolic acid, and vinegar — were brought in, the local stocks having quickly run out [Astrakhanskije gubernskie vedomosti. 30 December 1878]. The main measures taken to prevent the plague were the isolation of infected areas, the fumigation of clothes, utensils and houses, rubbing the body with vinegar and soaking urgent correspondence, documents and money in vinegar; these had already been known in the late Middle Ages⁴ and were the measures that had been taken in 1829–32 against the new disease, previously unknown and just as deadly as the plague, *Cholera morbus*.⁵ However, the slowness of the Russian government, which had delayed announcing

¹ See, for example, [Andreevsky 1879; Ilinsky 1879; Svyatlovsky 1879; Chudnovsky 1879; Chto takoe chuma 1879; Istoriya i sovremennye ponyatiya 1879; Markovnikov, Otradinsky 1879; Chuma i predokhranitelnye mery 1879].

² See, for example, [Reitlinger 1879a; Sbornik 1879; Arkhangelsky 1879; Rafalovich 1879; Minkh 1881; 1898; Shchepotyev 1884; Galanin 1897; Podyapolsky 1898; Strakhovich 1906]. See also [Zuber 1880].

³ Dr Sergei Botkin announced at the meeting of the Society of Russian Physicians on 8 February 1879: 'We must consider that it was an outbreak of plague that wrought such havoc in the Army of the Caucasus eighteen months ago under the name of typhus. <...> In all probability the diagnosis of these illnesses in the Caucasus was camouflaged by other infectious diseases, swamp miasma, and the processes of typhoid, typhus and relapsing fever that appeared as complications to the plague poison' (cited in [Galanin 1897: 69–70]). On typhus epidemics in the Caucasus and their seasonal aetiology see [Reitlinger 1879b].

⁴ As chemistry, which had not established itself as an independent discipline until the middle of the eighteenth century, developed, new substances became available. From the end of the 1820s, after experiments conducted by the French chemist Antoine-Germain Labarraque with calcium hypochlorite, chlorine compounds were added to the fumigants. The appearance of plague in Odessa and cholera in Astrakhan in 1829 prompted the Free Economic Society to publish two pamphlets on chlorides [Shcheglov 1829; 1830] based on Alphonse Chevalier's *L'art de préparer les chlorures de chaux, de soude et de potasse...* (Paris, 1829).

⁵ It is notable that all kinds of ideas were put forward in order to explain the origin of the plague, including the 'ground water theory' of the German hygienist Max von Pettenkofer. Pettenkofer, the head of the Munich epidemiological school, had formulated his theory with reference to cholera. Just as previously theories used to explain and treat the plague had been applied to cholera, now they tried to explain the 'forgotten' plague by means of theories of how cholera arose, eclectic and contradictory though they might be.

the epidemic [Chuma i nashi nray 1879; 373–376], and the hesitation of the doctors, who had found it difficult to make a diagnosis, need to be explained.

The serious economic and political consequences that follow the recognition of an epidemic partly explain the slowness of the Russian government to act. In accordance with the programme of preventative measures against plague, which had not changed since the end of the eighteenth century, European countries would place an embargo on certain Russian goods and would require the introduction of a system of medical certification, disinfection of luggage and outer clothing with sulphuric acid vapours and a twenty-day quarantine for travellers from Russia. Even worse was the damage to the country's reputation; while cholera was a calamity that affected the whole of Europe, plague was considered to be a disease of backward Eastern countries which Europe had overcome and forgotten, as European diplomats (first and foremost those from Austria and Germany) did not fail to remind Russia [Heilbronner 1962: 89–112].

Meanwhile, if Russian people had forgotten about the plague, Russian doctors had not, and they were well aware of the clinical picture of the disease. In the 1860s and 70s military doctors from the Imperial Academy of Medicine and Surgery had worked with endemic plague in Asia, and regularly sent reports of its symptoms and progress to the Medical Department [Kuzminsky 1876; Svedeniya 1879]. The bewilderment of the Russian medical community in the face of the Vetlyanka epidemic suggests that the doctors, well-informed though they were about the symptoms of the plague, were not prepared to encounter it in European Russia.

Sanitary discourse: 'Asiatic slovenliness'

In 1874 Iosif Ravich, a well-known veterinary surgeon and a professor at the Academy of Medicine and Surgery, had said in a lecture: 'Nowadays a Russian would have to be an ox or a pig in order to get the plague; thanks to modern culture *Homo sapiens* has completely ceased to be capable of contracting this infection'.¹ There was no place for the plague in the European cultural model to which Russia believed itself to belong.²

¹ Cited after [Vasilyev, Segal 1960: 389–390].

² Thus in 1834 the author of a medical topography wrote: 'A hundred years' experience has shown that there is no plague or yellow fever in St Petersburg. The physical position of the town, and the quarantine in place everywhere against these diseases assure us that no such infection will be able to penetrate St Petersburg in the future' [Gaevsky 1834: 81–82]. In this case 'physical position' means not only the climate, but also the fact that the city belonged geographically to Europe, where the plague was considered an evil that had been overcome.

