

# EPIDEMICS IN THE HISTORY OF HUMANITY AND THEIR CONSEQUENCES

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## **Abstract**

Human development has always been accompanied by pandemics and epidemics. This essay focuses on those that have significantly influenced the course of history, and try to predict how the world will change after the COVID-19. And while the economic implications are relatively clear, the political effects of the pandemic are less clear.

**Key words:** *epidemic, pandemic, plague, cholera, flu, Covid-19.*

The COVID-19 pandemic has posed questions to the world politicians not only about the effectiveness of the healthcare systems, but also about the criteria for assessing the quality of the work of the governments of different countries. In recent months, political scientists and economists have been actively discussing what the world will be like after the end of the pandemic and who will emerge victorious. And while the economic implications are relatively clear: national economies are expected to shrink, production and consumption may decline signifi-

cantly, and small and medium businesses will suffer the most - the political effects of the pandemic are less clear.

There is no doubt that the world will not be the same after the victory over the pandemic and the return to normal life.

One of the first epidemics dates back to 430 BC. Then virtually the entire population of Athens died. There were several versions of the origin of the plague. One of them testified that the merchant ships brought the disease from the Far East; another hypothesis accused the Spartans of poisoning a source of water during the Peloponnesian War. For the period up to 426 BC (with short breaks), the disease took about a quarter of the city's population (about 30 thousand people). One of the the victims of the epidemic was Pericles, the founder of the Athenian democracy, who was a military leader, and before the epidemic he skilfully resisted the onslaught of the Spartans. The fear of the disease was so great that even the Spartans cancelled the invasion of Attica. Pericles' death radicalized the policies of Athens, and at the same time halted the then prosperity of Greece. His successors preferred to follow an unstable policy, endeavouring to be popular rather than useful.

The disease lost a third of the population of Athens, which changed the balance of power in the ancient Greece and moved the political centre to Sparta. The infectious agent of the epidemic was not known until 2006, when the analysis of teeth found in the excavations of a mass grave near the Acropolis of Athens showed the presence of typhoid bacteria [Papagrigrorakis 2006: 213].

The most painful blow to the welfare of Roman society of "Golden Age" was by the epidemic of Antonine Plague (165-180). The ancients themselves considered it a plague, but in reality, it was most likely smallpox. The emergence and spread of the plague is associated with the events of the Parthian War of 161-166. The first cases of infection were noted during the conquest and plunder by the Romans of Seleucia on the Tigris in winter of 165-

166. In the spring, the losses in the ranks of the Roman army were such that the successful start of the offensive in Media had to be cancelled, and the troops returned to their bases. This decision of the command was fatal: the soldiers returning from the campaign became spreaders of the infection. The disease soon spread from Syria to Asia Minor, and from there spread to Greece and other provinces through densely populated cities such as Smyrna, Ephesus and Athens. Due to a developed network of roads and sea routes, the epidemic soon reached the most distant and remote areas of the empire. Antonine Plague devastated the army and possibly killed more than 5 million people in the Roman Empire.

The epidemic contributed to the end of Pax Romana, a period from 27 BC - 180 AD, when Rome was at the peak of its power. After 180 AD, instability grew throughout the Roman Empire due to civil wars and invasions by “barbarian” tribes. The price of manual labour rose sharply. Slavery became ineffective. There were not enough resources to restrain the onslaught of the barbarians. The empire was collapsing. The horror before the epidemic and widespread panic led to a weakening the people’s faith in the old gods. Against this background, there was a innate spread of Christianity, which became the “religion of salvation” in this large region. The Christians were not afraid of death, performed charitable deeds, cared for the dying, built hospitals. This was an important factor for the further official recognition of Christianity as the official religion in the Mediterranean world. The same situation occurred at the same time in China, where Buddhism, another “religion of salvation”, spread. An even more terrible catastrophe was the Justinian plague, the first recorded bubonic plague pandemic in history, which brought unparalleled devastation. The first cases of infection were recorded in Pelusia in Egypt in 541, during the reign of Emperor Justinian I. The disease-bearing rats arrived in Constantinople on grain ships. From the capital of the Empire, the

plague spread rapidly along all the shores of the Mediterranean, including Italy, Africa and Spain. Through the Alps, the disease penetrated into Gaul, from there to Germany, and then, crossing the English Channel, appeared in British Isles and Ireland. It spread just as rapidly to the east, ravaging Syria and Mesopotamia in a few years. In the Byzantine Empire, the epidemic reached its apogee around 544, when in Constantinople it killed up to 5000 people a day. For half a century of lasting of the disease, the entire cities and villages disappeared. Agriculture regressed to the subsistence level. Taxes ceased to pay, reducing once the full treasury. Large estates were distributed as salaries to soldiers, establishing a new social order. The plague became the highest manifestation of the crisis of the Byzantine Empire. It was preceded by many years of war between Byzantium and Persia and famine. Both empires suffered from the plague. The dream of the Byzantine emperor was to revive the failed Rome. Vast areas in the Eastern Mediterranean, Asia Minor and North Africa were depopulated. A political and demographic vacuum was created, and this was filled by Islam. The historical consequence of the plague was the emergence of the Arab state and Islam as a future world religion.

