

ORIGINAL ARTICLE

Shipwreck with Spectator Epidemics and Society in the Ancient World¹


Abstract

Epidemics are dramatic, far-reaching events. Their impact on society is unpredictable. Starting from the meaning of the Greek word *epidemia*, the paper highlights its topographical and social connotation (“stay at home, stay in a city”), from Homer to Hippocrates. By revisiting some of the most impactful epidemic events in ancient Greece and Rome, some of them well known, it focuses on their social and political consequences, the geographic spread and the medical features, the continuities in the reaction, and in the astonishment of societies. These events are the Athenian so-called plague of 431 BCE; the epidemic cough of Perinthos as narrated in the Hippocratic Collection; the Antonine plague in Rome around 166 CE; the epidemic taking place in China in the same years of the Antonine plague, suggesting a possible connection between the two, at a time when the first direct contacts between the two empires were established. The notion of contagion is considered. The paper also briefly recalls the so-called plague of Justinian, whose fateful aftermath has been often related to the collapse of the Roman Empire. Eventually, a reflection upon the different perceptions of an epidemic can provide us with some food for thought.

Key words: Epidemics, Ancient Greece, Ancient Rome, Ancient China, Hippocrates, Galen, Thucydides

Received: 6 Jul 2021; Accepted: 16 Oct 2021; Online published: 15 Nov 2021

Research on History of Medicine/ 2021 Nov; 10(4): 215-242.

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1- An early, shorter version in Italian of this article has been published in the miscellany *Geografie del Covid-19*, ed. by S. Bozzato, 2020, at the Dept. of History of Tor Vergata University of Rome. The aim is not that of historical reconstruction – this has already been done by many –, but rather an attempt to highlight those continuities in human experience that are a feature of the anthropological condition, and that let history talk to us today. Much is still to be learned.

Citation:

Perilli L. Shipwreck with Spectator; Epidemics and Society in the Ancient World. *Res Hist Med.* 2021; 10(4): 215-242.



“He [Raskolnikov] remained in the hospital for the rest of Lent and Holy Week. During his recovery, he remembered the dreams he had had while lying in a feverish delirium. In his sickness, he had seemed to see the whole world on the point of being overrun by a dreadful, unheard-of pestilence advancing out of deepest Asia into Europe. Everyone was doomed, save for a very few chosen individuals. A new strain of parasitic worms had emerged, microscopic creatures that invaded human bodies. But these organisms were spirits, endowed with a mind and a will. The people they invaded went mad at once, as though possessed. Never before had people regarded themselves as so wise, or been so impregnable in their view of the truth, as these infected people were. Never had people been more unshakeably confident in their decisions, their scientific deductions, their moral convictions and beliefs. Whole villages, towns, and nations became infected and went mad. Everyone was afraid; people no longer understood one another; they all believed that they alone knew the truth, and suffered dreadfully at the sight of everyone else, and beat their breasts, weeping and wringing their hands. Nobody knew who should be judged, nor how; nobody knew how to tell evil from good. Nobody knew who should be found guilty and who acquitted. People killed one another in senseless fury. Whole armies assembled to fight one another, but even as an army advanced, its soldiers suddenly began fighting among themselves, breaking ranks and falling on one another; stabbing and slashing and biting and devouring each other. In the towns, alarm bells rang all day, summoning all the people to gather together; but who was summoning them, and why, nobody knew. Everyone was afraid. Most everyday trades were abandoned, because everyone put forward his own ideas and improvements, and no one could agree. Agriculture came to a halt. Here and there, people would gather in groups, decide on something amongst themselves, and swear never to separate; but then they would immediately undertake something quite different from what they had just proposed, and begin to accuse one another, fighting and stabbing one another. Fires and famine broke out. Everyone and everything was perishing. The pestilence grew and spread ever further. Only a few people in the whole world could save themselves. They were the chosen few—pure souls destined to found a new race of men and a new life, to renew and purify the earth. But no one had seen those people anywhere, nor heard their words or their voices.”