Even though there had been epidemics of plague in the Caucasus in the 1830s and 40s, and there had been an outbreak of it in Persia in 1876–77, not far from Russia's southern border, and the distinguished German epidemiologist August Hirsch had warned of the possibility of its penetrating into European Russia, neither the Russian government nor Russian society could accept the thought of a real danger. Hirsch's alarming prognosis had immediately been translated into Russian and published in a specialist edition [Girsh 1876], but there had been no official response. The plague had not been included in a course of lectures on epidemics for military doctors in 1876–77, which they attended immediately before their departure for active service. 'Eikhvald [a professor at the Academy of Medicine and Surgery. — *M.P.*] told us all about typhus, dysentery and so on, and we are in his debt for the practical advice which we put into practice when we had to treat this sort of disease in the European army during the war. Eikhvald lectured to us on cholera too, but he did not say a word about the plague' [Galanin 1897: 69].

Plague in Russia was a social diagnosis as well as a medical one. This is evidently why one of the constant themes of the 'plague discourse' was that of a lack of civilisation, of mediaeval barbarity, a theme which had even before then been articulated by members of Russia's scientific community when they wanted to underline their mission as enlighteners.¹ The plague was a very powerful symbol and offered considerable opportunities for defending the rights of medicine: the combination of European communications (railways and steamers) with Asiatic habits of hygiene had created new channels for the spread of disease. Arseny Shcherbakov, a professor at Kazan University, wrote: 'It is no accident that in Europe plague is all but forgotten, and no one supposes that it is possible for it to appear in the present state of civilisation, where hygiene has at last come into its own. As we used to, we have again confused ourselves with Europe, and with no knowledge of hygiene, with no wish even to acknowledge its significance, we do nothing but surround ourselves with insanitary conditions — but like Europe, we too have forgotten about the plague' [Shcherbakov 1879: 41].²

The recognition that there was a plague epidemic threw Russia back into the Middle Ages, demonstrated its lack of civilisation and cast doubt on its pretensions to culture. Both liberals and conservatives understood this at once. The first wrote about the local origin of the

¹ See, for example, the warning addressed to the Russian army by Vladimir Markovnikov, professor of chemistry, before the Turkish campaign: 'Here there will be another unhygienic element, which western armies do not have to contend with — I mean the well-known eastern uncleanness, which we ourselves are guilty of to a significant extent. An oriental city in its usual state, with dead animals and other ordure lying about its streets, is like a western fortress in a state of siege' [Markovnikov 1877: 8].

² See also [Sovremennye izvestiya. 18 January 1978].

disease and stressed the need for immediate sanitary and social reforms, while the latter attempted to play down the scale of the catastrophe and spoke of the external enemy. Thus the influential journalist Mikhail Katkov, editor of *Moskovskie vedomosti*, aware of Russia's vulnerability in the eyes of Europe as a result of the plague, insisted in his leading articles on the external origin of the disease and even tried to avoid using the very word 'plague', though he had previously welcomed the measures to improve the health of Russian towns introduced in response to the epidemic [Moskovskie vedomosti. 22 January 1879; 23 January 1879; 26 January 1879; 13 February 1879; 15 February 1879].¹

'European cleanliness' was opposed to 'Asiatic stink and slovenliness'.² Statistics also provided arguments: in 1876, of the sixty-three provinces of the Russian Empire, comprising eighty million people, the lowest mortality was observed in the western provinces, and the highest in central and south-eastern Russia.³ (There were hardly any statistical data for the Asian part of the Empire, particularly those regions with a nomadic population.) Asia was regarded as a seedbed of epidemics (in the European nomenclature of diseases in use in the second half of the nineteenth century both plague and cholera were designated as 'Asiatic'); within the sanitary discourse Asia was synonymous with physical dirt and moral degradation, idleness, backwardness and lack of civilisation, and Europe was a synonym for cleanness and progress.