The plague devastated Europe for more than 200 years, between 541 and about 767, rolling in 20 successive waves with an interval of 9-13 years. The routes of transmission of the disease mainly related to the sea and land trade routes, population migrations or military campaigns. In the West, after the first few waves, the expansion of the disease by land was recorded within certain limits - in contrast to the Black Death in Europe in the 14<sup>th</sup> century. In fact, the area of the epidemic in the 6-7<sup>th</sup> centuries was limited to an area with a high level of urbanization and intensive trade, i.e. the Mediterranean coastal zone and transport arteries such as the river Po in northern Italy or the Rhone-Saone axis in southern France. In the north, the border of the plague was the Loire Valley and the Upper Rhine

region. It is not yet possible to explain why the pandemic ended two centuries it broke out or how it disappeared from Europe. Depopulation of the disease-devastated areas or reduced virulence of the pathogen are plausible, but explanations stay rather insufficient.

The second plague pandemic struck in the 14<sup>th</sup> century. It is possible that the disease was brought from China in 1331. The social conditions again contributed to the spread of the disease. Trade and delivery increased significantly for several reasons. The Western naval forces recaptured the Strait of Gibraltar from Muslim forces braking Christian ships. New designs on ships made them safer to travel. Then the disease was brought by the traders through the Silk Road to the Greek settlements of the Crimea. The Mongols took advantage of this, during the military assault on the fortress of Kafa (now Theodosia), through catapults threw the bodies of their dead and spread the disease among the defenders of the city and its inhabitants.

Given the logistical importance of Kafa at the time, the virus quickly spread to old Europe. The epidemic ended in 1352, and the number of victims reached 25 million, which at that time was 5% of the total population of the Earth. This time the pandemic actually caused the fall of the feudal system, because the disease took away a large amount of labour that served the knights.

Between 1536 and 1670, the frequency of epidemics dropped to one every 15 years, claiming about 2 million lives in France only in 70 years (1600-1670). Among them, 35000 fell on the “Great Plague of Lyons” of 1629-1632. In addition to the above, late plague epidemics are known: the Italian epidemic of 1629-1631, the “Great Epidemic of London” (1665-1666), the “Great Epidemic of Vienna” (1679), the “Great Epidemic of Marseilles” in 1720-1722 and the plague in Moscow in 1771 [Porter 2009: 24]. What changed the plague? Scientists believe that the “black death”, which in the middle of the 14<sup>th</sup> century took the lives of

a third of Europe's population, was part of the economic downturn of this century. Other researchers believe that the plague helped free the medieval economy from the constraints of the feudal system, and contributed to the economic growth of the European countries. There is evidence that plague mortality has helped stimulate new capital-intensive agriculture and created new family structures that have limited birth rates.

If before the plague the Renaissance was a kind of whim of the northern Italian cities, then after it, apparently, it becomes inevitable for all of Europe. After all, once Europe was deeply religious, very patriarchal. The epidemic claimed the lives of most men, and as there was a shortage of male labour to work in manufacturing, women began to master this activity and their role in the European society began to change. The value of labour rose then sharply, especially of those more or less skilled. Many shops (craft or trade communities), that were previously relatively closed organizations, now had to actively accept everyone into their ranks. Since there was a shortage of labour, attempts to mechanize the production began, primitive engineering and science developed. Apparently, the peasants benefited from the plague, so to speak, most of all. Serfdom in Western Europe in the pre-epidemic times gradually gave way to a new system of class relations, and a sharp decline in population intensified this trend: the feudal lords had to enter into a dialogue with people working on the land. As a result, the rights of peasants expanded soon throughout almost all Western Europe, and extortion of various kinds decreased. Of course, many feudal lords tried to counteract this, so that soon the villagers again had reasons to revolt. However, it had also become much more difficult for the exhausted states to suppress their riots.