(Fyodor Dostoevsky, Crime and Punishment, Epilogue, ch. 2. Transl. N. Pasternak Slater)

Introduction

The words and the world they describe

Epidemics are dramatic, far-reaching events; their long-term impact on society is unpredictable. Dostoevsky’s description could refer to any such event in history: regularities can be observed in the history of epidemics that are indeed striking, no matter how familiar such events are. History is talking to us. Going back to the first detailed written records of the confrontation of man with such a challenge, one finds that the very word



epidemic and the verbal form related to it, with their Greek origin, have a meaning that is topographical, geographical, and in any case local. This may be unexpected for the modern reader. The word means “being with one’s own people”, at home, among the *dēmos*. Or, it stands for “to go back” to one’s own people. This is what Telemachus, son of Ulysses, does in the *Odyssey* when his father, still disguised as a beggar, is about to reveal himself to him, after having returned from Troy. Ulysses sits with the loyal herdsman Eumeus in a hut; Telemachus is coming home from far away, from Sparta. He has long wandered in search of his father. They now face each other. Faithful Eumeus welcomes the young son of Ulysses and tells him: “You have arrived, Telemachus ... Come on, dear son, enter, so that he may have the joy of looking at you as soon as he returns home from outside. You don’t often come to the *countryside*, among the shepherds, you rather *stay in the city among the people (epidēmeueis)*” (Homer, *Odyssey* XVI 28).

This is the first appearance made by the word on the stage of Western culture. It tells us that the verb *epidemein* means being among the crowd, staying with one’s own people, and, therefore, being in the city, since the city is where the crowd is, where people gather together. And it is there, indeed, that epidemics, in our modern sense, find their most favorable battlefield. The semantic evolution of the lexeme is illuminating, both in its verbal and nominal form. It goes on to express, typically, the residents of a city, especially if foreigners, as in Sparta² or, by extension, the participants in a banquet, as at the beginning of Athenaeus’ *Philosophers at dinner (Deipnosophists)*. Referring to rain, instead, *epidemic* indicates its arrival, which bees are able to predict (Aelian, *On the Nature of Animals*, 1958, Vol. 13, p. 7). In the Christian perspective of the Church Fathers, the noun signifies the appearance of angels, when showing themselves to the people, ἐπιδημία ἀγγέλων (Origen, *Commentary on John*, 6.57.293), and even more significantly, it designates the manifestation of the Holy Spirit (Origen, *Commentary on John*, 32.8.86).

The transition of the term to the vocabulary of medicine occurs at an early date, namely in the fifth century BCE, the age of Pericles and democratic Athens. But even in medicine, the word *epidemic* at first had a quite peculiar meaning, different from the one we are used to. A famous work, largely consisting of a collection of clinical data, attributed to Hippocrates the father of Western medicine, is entitled

2- In this sense, the term is used by Xenophon, *Memorabilia*, Book I, Chap. 2, p. 61.



Epidemics (Ἐπιδημῖαι); it counts among the most significant and ancient works in the history of Western medicine. It does not deal, however, with diseases and contagions: it rather focuses on individual cases and reports, on what we would call medical records of patients with diverse symptoms and pathologies. *Epidemic* has been taken here to mean the travelling of the doctor, who visits the sick while moving across homes, cities, and regions³. At the same time, in some cases in the *Epidemics* the word comes to signify the spreading of disease.

Diseases in motion

It is at this point in history that a reversal of perspective comes about: it is now the disease that visits people, doctors, cities, the places where people meet, come into contact, and the crowd. The epidemic moves; it enters the houses, it loves being among us, as Telemachus loved being where people could be seen gathering. The term appears for the first time in this sense in another well-known Hippocratic treatise, *The Nature of Man*, where the “epidemic of a single disease” (Hippocrates, *On the Nature of Man*, 9,5), that is, its ‘lingering’ for a long time in a place, and its spreading among local people, is opposed to individual affections: unlike such diseases, that are often determined by bad behaviors, a wrong diet, in short by an inadequate way of life, epidemics are said to be due to the air that circulates pathogenic exhalations entering our body when we breathe.

This is the same air that today spreads *droplets* that let a coronavirus cause a severe acute respiratory syndrome (SARS-CoV-2), as we have now learnt to say; and this same air nevertheless should hopefully disperse the miasms it has contributed to propagate. The conception of air and unhealthy miasms was to be promoted in the course of history – ancient, medieval, and modern –, giving rise to imaginative developments and quackery, but also to important magico-religious connections, that indeed mirror deeply-rooted convictions. According to Hippocrates, the patient’s body with its secretions emanates particles that contaminate the air so that the disease can transmit itself and establish an unwanted bond between individuals. This is the only way that the disease has to survive; it is a law of nature. The role of air in the propagation of infectious diseases is thus clearly acknowledged by these ancient authors.

3- The most recent work on Hippocrates’ *Epidemics* is Lane Fox (2020), who antedates books 1 and 3, the most famous ones, to the first half of the fifth century, around 470 BCE. His analysis, though not always conclusive, is fascinating.