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- ¹ Compare, for example, this passage from one of Katkov's leading articles: 'For six weeks we have all been talking about the plague and there is hardly any other topic of conversation. Many people are obsessed with it sleeping and waking, looking for it in every corner and discerning it in every person who has fallen ill or died from whatever cause. <...> It is the subject of newspaper speculation too. If you look at most of them, you will find most prominently news from "the plague province", "the plague-stricken country", the "land of infection" and the "kingdom of death". So is there really something so unprecedentedly dreadful going on in Astrakhan Province? Not in the slightest. The news from there repeats the same thing day after day: neither in Astrakhan nor in the neighbouring provinces are there any signs of an epidemic, no one is dead and no one is infected <...> The 450 000-strong population of the province is in good health, thank God, and in no way reduced. There was some disease in a few villages in November, December and part of January, and 350 people died of it. That is all. <...> The plague propaganda has nothing to do with the facts. If there is no plague, it must be invented. And plague is being invented with a will, and not only Astrakhan Province, but all Russia is proclaimed the seat of infection. The plague, thank God, is nothing but an invention, but the diplomatic quarantine campaign that is being undertaken against Russia is very far from an invention' [Moskovskie vedomosti. 15 February 1879].
- ² It is notable that in comparison with St Petersburg (the very model of a 'sick city', one might have thought), Moscow, as a less European city, enjoyed worse sanitation: 'as a result of bad [i.e. irregular. — *M.P.*] planning, Muscovite slovenliness, the lack of sufficient water, and the extreme pollution of the rivers and ponds' [Skvortsov 1879a: 120].
- ³ The provinces with the lowest mortality were Courland (2.02 %), Suwałki (2.03 %), Estland (2.16 %), Siedlce (2.18 %), Lifland (2.30 %), Piotrków (2.30 %), Kovno (2.32 %), Łomża (2.36 %), Radom (2.36 %), Płock (2.40 %) and Vilno (2.50 %), and those with the highest were Penza (4.58 %), Moscow (4.37 %), Vladimir (4.41 %), Nizhnii Novgorod (4.46 %), Samara (4.58 %), Vyatka (4.59 %), Perm (5.07 %) and Orenburg (5.16 %) [Otchet 1878: 3–4].

In their analysis of the course and consequences of the Vetlyanka epidemic, the doctors, the government and the press saw the sanitary condition of the settlement as the cause of the illness; in other words they proceeded from the point of view of the accepted miasma theory of the influence of the environment on the outbreak of disease. Seeing no difference, in this sense, between Vetlyanka and large cities such as Nizhni Novgorod and Moscow, they concluded that plague might be latent absolutely anywhere. The only means of preventing an epidemic was to raise sanitary vigilance sharply, and their only helps against the invisible but palpable infection were the sense of smell and an increased fastidiousness. Bad smells were taken to be immediate symptoms of danger: every place that stank was seen as a source of pathogenesis. In view of the danger that threatened the bar was set as high as possible, which was reflected in the discourse by hyperbole and the concatenation of frightening details. Here is part of the dispatch of the correspondent of *Golos* from a session of the Chişinău Physicians' Society on 6 February 1879:

All of us living in Chişinău knew that we were living in an unhealthy swamp; but when at the meeting, one after another, reports were made of the insanitary conditions pertaining in various parts of the city, and when these facts were put together to form a general picture of its insanitary condition, then 'I fear for man' [a line from Nikolai Polevoi's rather free 1837 translation of Hamlet, which is not in the original. — M. P., R. M. C.] and cannot help thinking, is it really possible to paddle about in this disgusting sewer, continually breathing putrid air and feeding on carrion, and remain alive, unless one is a corpse worm or one of those creeping things that live in rubbish tips, the very sight of which is utterly revolting? [Golos. 26 February 1879].

This highly rhetorical passage makes direct reference to olfactory sensibilities, the degree of civilisation, fastidiousness and the right to call oneself *Homo sapiens*: moreover, danger is everywhere. The plague epidemic drew attention to the sanitary condition of all Russian towns, and not one of them passed the test of 'Europeanness'. Here are some more examples:

Moscow: One can only hope that they will get down to their chief task as soon as possible, and cleanse the buildings, yards, streets and squares of all Moscow, which is rotten through and through, starting with the Okhotnyi ryad and the Smolensk market, and ending with that dreadful flea-market [the Khitrov market. — M. P.] which is the prime source of that disease [syphilis. — M. P.] the name of which is for some reason still avoided in our official bulletins [Golos. 29 January 1879].

Kostroma: As far as sanitation is concerned it is the abomination of desolation; some of the large works and factories along the Kostroma River above the city exhibit particularly bad conditions and are notable

for the poor conditions of their workers, who number up to ten thousand. <...> Overall the dirt in the city is atrocious. [Delo. No. 2, 1879].

Simferopol: Not one of our many provincial capitals is blessed with such favourable natural conditions — and, probably, not one of them presents such a dirty, slovenly appearance as this [Golos. 26 February 1879].

Ufa: The inhabitants themselves by their slovenly and lackadaisical attitude have managed to subvert the favourable natural conditions and create artificial sources for the propagation of disease [Golos. 6 February 1879].

Ekaterinoslav: The abattoirs are so bad that the sanitary commission could not bear to remain more than a few minutes in them [Golos. 9 March 1879].

Even the towns in the west of the Russian Empire, which were praised in other contexts as examples of cleanliness and neatness, are, in the light of the danger that threatened, described as seedbeds of illnesses:

Warsaw: The sanitary conditions of this city are dreadful. Water drawn from the Vistula is not filtered, waste water flows through open drains which give of a dreadful stench along the sides of the streets, and the streets are not swept — and nobody even thinks of cleaning the yards and lavatories [Novoe vremya. 22 February 1879].