The anatomy of the human body, which was "taboo" and medicine was practically in its infancy, has entered a new stage of development. There began a process of studying all sorts of diseases and finding the ways to cure for them. The self-con-

sciousness of the population, which did not want to blindly obey the government, grew at a tremendous rate. This resulted in various riots and revolutions. And of course, it is worth noting that the influence of the church on the population significantly weakened. People saw the helplessness of the priests in the fight against the plague, they stopped to trust them. And the clergy themselves also became very thin during the epidemic, which, unfortunately, was greatly facilitated by the monks' concern for the sick - sometimes monasteries simply died out from the plague. And to solve personnel problems here was much more difficult than in the ranks of peasants and workers.

Thus, none of the subsequent outbreaks of plague or any other disease was such a shock to the European civilization. We can safely say that the black death hardened the Old World and contributed to its progress and its further prosperity, made it new, progressive, which dictates the conditions to the whole world.

The European infections also played a role in conquest of America. The discovery of the New World was accompanied by bringing diseases into America, where the people of Mexico and Peru had no immunity to them. These were new diseases for America. As a result, 95% of the indigenous population of Mexico and Peru became extinct. There is a case when the low immunity of the Aztecs and Incas to foreign pathogens accelerated the fall of their empires and the European conquest of the New World in 1521. Then there diseases such as smallpox or measles out broke here.

Two centuries later, a similar story repeated in Australia and Oceania, where Europeans' contacts with the native people led to their mass extinction.

The spread of smallpox in America led to the rapid conquest of this continent by Europeans. America's wealth flowed into Europe. The import of capital contributed to the development of capitalism.

At the beginning of the 19<sup>th</sup> century, against the background of

active industrialization, the number of working settlements and poor neighbourhoods grew, where an epidemic of another terrible disease, cholera, spread rapidly. It has been known to humankind since the time of the “father of medicine” Hippocrates, who died between 377 and 356 BC. He described the disease long before the first pandemic, which began in 1816. Pandemics often spread from the Ganges Valley. Heat, water pollution and mass crowds near rivers contributed to the spread. In India, cholera was considered a common seasonal infection. With the arrival of the British in the region, everything changed. The British colonial policy disrupted the local communal way of life. Fiscal laws imposed by the British forced millions of Indians to stay in the same places for a long time. The residents were not allowed to lead a nomadic lifestyle, which was the traditional way to avoid dangerous cholera. It was no longer possible for ordinary Indians to avoid cholera. It developed rapidly, and the reasons for its spread have long been unclear.

Cholera in the 19<sup>th</sup> century Europe was the result of an industrial revolution. New types of transport (railways, steamships) emerged, which made movement of people and goods was fast and efficient. On the other hand, rapid urbanization and unsatisfactory sanitation of large cities, especially their poor areas, created a favourable environment for *Vibrio cholerae*. As the epidemic was due to “bad air”, appropriate measures were not taken in a timely manner. The powerful development of epidemiology in the 19<sup>th</sup> century allowed one English doctor, John Snow, to conclude that the disease is in the water, although the bacterium was isolated many years after. It is unknown what consequences the disease could have had if it had not been for technical progress. Then it quickly helped defeat the epidemic by building an extensive drainage infrastructure and the use of antibiotics.

At the end of the 19<sup>th</sup> century, humanity faced a plague pandemic again. The epidemic broke out in 1855 in the Chinese



province of Yunnan, from where it spread to all inhabited continents: from Australia to Cuba, from the Russian Empire to South America - there were no obstacles or borders for the plague. In India and China more than 12 million people died from plague, and the total number of victims is difficult to estimate, as there is no clear time frame for the pandemic: according to one of the assumptions it ended in 1911, when was the last major outbreak of the disease in history - the plague in Manchuria (1910-1911). The aftermath of these pandemic outbreaks could not but affect changes in history: such as the Xinhai Revolution and the overthrow of the Qing dynasty, the overthrow of the monarchy in Russia and the October coup, the rise of the national liberation movement in India against the British colonial rule [Abitaeva 2020: 24].

At the end of the First World War, humanity encountered a new pandemic. This time it was the Spanish flu, which in just two years took up to 50 million lives, much more than the number of victims of the First World War.

The disease was first discovered in the American military camps in Kansas, where tens of thousands of recruits were trained to land on the European continent. Then the lack of proper hygiene, many exhausted and weakened people, as well as limited space contributed to the spread of the pathogen.