The surrounding environment and its influence in determining the physical, as well as moral constitution of the different populations, and the affections that are peculiar to them, are the subjects of an extraordinary treatise, the first text of Western cultural anthropology, entitled, significantly enough, *Airs, waters and places*. According to this author, diseases, their type, impact, severity, and consequences must be connected with the environment, with geographical and meteorological conditions. Such conditions are, therefore, described and classified, warm countries and cold countries, winds of different origins, the quality of water, the orientation of towns; and diseases, including epidemics, are closely and directly related to the environment. As stated in chapters 1 to 4:

“Whoever would study medicine aright must ... consider the effect of each of the seasons of the year and the differences between them. Secondly, he must study the ... winds, both those which are common to every country and those peculiar to a particular locality. Lastly, the effect of water on health must not be forgotten... When, therefore, a physician comes to a district previously unknown to him, he should consider both its situation and its aspect to the winds. The effect of any town upon the health of its population varies according as it faces north or south, east or west. ...

The inhabitants of such a place will thus have moist heads full of phlegm... Their constitution will usually be flabby and they tolerate neither food nor drink well... The local diseases are these. ... Such then are the diseases of the country, except that changes in the weather may produce epidemics in addition” (Transl. Chadwick, and Mann, 1950).

According to this analysis, there are endemic diseases, and epidemics: the former are called *nosemata epichoria* (νοσήματα ἐπιχώρια), ‘local diseases’, typical of a specific place; for the latter, the definition of *pankoinon nosema* (πάγκοινων νόσημα) is devised, corresponding to the idea of a ‘generalized disease’, i.e. a disease that is ‘common to all’, as dictionaries explain. This seems to be the earliest technical definition of an epidemic, stressing its connection with the environmental conditions, along with a distinction separating it from other, more familiar kinds of disease.

Air and contagion

At about the same time, the author of another short medical-philosophical treatise, entitled *On winds* (or, *Breaths*, the name *wind/breath* indicating the air inside the body) observes (§ 4) that air is the only substance, of the three that nourish the body, that cannot be lacking even for a very short time, whereas one can do without both food and drinks for days. Air is what all living beings share, and it is also the condition for the existence of other phenomena, such as fire (§ 3; 5): it is, therefore, in the air that the ultimate cause of diseases must be sought (§ 4; 5): “Now I have said – the author writes – that all living beings participate largely in the air. So after this, I must say that it is likely that maladies occur from this source and from no other” (§ 5). The most widespread disease, and one which accompanies all the others, is fever, of which there are two types.

The first is “common to all”, and is called *loimos*, pestilence (§ 6), a term that has been translated, often inaccurately, with ‘plague’. And so this term, ‘plague’, has been used in the course of time for any kind of epidemic, thus contributing to uncertainties in the clas-



sification of the different types of infectious diseases and their identification. The second type of fever, on the other hand, is specific (*idia*), and occurs in those who follow a bad lifestyle. The fever “common to all” is apparently due, according to the author, to the fact that all persons breathe in the same air; therefore, once the air has been contaminated, people get sick (§ 6). Albeit implicitly, the notion of contamination or impurity of the air (*miasma*) recalls the idea of contagion and is a concept of an originally ethical and religious order, specifically connected with the killing of one’s parents or with another crime of equal gravity. As a result, a/an (epidemic) disease spreads through an entire region, and the sterility of the earth counts as a similarly pathological feature of nature (See Sophocles, *King Oedipus*, ll. 96-98; 241 f.; see Potter, 2005).

Oedipus, the city, and divine punishment

The example that has most affected the Western imagination is the tragic story of Oedipus, where the contagion “was nourished in this land” and afflicted an entire country. To chase it away, the inhabitants of the city of Thebes long wondered about a form of purification (*katharmos*): exiling the guilty, exchanging death for death, atoning for guilt with blood. Sophocles’ tragedy *King Oedipus*, the supreme example of tragic literature, has an epidemic as a background; an epidemic that is linked to a fault, as was already the case in Homer’s *Iliad*. According to the story, Oedipus had freed Thebes from the cruelty of the Sphinx, who had been tearing and devouring all those wishing to enter the city while not being able to answer the riddle she asked. But Oedipus had also killed his father and married his mother and, in addition to that, there were even children conceived – two daughters and two sons – of such an incestuous relationship. Thus, although unaware of what he had done, Oedipus was the cause of the terrible pestilence (λοιμὸς ἔχθιστος, v. 28) that ravaged the whole city, a city living in an abyss for many years.