Considering the urgent steps that must be taken against the plague, Professor Arseny Shcherbakov of Kazan University made a sort of sanitary excursion through his home city of Kazan:

Our city is surrounded with piles of ordure of various sorts, at Arskoe Field and Prilutskoe Field, just outside the city limits, and sometimes within the city itself, for example, behind Yamskaya Street, we find astonishing piles of human waste; where such things are not to be found, we find instead unimaginably revolting slaughterhouses with huge quantities of decaying remains; where there are no slaughterhouses, there is our privileged favourite — manure. In the city itself we find more manure, amazing quantities of it; the squares are surface with manure, ravines are filled in with manure, bridges are built of manure, and dozens of houses, if not whole streets, are built on manure; in a word, everywhere there is manure and more manure. Our night soil collectors reside within the city, and their abode can easily be recognised by the horrible stench which can literally be smelt several streets away. But that is not all. One has but to glance into the yard of almost any building to see beautifully kept cesspits and rubbish pits, and suchlike — delights which we all know so well [Shcherbakov 1879: 40–41].

Rhetorical devices here create a picture of a sanitary hell comparable with the description of St Petersburg in summer in Dostoevsky's

Crime and Punishment [Rindisbacher 1992: 126–129],¹ a hell, the circles of which descend from the outskirts of town to the house and the yard, and which is perceived best of all through the nose.

As during the previous cholera epidemics, religion also came to the attention of society in the light of hygienic practice. Alongside reports of the heroic behaviour of the priest of Vetlyanka, who tended the sick, gave confession and communion to the dying, and finally caught the disease and died together with his family, there was other news in the papers. There were reports from Tsaritsyn that the local clergy were not supporting the sanitary commission over the question of a cemetery for victims of the epidemic [Sovremennye izvestiya. 6 January 1879]. There were rumours that the plague could be caught from the spoon with which communion was administered or from the priest's epitachelion during confession, and that the veil used to cover the dead person during the funeral service absorbed deadly miasma, even if the body was completely covered by its shroud [Sovremennye izvestiya. 2 February 1879]. Doctors demanded that if there were even the slightest suspicion the funeral service should be dispensed with and the body buried in quicklime without either coffin or shroud.

Such proposals provoked violent protests from the peasantry and shocked the educated classes. But they extended the régime of heightened sensitivity to sphere of life to which it had previously not been considered appropriate to apply the sanitary approach. (A few years before the events described a proposal by doctors to replace cemeteries with columbaria for hygienic reasons had been met with vigorous protest in society [O sozhiganii trupov 1875].) It is typical that a year later a paper was read at a congress of provincial doctors in which the author said that the reason for the spread of diphtheria was that 'in Germany everything can be disinfected, but our people will not allow us to disinfect vessels, icons and utensils' [Protokoly 1881: 6]. In addition, doctors recommended that there should be no mass events, from fairs to church services and religious processions, which went quite counter to the practice of processions and services of intercession, which had traditionally been seen as a means of deliverance from epidemics, understood as a manifestation of divine wrath.

¹ Compare in *Crime and Punishment*: 'Walking past the Yusupov Gardens, he was even getting carried away by the notion of introducing tall fountains there — how marvellously they'd freshen the air on every square. Little by little he came to the conclusion that extending the Summer Garden into the Field of Mars and even joining it to the gardens of Mikhailovsky Palace would be a wonderful and most beneficial thing for the city. He suddenly wondered why it is that in every large city, man — out of some particular inclination as much as actual need — lives and makes his home in precisely those parts of town where there are neither gardens nor fountains, where there is filth and stench and every unpleasantness' [Dostoevsky 1989: 73; Dostoevsky 2014: 90]. Raskolnikov's thoughts are reminiscent of the Utopian projects for 'hygieopolises', ideal cities from the sanitary point of view, demonstrated at the hygiene and sanitation exhibitions in Europe, and which the exhibitions themselves in a measure made a reality [Katalog 1896: XX]. For more on plans of ideal cities see [Brower 1990: 3–7].

For the Russian medical community the epidemic was the occasion not only to bring forward more arguments in favour of the contagion or miasma theory of the plague, and not only sharply to criticise the existing police medical and quarantine regulations, but also to proclaim *urbi et orbi* insistent demands for change in habits of hygiene, both public and private, and indeed of the whole social order, which logically brought into question the established political order. Writing about the measures that must taken, a columnist in the liberal newspaper *Golos* puts assistance to the lower classes in first place and sums up: ‘We must therefore strike at the root of the matter, where all infection originates — poverty’ [Golos. 13 February 1879]. When they switched from the medical to the social register, doctors and publicists concentrated on the groups of risk associated with the malodorous side of life (cemeteries, slaughterhouses, night soil collection, and factory production — leather, paint, paper, fish products, — town rubbish dumps, doss houses, and so on) which thus helped to spread infection throughout other sections of society via the air. The rhetoric typical of earlier epidemics, which blamed external enemies for spreading disease [Bogdanov 2005: 360, 369], gave way to the search for the internal causes of the social catastrophe, and the religious and moral approach to the lower classes was replaced by a medical one. This may be illustrated by two quotations:

Plague is not a disease brought in from outside, but home-produced, matured and generated by itself among the working population of Astrakhan Province thanks to the lamentable condition of the working classes and the inexpressibly careless management of the main industry along the Volga in Astrakhan Province, the fisheries. Neither the sheds nor the boxes for salted fish have been cleaned or disinfected for decades, and over those decades there has been such an accumulation of infection that it eventually developed into plague and spread over the whole province. However distressing this fact may be to Russian amour-propre, it must be acknowledged [Golos. 30 January 1879].