As early as the beginning of March 1918, American military doctors recorded a sharp increase in the number of flu cases among the personnel. At the same time, it was not possible to reduce the spread of the infection at the initial stage, because thousands of patients were already on their way across the Atlantic. At the end of March 1918, the first cases of the disease with unusual symptoms were discovered on the west coast of Europe, where tens of thousands of American soldiers landed. From here, the virus began to spread to Paris and further to the south of France, across the English Channel to Great Britain, and, of course, via the front line- to the west of Belgium and the

east of France.

The virus also got to Spain. And since the local newspapers enjoyed freedom of speech and were the first to publish information about the mysterious epidemic, soon the “Spanish disease” became known in Germany. At the same time, German troops during the spring offensive, succeeded on the Western Front and, in particular, they captured many British, French and American soldiers. Among them were, of course, those infected with the Spanish flu. Thus, the epidemic affected the German army, and soon tens and even hundreds of thousands of soldiers fell ill.

The disease may affected the course of the World War I, killing soldiers lacking any proper medical care. Some believe that the course of negotiations US President W. Wilson during the Treaty of Versailles was influenced by the flu infection he was infected by at that time.

The main lesson of the Spanish flu pandemic is that people need to rethink their approach to healthcare globally. In the early 20<sup>th</sup> century, most doctors practiced privately and served primarily the elite, protecting it from epidemics. And the lower classes often could not get to the doctor at all.

But if before the mass diseases affected mostly the poor, from the “Spanish flu” was already suffering everyone (for example, King Alfonso XIII of Spain, British Prime Minister and military leader D. Lloyd George, and as above, the US President W. Wilson fell ill). And doctors could not oppose the new virus. They had no reliable diagnostic testing, no effective vaccine, no antiviral drugs, and no antibiotics to fight complications.

In the 1920s, many governments developed concepts of public medicine accessible to all segments of the population. Separate ministries of healthcare appeared, which had previously been part of other departments and had neither their own funds, nor powers. In the European countries free medical care appeared for the wide population, funded by the state. And in the USA,

a system of healthcare insurance paid by the employer was introduced.

Countries recognized that healthcare practices need to be coordinated at the international level. After all, it was impossible for them to isolate from the epidemic by the state border. Therefore, in 1919, the first international bureau for the fight against epidemics appeared in Vienna. And in the first interstate organization - the League of Nations a healthcare department was created. They became the forerunners of the modern World Health Organization.

Most countries have begun to worry about protectionism and close borders. Close borders both for the movement of goods and for the movement of people. First of all America that was open to emigration for many years, closed its borders to many people around the world. In general, many countries had to abandon the lifestyle and business practices that characterised them in the past.

In the 20<sup>th</sup> century, humanity experienced a number of epidemics, but they did not significantly changed the world as those described above.

Today, hundred years after the Spanish flu, humanity has encountered a new pandemic. There is no doubt that the disease will be defeated and the history will continue. The main question is - when will this happen, at what cost and what lessons will humanity learn from the geopolitics of the pandemic?

What awaits us after the end of the COVID-19? In the fight against COVID-19, the trend against globalization will resume. Interstate alliances and associations may be reformatted. The EU is likely to be transformed into certain local groups. For example, Poland may be implementing the "Mediterranean" project of the Central European unity. The pandemic will strengthen the state and strengthen nationalism. Governments, however they are formed, will take emergency measures to overcome the crisis, and many will not want to give up their new powers after

the crisis gets over. Many countries will be experiencing difficulties, recovering from the crisis will increase the number of weak or failed states. The number of states on the verge of default will increase. Unfortunately, we will feel the narrowing of the rights and freedoms of the citizens. The number of authoritarian leaders will increase against the backdrop of the final approval of power, which was granted to them just temporarily for the period required for overcoming the effects of the pandemic and economic recession. The focus of the international community on medium-term challenges (such as global warming) to overcome the effects of the economic crisis will temporarily shift. The relocation of the centre of the world economy from the USA to China is not ruled out. After all, in the fight against the pandemic, the USA, Great Britain and the EU show insufficient leadership and cohesion, which cannot be said about the countries of the Asia-Pacific region.

Among the market countries, the countries with a developed domestic markets, and those relying on it as the United States, India, Japan, partly China, etc., will have a better chance of rapidly recovering and strengthening their positions in the world. There will also be a reset of the economic strategies: localized and shunting production, as well as the maximum simplification of the complex logistics chains for the supply of resources and sales of goods. The development of robotics, bioengineering and IT-technologies will definitely contribute to this. Developed countries will increase the strategic reserves of essential raw materials; gradually increase their own production against the background of simplification of the technological cycles, as well as in anticipation of new global challenges.

The world will never be the same after the coronavirus.

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