It should be noticed that the sphinx was one of those fabulous creatures that in ancient times used to watch over the gates of towns. Towns, as the place for an associated and organized life, as the place for the hopes and fears of their inhabitants, had a ritual origin and a ritual and sacred meaning (See Rykwert, 1976), and they were also at the core of the very notion of the epidemic in the modern sense. As such, they needed protection and were associated with beings having the power to avert evil, the lions gate at Mycenae being the most well-known example: this is the role that passes on to the king. As Joseph Rykwert once observed the sphinx is associated with kingship, “having first been human, and a sacrifice: a buried sacrifice under the threshold or doorpost”, as a foundation rite; it was to become the guardian that had to be propitiated by the entering stranger, as was Oedipus:

“The monster sphinx was not abstraction drawn from some foreign pantheon, but the concrete guardian of the gates of Thebes, grown to fabulous proportions, and assimilated to some feature of Theban religious life. Scholars have pointed out that the conflict between hero and monster, such as that between Oedipus and the guardian-sphinx, was not between creatures utterly different in nature, but on the contrary, of cognate beings, of relations almost. The sphinx seems to have been related to the family of Laius in some way, was even said by some to have been Oedipus’s sister. Oedipus took over the functions of the sphinx, played a similar



role to that of the monster he defeated.” (Rykwert, 1976, p. 223 f)

When the Sphinx, defeated by Oedipus, cast herself from a rock and died, Oedipus took over the kingdom of Thebes and married the widowed queen Jocasta – in fact his mother, whom he unawares had turned into a widow. The pestilence came as no surprise. But even an excess of good luck can mean accumulating debt to the gods, a debt for which a penalty is paid in the form of a catastrophe. The gods correspond to the immanent principle or to the natural force that governs peace and war, disease and health, wealth and poverty; and epidemic diseases are understood as divine correction for human actions. *Hybris* is excess, typically excessive pride toward the gods, leading to nemesis, vengeance, or, better, retributive justice.

Not necessarily, however, must the intervention of a god or demon be presupposed, as happens at the beginning of the *Iliad* with Apollo, or the existence of a more serious fault, such as the patricide of Oedipus. In fact, in the deep imagery of the most ancient representations, as is the poetry of Hesiod in the seventh century BC, diseases are seen to arrive shrouded in a disturbing silence, moving incessantly among men, day and night, and this by their own initiative, *autómatoi* (Hesiod, Works and Days, ll. 102-104): an uncertainty that increases anxiety.

The ‘plague’ of Athens: Epidemic and democracy

The most famous among the descriptions of an epidemic dates back to the same period of Sophocles’ Oedipus, and this is not due to chance: the so-called plague of Athens. Here, we have an unsurpassed model and a revealing story. Indeed, it is there, in ancient democratic Athens, in the fifth century before the Christian era, that our Western world proudly has its roots, in that unique experiment in history that was Athenian democracy. It lasted, in its most mature form, a few decades, but it was enough to induce the authors of the draft of a European Constitution of 2003 to resort – as an emblematic exergue transcribed in the original language –, to the famous claim of Pericles: “Our system of government (*politeia*) ... is called democracy since it is administered in consideration not of a few, but of the majority of people” (Thucydides, II 37, 1). This was to affect our modern imagery: *For the many, not for the few*, explicitly claimed the British Labour party in the 2017 election campaign, with an explicit reference to the last verse of P.B. Shelley’s *The Masque of Anarchy*, written in 1819 in honour of the citizens killed in Manchester in the “Peterloo Massacre”. And Shelley, who loved classical Greece and had been nourished by it, had Pericles in mind.

The beginning of the end of the Athenian democratic experiment was marked by an epidemic that killed, shortly after his speech commemorating the dead soldiers, Pericles himself. To him, a good share of responsibility was attributed shortly before his death, with allegations to which he tried to respond in a second and last speech. This epidemic was masterly narrated by Thucydides.

It is not without significance that in Thucydides’s work the description of the epidemic immediately follows the discourse in which Pericles exalted the features of the city, of the citizens, of Athens’ peculiar and unique political system. Thucydides, with all evidence and with conscious choice, presents the two moments as intimately connected. After all, the words hint themselves at a connection, given that both *epidemic* and *democracy* rely



on the same basic component, the demos: it succumbs to the first and is an interested advocate of the latter. An epidemic, on top of being an effective stress test to which medical science is subjected, is at the same time – more than a war and in a different way –, a way to test the cohesion, stability, and resilience of democracy, and its strength. Today as in the past. In Athens, democracy did not withstand the epidemic and the war. Supplanted by a brief tyranny at the end of the war, it tried to recover, actually dragging on for a few decades, until Alexander the Great decided for her.