What is Vetlyanka in reality? We have asked people who are sufficiently well acquainted with the lower reaches of the Volga. Vetlyanka, the steamer captains assure us, is such a malodorous place that the passengers cover their noses as they sail by so as not to smell it. Perhaps even the infection itself, as some people think, did not reach Vetlyanka from outside, but was produced there and will continue to be produced there from the dampness in the sheds where the shad and other fish are dried, from bad quarters, full of the stench of rotten fish, and from bad diet — nothing but fish. Since firewood is so expensive, working people in damp rooms warm themselves with the samovar and their own body heat. <...> Infection <...> in modern Russia may affect millions of lives, given the density of the population and their frequent intercourse, and

thousands of millions of roubles, given the necessity of internal and external quarantine and the interruption of trade and production [Sovremennye izvestiya. 10 January 1879].

What the journalists said was repeated by the medical profession: ‘It is now a truth universally known that any kind of infection takes root more easily amongst the poor, who live in unhygienic conditions. Therefore it was natural, in view of the plague, to set about improving those conditions’ [Skvortsov 1879a: 169]. Therefore the medics made ever more insistent claims to authority in spheres which had hitherto been the province of state and church; the epidemic and general panic gave them a pretext for demanding an extension of their powers.

Smell: symptom and evidence

After the quarantine had been lifted Count Mikhail Loris-Melikov, appointed temporary governor-general of the provinces of Astrakhan, Saratov and Samara, ordered a report on the sanitary condition of Astrakhan, the nearest large city to the centre of the infection. The physician and hygienist Dobroslavin, who worked on the report, compared data on the birth rate and mortality over twenty years, investigated the character of the locality and its buildings, and came to the conclusion that ‘Astrakhan <...> must be classified as a most unhealthy city, in an extremely abnormal condition, and in need of immediate improvement’ [Dobroslavin 1880: 3]. Besides the recent plague, there had been more outbreaks of cholera in Astrakhan Province than in any other province of the Russian Empire except St Petersburg. Dobroslavin attributed this to the marshy nature of the locality, pollution of the drinking water, the density of the population and the lack of habits of hygiene.¹

Discussing the consequences of the epidemic for the way people lived, another physician and hygienist, Irinarkh Skvortsov, who taught at Kazan University, noted that ‘the plague and the resulting discovery of what had been before our very eyes all the time have, as we know, made everybody sit up and take notice. Now the words

¹ Compare, for example: ‘An examination of the doss houses of the First District revealed that they are all not only capable of spreading epidemics, but by their very nature cannot but have a pernicious effect on the working people who find shelter there. <...> The whole mass of buildings are usually very close together, almost on top of each other, without any regular plan or order. The yards are generally kept in a highly unsanitary condition. There is a pervading stench from the manure, rubbish pits and latrines, and sometimes whole floods of decaying filth around overflowing cesspits. The soil is full of polluted liquids, and consequently so are the walls of the adjacent doss houses and their basements. The cramped and crowded construction of the buildings and the confusion of galleries, porches and awnings makes it even harder for fresh air to penetrate into the built-up yards. Foul smells hang in the stale and stagnant atmosphere. But you will not find better air when you enter the living space [Dobroslavin 1880: 25]. Nikolai Shchepotyev used similar arguments in his study of intermittent fever’ [Shchepotyev 1883: 1–2].

“hygiene”, “sanitary measures”, “health improvements”, “disinfection” and so on are in everyone’s mouth; in other words, what was hitherto forgotten and discussed only in very limited circles is now suddenly universal, and has itself taken on the character of an epidemic’ [Skvortsov 1897a: 131].

Thanks to strong support in the discourse and to the political consequences, many of the sanitary practices that had begun in response to the Vetlyanka epidemic were transformed from temporary precautions into permanent institutions. The Ministry of Internal Affairs issued a circular on improvements to the sanitary conditions of Russian towns. At the state level, one of the most important consequences was the revision of the Quarantine and Police Medical Regulations [Dobroslavin 1887]; at the provincial level, the creation of medical commissions to study the plague, public health committees and sanitary commissions, charged with adopting urgent safety measures. These commissions were made up as a rule of representatives of the municipal and rural administrations and respected citizens, and were given the power to supervise hygiene not only in public places, but also in the private sphere. For example, in Tambov the sanitary commissioners were given the power without hindrance ‘to enter buildings and yards to observe their cleanliness at any time’. However, there were hardly any sanitary doctors among the members of the commissions: their presence was considered optional and was not mentioned in the rules, and the personal experience of educated and respected citizens was considered adequate for supervising hygiene. Nor had the doctors yet received a deciding voice in questions of public health: the process of the change of their professional status had only just begun.¹

Many municipal administrations (St Petersburg, Moscow, Warsaw, Kharkiv, Odessa, Chişinău, Saratov, Kam’yanets-Podil’s’kyi, Kazan and others) undertook the division of their cities into sanitary districts. Besides the official innovations there were initiatives ‘from below’: for example, on Vasilievsky Island in St Petersburg there was a private sanitary society organised, the aim of which was to inspect business premises and eating-houses, detect any sanitary infringements, and report to the police anyone guilty of polluting the air or unhygienic activities [Novoe vremya. 12 March 1879]. The following recommendations were distributed to the urban population: ‘It should be the responsibility of every private person and of every householder to ensure that the premises he occupies should be kept in as clean a condition as possible, regularly cleaned and ventilated, and also the air within them <...>; and that the yards, latrines and

¹ The turning-point would be at the time of the next serious epidemic, in 1892–93 [Frieden 1977: 538–59].

rubbish pits should be regularly be cleaned out and disinfected' [Chuma i predokhranitel'nye mery 1879: 6].

As before, smells were the warning of danger. The temporary medical and sanitary administration paid close attention to slaughterhouses, markets, cemeteries, doss houses, inns, bathhouses, rubbish tips and industrial premises.¹ All these places were doubly alarming: not only was their smell evidence of the infection that they harboured, but the available means of cleansing them only increased and extended the odour, which, in the eyes of the local inhabitants, increased the risk of infection. For example, the sanitary commission in Ekaterinodar encountered 'objections on the part of the enthusiasts for the local manure, which, they said, if touched, would produce more disease' [Novoe vremya. 18 March 1879]. As an alternative it was proposed to cover refuse with 'an impenetrable layer of carbolic acid', i.e. to isolate the bad smells and thus prevent the infection of the air. A similar question was debated in St Petersburg: the Society of Practising Physicians 'recognised by a majority that the removal of a huge quantity of filth all at once might harm the health of the population' [Novoe vremya. 9 March 1879].

Meanwhile the press was reiterating that it would be wrong to rely only on the work of the sanitary commissions: there were by no means enough of them, and it was easy for a slovenly householder to hoodwink their inspectors. Moreover, not even those householders who were honestly prepared to work with the commissions could be trusted. Assuming that landlords were often much more ignorant (and, therefore, much dirtier) than their tenants, the newspapers recommended that residents should, in the interests of their own safety, take the responsibility for the domestic environment upon themselves and monitor their landlords and their immediate neighbours. Some publications invited their readers to send in complaints about specific 'insanitary conditions', promising to publish the most egregious cases and to see that steps were taken. Here are some such items from *Sovremennye izvestiya*:

The members of the commission should be energetic in their inspection of the state of the buildings, and, moreover, everyone who lodges there should be able to recommend his own living quarters to the commission's

¹ The presence of bathhouses in this list is easily explained in terms of the miasma theory: public baths were places where the foul emanations of the human body and dirty linen were concentrated. For example, the Odessa City Council, after 'it was reported to the Council that recently twelve persons of the lower ranks had fainted in a bathhouse where linen was being washed' [Golos. 5 February 1879] issued an order forbidding the washing of clothes. From the point of view of Pettenkofer's 'ground water theory', bathhouses had to be regarded as a factor in pathogenesis. 'When we speak of bathhouses, we must note that the majority of them are already significantly impeding the improvement in the health of our towns as a result of their highly insanitary construction, which means that all the waste water drains, not into the sewers, but straight into the ground, where the accumulated dirt produces miasmas and infects the air' [Gigieno-ekonomicheskii slovar 1888: 145–148].

attention, as, for example, might I — Mr Shelaputin's house on Cherkasskii Lane and his other house on the Volkhonka; although they generate a revenue of 100 000, are in the middle of the city, and have a large number of tenants, there is a total lack of the necessary offices; on the contrary, it is the empire of foul odours, stuffiness and vapours! Of any ten houses taken at random, nine will be treasure houses of infectious diseases! [Sovremennye izvestiya. 13 January 1879].

In this building [N. G. K-n's house on the corner of Sadovaya and 4th Meshchanskaya Streets] there are up to 60 flats, literally overflowing with tenants. <...> Despite this, it is about a year since they have seen a single barrel from the company that empties the septic tank [Sovremennye izvestiya. 19 January 1879].

The other side of the building in which I live looks out over the street (an alley by the Nikitskie Gates), but I moved out of there last summer, because I could not open the windows by reason of the stench. I informed the local authorities, asking them to take steps to clean the yards (on the other side of the street) which were the source of these revolting smells. <...> The police did take steps, and for a time there was an improvement: the smell diminished, but not for long. These people, who know only how to swallow things up, once again organised things in such a way that I preferred to leave their proximity, namely some sort of coach works, ladies' outfitters and similar riff-raff. <...> All these buildings are full of labourers, eating-houses, butchers' and fishmongers' shops and other little shops, there is even a baker's (Chelnokov's). But what a horrible place, what an unutterable stench! I tell you as a man of honour, I have convinced myself of it a hundred times, I have the evidence of my own eyes and nose, and now I do not walk on the side where those buildings are, nor will I until they are all pulled down [Sovremennye izvestiya. 27 January 1879].