The ‘plague’ of Athens: The demographic fate of the epidemic

The epidemic broke out suddenly and devastatingly at the beginning of a war of Greeks against other Greeks, Athens against Sparta, which was to last for almost thirty years: in the end, Athenian democracy collapsed, at least temporarily, and was in any case definitely weakened; Athens was defeated and tyranny – in the ancient Greek meaning of the word – was restored. Thucydides, an observer with the cold but not indifferent gaze of the historian, writes: “No pestilence of such extent nor any scourge so destructive of human lives is on record anywhere” (Thucydides, 47, 3).

Although it is difficult, in the absence of reliable demographic data, to calculate with any precision the impact of the disease on the society of the time, the information available from historical sources and from plausible reconstructions convey the image of an epidemic with vast consequences, which, together with the catastrophic expedition to Sicily in 413, determined the fate of the war. Historians estimate for the region of Attica at the beginning of the Peloponnesian War about 250,000 inhabitants, of which about 100,000 were slaves; more precise numbers are provided by Thucydides himself as regards the army, initially consisting of 13,000 hoplites, 1,200 knights, 1,600 archers; to which was added a reserve of another 16,000 hoplites intended for the protection of the city walls. (Thucydides, 13, 6-9; See Beloch, 1886, pp. 13-24; 73; 97)

Of the 4,000 hoplites participating in the expedition to Potidea in the summer of 430, 1,050 died of infection, 25% (Thucydides, 58, 3). In 425, five years after the beginning of the epidemic, Thucydides calculated a total of 4,400 deaths among the hoplites themselves, taking into account that the initial 13,000 had in the meantime been joined by the new recruits of young people who grew up in those years and had meanwhile become mature for the army; their number is unknown and prevents a precise calculation. However, if we consider the number of victims of the expedition to Potidea, an approximate, indeed very high value of 25% is likely. When, in 415, the Athenians decided to move with their navy against Sicily, Thucydides observed that in the meantime the ranks of young people ready for war had thickened again, to compensate at least in part the losses due to war and disease: from this, we can infer that the mortality rate of the epidemic among children (those who had grown up in the intervening fifteen years) had been rather limited (Leven, 1991, p. 145 f). Absolute mortality from all causes in the war years (431-404 BC) was estimated at 43,000 people (Hansen, 1988, pp. 14-28, quoted by Leven, 1991, p. 145 f).

The ‘plague’ of Athens: Symptoms of a new evil, coming from afar

The medicine of the time, boasting the great Hippocrates among its representatives,



was at a loss, incapable of effective action: “For neither were physicians able to cope with the disease, since they at first had to treat it without knowing its nature, the mortality among them being greatest because they were most exposed to it, nor did any other human art avail” (Thucydides, 47, 4). Medicine was inadequate; other sciences (*technai*), useless. Prayers, supplications to the gods, all were in vain. People might as well desist.

The disease prevailed. It was a new disease, indeed, and as such not to be found in the medical texts of the time, even if these were already numerous. Novelty, the unexpected, is one of the worst enemies for medicine, a discipline that, far from being an exact science, is rather based on an empirical approach, according to which the strength of reasoning must rely on past experiences; feed on data; consider their repeatability and familiarity with disease. In a word, it must resort to its own history.

The first outbreak, Thucydides aptly remarks, occurred abroad, in central-northern Africa, so-called Ethiopia (Thucydides, 48, 1), a region that did not correspond geographically to the one that today bears that name, but denoted in its narrowest sense the areas south of Egypt or, more generally, all southern regions (See Strabo, I 33; I 57), including India, i.e. all areas where people “with the face parched by the sun” (*aithi-ops*) live (See Pietschmann, 1893). From there, the infection moved and passed to Egypt, then to Libya, and finally spread to much of the Middle East. In Greece, it entered from the port of Athens, Piraeus, which was the gateway to an already globalized Mediterranean region. Therefore, it arrived by sea (See Habs, 1982, p. 33), like, many centuries later, was to be the case of Venice and the plague.

It happened all of a sudden. And, invariably, someone spread the rumor that everything had originated from a plot by the enemies, who deliberately circulated the pathogen, polluting the water. All other diseases, according to Thucydides’ report, were overwhelmed by this one.