In all there were forty complaints of this sort published in *Sovremennye izvestiya* in January and February 1879, dealing with residential properties, shops, markets, stables, workshops, doss houses and eating-houses. In these complaints pathology and infection had evidently attained a social dimension: first and foremost, their authors placed the responsibility for 'insanitary conditions' on members of other social groups, from merchants and small traders to artisans, handy-men and beggars. Further tension was caused by the 'vertical' division of the urban landscape that characterised St Petersburg and Moscow in the second half of the nineteenth century, when the different storeys of the same building were occupied by people from different social classes [Bater 1976]. Moreover, in other Russian towns, where social distinctions were expressed 'horizontally' in space, the distance between the rich man's townhouse and the dwellings of petty traders and journeymen was not great, sometimes no more than a block or a yard [Brower 1990: 142]. Against the background of the miasma

theory, the main explanation for pathogenesis, the impossibility of avoiding smells and their ubiquity not only drew attention to a dangerous proximity, but turned vast numbers of people into potential victims and, consequently, gave them an interest in being guardians of public safety.

The smells generated by foodstuffs attracted particular attention. The peak in the publications about the plague at Vetlyanka co-incided with Shrovetide and the beginning of Lent, a period when fish from the Volga was one of the main foodstuffs in European Russia. The fear of infection led to an immediate fall in the prices of caviare and of fresh and salted fish: they were suspected of being a source of the plague. The number of buyers fell sharply [Sovremennye izvestiya. 28 January 1879]. After fish, other foodstuffs were subjected to sanitary inspection: bread, meat, vegetables and baked goods. The heightened awareness of hygiene made people particularly attentive to smells — of rotten vegetables, stale flour and meat no longer fresh — which dishonest shopkeepers attempted to disguise, thereby placing their customers in deadly peril [Novoe vremya. 17 February 1879].¹ In January 1879 3 500 *poods* of rotten fish were burnt in Tsaritsyn alone; this practice was later extended to the whole of the Volga region [Sovremennye izvestiya. 12 January; 17 January 1879]. Dr Aleksei Dobroslavin cites an instance when even after disinfection with calcium hypochlorite, the fish warehouses still smelt of rotten fish and were therefore listed for immediate demolition [Dobroslavin 180: 30]. Bitterly critical of the fish processors who had tried to protest against the ruinous precautions being taken, a *Golos* columnist wrote:

We have been trading for decades, and it is only now that we discover what it is for a herring to be unfit for consumption, or for salted fish to be less than fresh. From time immemorial the custom has been that a fish that stinks a bit, especially if it is salted, is of the highest quality. We have regarded this smell as we do the smell that accompanies cheese or woodcocks. Fish were deliberately salted in such a way, gentlemen, that they would be a bit smelly. And smelly sterlet is of the highest quality too — it is soft, you know, and tender, and has its own bouquet [Golos. 7 February 1879].

This passage is notable for the social distinctions in attitudes to a dubious smell: the unenlightened merchant will not acknowledge or simply does not understand the danger that is pointed out to him, and mindlessly regards a sharp smell as a sign of a delicacy. To a certain extent this idea continues the widespread notion of the lower classes' limited sensitivity, resulting from their physical

¹ The same issue describes the scandal of cakes baked in Moscow 'in a most slovenly manner with contaminated liquids'.

constitution, level of education and habits.¹ The belief that the diseases of peasants were simpler and more easily understood than the diseases of townfolk,² that the servants do not notice the smell of burning and can eat bad food without harm to their health, reflects a social distinction in sensitivity and susceptibility to illness [Radakov 1876: 7; *Gigieno-ekonomicheskii slovar* 1888: 97].³ However, at a certain point the emphasis shifts: while the lower classes still possess less sensitivity (usually formulated in terms of their ‘rude’ or ‘primitive’ nature), they become the equals of the bourgeoisie as far as their susceptibility to harmful miasmas and pathogenic vapours, or even more so, as a result of their poor living conditions. This is the basis upon which the lower classes must be educated and controlled, whether they like it or not.

Here is another report: ‘Until the arrival of the temporary governor-general the sanitary commission inspecting the business premises and warehouses of Tsaritsyn was subject to abuse: the destruction of unfit victuals provoked not only murmuring, but open threats. But for all the laughter, cursing and threats, the commission continued to do its work, moving through the town from dawn to dusk, finding its way in to all the cellars, attics and slums, urging, demanding, sequestering tens of thousands of poods of unfit food and burning it. A single nose could be faced with the task of smelling a thousand barrels of herring a day...’ [Golos. 1 February 1879]. The chief instrument for determining the source of danger — and thus of averting disease and poisoning — was the sense of smell. Physicians and scientists were aware that this was too subjective a method, but had nothing better to propose. Dr Irinarkh Skvortsov from Kazan again remarks: ‘When we undertook the general inspection of fish, we had no hard and fast criteria for determining whether it was fit for consumption, except whether it stank or not. And since this perception is too subjective, there were frequent disagreements in the experts’ verdicts, as we too had in Kazan’ [Skvortsov 1879a: 140]. Some attempt was made to formalise the principles on which decisions were made. Thus on 12 February 1879 the Astrakhan Sanitary Commission decided that the brine and undissolved salt used in the fish factories must not be used ‘for more than a year in heated premises’, after which period its smell became particularly

¹ Jean-Louis Cabanès makes similar observations from French literature of the second half of the nineteenth century [Cabanès 1991: 73–75].