In his narrative, Thucydides demonstrates familiarity with the medical texts of the time, whose formal schemes are taken up again. He is not a distant and dispassionate observer: “I had the disease myself“, he says with a rare autobiographical hint, “And I myself have seen others sick of it” (Thucydides, 48, 3). He is a direct witness, who speaks after due consideration, even though he is aware that, as always happens in such cases, “anyone, whether physician or layman, may, each according to his personal opinion, speak about its probable origin and state the causes which, in his view, were sufficient to have produced so great a departure from normal conditions”. Speak whoever wants – yesterday as well as today; as for him, the historian intends to say how the disease manifested itself, and what its symptoms were, for prognostic and prophylactic purposes, so that “a person should be best able, having knowledge of it beforehand, to recognize it if it should ever break out again”. (Thucydides, 48, 3)

– It does not seem that this fully aware epidemiological perspective has taught much in the course of history, not even in our times of prevailing scientism, when prevention would be much easier than in the past.

Among the symptoms described by Thucydides were sneezing and sore throat, difficult breathing, chest problems (lungs, it may be assumed), and a deep cough. Nausea, retching, heat in the head, red and inflamed eyes, body covered with sores, warmer inside than outside, and intestinal problems in the most serious cases. Breath different from



usual, foul-smelling; pharynx and tongue were also involved, and bloody, along with great thirst. The evil took the head first and suddenly, with hot flashes; then it descended downwards; gangrene of the extremities; loss of memory, and temporary blindness. The sick usually died after seven or nine days. It was a new disease, never seen before, against which the human body had no defense. "In one way in particular it showed plainly that it was different from any of the familiar diseases: the birds, namely, and the four-footed animals, which usually feed upon human bodies, either would not now come near them, though many lay unburied or died if they tasted of them" (Thucydides, 50, 1). So too did dogs: perhaps a sign of anthroozoonosis? (See Leven, 1991, p. 136 f)

Many died from lack of treatment, but many also died despite treatment. No effective remedy was found, and what was beneficial to one harmed another. "No constitution, as it proved, was of itself sufficient against it, whether as regards physical strength or weakness, but it carried off all without distinction, even those tended with the most scrupulous regimen of life." (Thucydides, 51, 3) But perhaps the worst thing was that one could not stay close to another since the disease was so contagious: when people tried to cure each other, they died of contagion; if, on the other hand, for fear of contagion, they avoided approaching the sick, the latter died alone and the houses became empty: "if, on the other hand, they visited the sick, they perished, especially those who made any pretensions to goodness. For these made it a point of honour to visit their friends" (Thucydides, 51, 4). It was clearly an infectious disease, which acted as in a flock, or a herd, with an image that is nowadays familiar to those seeking a/an (unlikely) global immunity; mutual closeness actually involves the spread of contagion and exponential growth of the dead: as Thucydides puts it, "they became infected by nursing one another and died like sheep" (Thucydides, 51, 3).

The infectious character of the disease manifested itself again later on, when the Athenian army, in the summer of 430, in the mentioned expedition against the city of Potidea, was decimated due to the spread of the infection, and the expedition failed because "no success commensurate with the appointments of the expedition attended their efforts, either in their attempt to capture the city or otherwise; for the plague broke out and sorely distressed the Athenians there, playing such havoc in the army that even the Athenian soldiers of the first expedition, who had hitherto been in good health, caught the infection from Hagnon's troops" (Thucydides, 58, 2).

The disease entailed a few days of incubation as is shown by the fact that among the soldiers, who were healthy at the start of their campaign, the symptoms became manifest after they arrived in Potidea. And here, perhaps for the first time in history, the intuition of the concept of contagion from person to person is made clear, a notion still unknown to the medicine of the time, and that only in later centuries will slowly make its way, alongside the predominant theory of miasms that make the air unhealthy and pathological when inhaled and diffused all over the body.

It is because of contagion that the epidemic, in its wanderings, links relatives and friends even closer to each other, in a shared destiny; the greater the intimacy, the greater the risk. Love, pity, compassion, by inducing closeness with those who suffer, become the most effective allies of the disease. And doctors are also similarly linked to patients, so that those who would like to cure others, succumb first. This is one of the aspects that



most strike Thucydides when he describes the so-called plague of Athens. Here, and it is a unique case, one would almost see a trait of emotion.

The ‘plague’ of Athens: Social imbalances

Those who survived the disease developed immunity: once healed, there were no relapses, or at least not with the same violence, and this allowed recovery of human relationships:

“It was more often those who had recovered who pitied the dying and the sick because they had learnt what it meant and were themselves by this time confident of immunity; for the disease never attacked the same man a second time, at least not with fatal results. And they were congratulated by everybody else” (Thucydides, 51, 6).

Those who succumbed, on the other hand, were destined to represent a problem for others even after they had died and precisely because of this: one did not know what to do with the corpses, both due to their contagiousness and to the overwhelming number. Funeral pyres burned everywhere; unburied corpses remained abandoned in the streets:

“the customs which they had hitherto observed regarding burial were all thrown into confusion, and they buried their dead each one as he could. And many resorted to shameless modes of burial because so many members of their households had already died that they lacked the proper funeral materials. Resorting to other people’s pyres, some, anticipating those who had raised them, would put on their own dead and kindle the fire; others would throw the body they were carrying upon one which was already burning and go away” (Thucydides, 52, 4).

Failure to bury a corpse, to guarantee the soul of the deceased the place it deserved in the afterlife, had a distressing psychological impact on society. It was tantamount to betraying one of the most rooted and reassuring beliefs, one of the cornerstones around which the relationships with tradition and with others, continuity in the family, and the feeling of belonging to a society, to a group, revolved. It meant a collapse of the relationship with the divine. Antigone, in those same years, is the perfect example.

And indeed, one of the consequences of the epidemic was the subversion of social and legal values and norms. The disease marked the beginning of a period in which, as Thucydides says, contempt for laws spread, accompanied by a generalized demoralization with consequences as serious as those due to the disease. Actions that would otherwise have been kept hidden were openly dared, social relations were overturned with the poor taking possession of the property of the rich who had suddenly died; life had become ephemeral like wealth, and was lived as something to be enjoyed, as long as possible, here and now (Thucydides, 53, 1). The fabric of society was weakening.

In an archaic world instead, as was the heroic world of Homer’s Iliad at the beginning of Western civilization, an epidemic did not mean and did not necessarily involve a break in the acknowledged system of social values. The reaction was, if anything, fatalistic, and did not disturb the patterns of authority, nor did it alter the existing state of affairs, the status quo ante. The attitude towards mass death did not differ, in these cases, from that towards the death of a single individual. Differently, in fifth-century Athens, the epidemic is accompanied by clear symptoms of anomie, of subversion of the norm, by a break in the social, ethical, and religious standards. The upheaval that had been already



ongoing for some time, including the relativism of norms and values advocated by sophists and philosophers, is now radicalized: and a society in which norms and values are the subjects of constant discussion is much more vulnerable – when confronted with an important upheaval – compared to the one in which norms and values are widely accepted so as they are, or possibly imposed, and give rise, in one way or another, to a closed society⁴.

The ‘plague’ of Athens meant not only the death of a large number of the city’s inhabitants: its consequences became apparent on a much larger and less controllable scale. It was the funeral of norms, of social relations, of hierarchies of values⁵.

The ‘plague’ of Athens: Countryside and city

It should lastly be remarked that the relationship between city and countryside was decisive. In the case of Athens as in all others, the connection of the disease with the places and spaces of associated life is direct and immediate, the notion of the epidemic is regularly associated, as the name has it since the time of Telemachus, to that of the city; and in fact, the ‘plague’, says Thucydides, “first settled in Athens, then also in other places, *the richest in population*” (Thucydides, 54, 5). Indeed, at the beginning of the war against Sparta, Pericles had given instructions to all the citizens who inhabited the countryside of Attica to gather inside the walls of the city of Athens, so that the Spartans, determined to invade the region, found it deserted (Thucydides, 52, 1). This certainly avoided confrontation in the open field at the beginning of the war: but it also created the perfect condition for the disease to unfold its effects to the most devastating extent.

The crowding, the contact, the lack of sufficient space in which to stay were keystones. This forced urbanization was detrimental first of all to the new arrivals, who, since there were no houses available for everyone, “had to live in huts that were stifling in the hot season, and perished in wild disorder. Bodies of dying men lay one upon another, and half-dead people rolled about in the streets and, in their longing for water, near all the fountains”. They tried to quarter in the temples, but these too “were full of the corpses of those who had died in them; for the calamity which weighed upon them was so overpowering that men, not knowing what was to become of them, became careless of all law, sacred as well as profane” (Thucydides, 52, 1-3).

Perinthus’ epidemic cough

Another paradigmatic story lends itself to supplement

4- To these last topics is devoted Horstmanshoff (1989).

5- The bibliography on the plague of Athens is vast, and I am not going to make an endless list in this paper. Specifically devoted to the modalities of reaction to epidemic phenomena, including the plague of Athens, is Horstmanshoff (1989). Attempts to identify the epidemic described by Thucydides have led to the following hypotheses, none of them definitive: plague (*Yersinia pestis*, implausible); measles; typhus (one of the most widely shared hypotheses); smallpox; a concurrence of two or more different diseases. Cf. for a summary picture of past hypotheses see Leven, 1991, pp. 140-143. Caution is to be adopted when trying to superimpose our modern categories on events from over two millennia ago, in consideration of phenomena, such as pathomorphosis or the inadequacy or incompleteness in the descriptions of symptoms.