² ‘Everyone knows that the health of the city-dweller cannot compare with that of the countryman. Even the diseases of the latter are far less complicated than those suffered by city-dwellers’ [Gaevsky 1834: 51].

³ Compare the following report from Tula: ‘In the summer the stinking liquid used in salting fish is constantly running off from his [a merchant in the fish business. — *M. P.*] premises into the street drain, infecting the air with all possible harmful miasma. I-nov is not averse to charity. Last year at Shrovetide he distributed stale fish to the poor, mostly *navaga* which gave off such a dreadful smell that it could be smelt in all the surrounding streets’ [Sovremennye izvestiya. 25 January 1879].

intolerable [Astrakhanskie gubernskie vedomosti. 24 March 1879]. However, there was too great a diversity of circumstances for the development of a common programme to be possible.

In the handbooks on hygiene published in the early 1880s it was not only smelly herring or sterlet that were considered dangerous, but also well-hung game, ripe cheeses, and other foods with a strong smell, including strong drink, spices and flavourings, such as mustard and onion [Skvortsov 1881b: 211]. Strong smells were evidence of a double danger: in the first place, they might indicate that the food had gone bad, and in the second, such foods might disturb the balance of the organism and cause fevers, indigestion, etc. Cookery inclined more and more towards bland flavours, while both cookery books and specialist publications on food production repeatedly insisted on the importance of smell in determining the quality of provisions. The intentions of the hygienists and cookery book writers were becoming closer: the sanitary regulations, the textbook of hygiene, the cookery book and the handbook of domestic economy were all directed towards providing ‘objective’ scientific knowledge to protect people from the errors and dangers of everyday life.

The refinement of the sense of smell, increased olfactory vigilance and the cultivation of fastidiousness were essential allies against an invisible and ubiquitous peril. In the emotive words of the *Golos* columnist, ‘It is not the plague that is so terrible, but that plague of blindness which for centuries has made us the passive spectators of the systematic corruption of the air, water, soil and dwellings of our town. It is this fecklessness that carries off more victims than the Vetlyanka epidemic every day. All this pneumotyphus, cholera, diphtheria and smallpox only represent a danger to us because our habitual disregard of hygiene creates a fertile soil for them’ [Golos. 18 February 1879]. The rhetoric of the sanitary discourse took the situation to extremes, magnifying the ‘insanitary conditions’ and extending the emergency regime to every habitation, every city, from a Cossack settlement in the south of Russia to a block of flats in Moscow or St Petersburg, replacing the ‘automatic’ regimen of everyday life and provoking society to take decisive action.

In such a way cleanliness and sensitivity became signs of European civilisation, and a refined sense of smell and heightened fastidiousness became essential conditions not only in the choice between ‘culture’ and barbarity, but also in the assurance of one’s personal safety. Thus in the second half of the nineteenth century every new epidemic became a factor influencing the formation of new hygienic and civilising norms and creating a new idea of subjectivity. ‘We need to take more precautions of every kind in the war against the invisible enemy than in a war against a visible enemy, and, obviously, the more dangerous the enemy is, such as the plague, the truer this is,’

wrote Skvortsov in his 1879 remarks on the sanitary measures [Skvortsov 1879b: 90]. The Vetlyanka plague, which struck Russia just before Pasteur and Koch made their bacteriological discoveries, played an important role in this reform of sensitivity. Over the next ten years the measures recommended by doctors during the epidemic to improve the health of town and villages¹ were to be extrapolated into the everyday life of the town.

Abbreviations

Sbornik sudebnoi... — *Sbornik sochinenii po sudebnoi meditsine, sudebnoi psikiatrii, meditsinskoj politzii, obshchestvennoi gigiene, epidemiologii, meditsinskoj geografii i meditsinskoj statistike.*

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¹ For example: 'It should be avoided <...> that stale air expelled from rooms should be replaced by polluted air from staircases, corridors or dirty yards. <...> Dirty linen should in no circumstances be kept in rooms where people live, nor should commodes or chamber pots be placed there unless they are kept in the cleanest possible condition and rinsed beforehand with disinfectant <...> or sprinkled with powder to prevent decay. <...> Various left-overs or scraps of food may also spoil the air, so they should not be kept in rooms where people live, but removed to the larder or cellar, or if not needed thrown away in the appropriate place' [Skvortsov 1879c: 15–30].

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