Thucydides' description of the plague in Athens. Not far from Byzantium, on a promontory overlooking the Sea of Marmara in today's north-western Turkey – the ancient Propontis –, the inhabitants of the island of Samos had founded the colony of Perinthus, a fortified port later called Heraclea, today Marmara Ereğlisi, Heraclea of Marmara. Here, at about the same time in the fifth century BCE, another chapter in the history of ancient Greek epidemiology took place, which has become known as 'Perinthus' epidemic cough'⁶. Its description is apparently due to some doctor, and is much less known than Thucydides' story; it is familiar, if anything, to the specialist, but its importance lies in the different and more technical perspective of the physician. The two descriptions, if read in parallel, offer more to the reader than each one considered on its own. The Hippocratic text is precise, providing chronological, geographical, and meteorological data.

The epidemic began on December 22, and continued until the following summer; we are in the extreme north of Greece whose climate is cold; there is snow; an alternation of winds from the south and north causing widespread coughs among the population; some with a short course, and some with a longer course. Pulmonary complications were frequent: "Before the equinox (i.e., before March 21) – writes the author, certainly a doctor –, in most affections there was a relapse, generally around forty days from the commencement. Some had brief affections, that were easily resolved, in others the throat became inflamed, others had quinsy, others paralysis, others, primarily children, night blindness; the pneumonia was very brief. . . . Quinsy and paralysis were accompanied by expectoration of hard and dry matter, or rarely of small amounts of concocted substances, sometimes however abundant". The very violent coughs led to partial paralysis, especially localized in the areas that the patients used more regularly, for some the hands, for others the legs, with "a weakness similar to paralysis in the hip or legs". The coughs, after seemingly improving in the middle of their course, usually ended in a relapse.

Of particular interest are the observations that distinguish between the various types of patients, separating adult males from women and children. The latter were more than others affected by night blindness (*nyktalopia*), and in particular in those cases in which "the dark parts of the eyes were varicoloured, with small pupils, usually black in color, with large eyes more often, not small, and for the most part with straight and dark hair". Obvious to the observer was the much milder character of the affections in women, a fact not too different from that found in today's SARS-COV-2 epidemic: "Women

6- Hippocrates, Epidemics VI, 7,1, pp. 141-151 Manetti-Roselli (transl. Smith, with slight adjustments). On the cough of Perinthus see Grmek, 1980, p.?



did not suffer similarly from the cough, but few of them had a fever, and of those very few went into pneumonia, and those the older. All survived. I attributed this to their not going out as the men did and because also in other cases they were not as susceptible as men". On the contrary, "two free women got quinsy— and that was of the mildest sort, but slave women got it more extremely, and those with very violent cases died very quickly".

There are also data relating to social status, and affluence: women slaves, whose regimen and initial physical condition were presumably very different from those of the free women in whose service they were, suffered consequences more serious and immediate from the disease. Men fell ill in large numbers, partly with lethal consequences, partly with remission of the disease. The doctor briefly recalls the interventions attempted, consisting among other things in favouring evacuations and phlebotomy, in particular the incision of the vein under the tongue, and concludes: "Those affections continued throughout the summer, as did the outbreaks generally. Initially with the dry weather painful ophthalmias were epidemic".

The observations regarding ophthalmic problems, particularly in children, denote the observational acumen of the writing doctor, who, as pointed out by Mirko Grmek (Grmek, 1980, p. 208 f), was detecting what since 1863 came to be called Bitot's spots, namely accumulations of keratin connected to degeneration of the cornea, essentially caused by a deficiency of vitamin A (and still today often accompanied by difficulties in night vision due to a dysfunction of photoreceptor cells), and by possible hypopigmentation of the hair. This confirms the relevance of the descriptions of the hair by our author, which is all but naïf. The ancients, both Greeks and Egyptians, treated these symptoms by prescribing a diet with ox liver, which is remarkably rich in vitamin A.

Perinthus' epidemic cough: Infections and contagion

The final mention of ophthalmia is especially significant. Those familiar with ancient medical texts are aware of the attention paid by doctors to symptoms related to eye diseases and problems related to sight. Ophthalmia is among the typical diseases classified as infectious, for example by Galen, but also by other doctors, and is connected with a peculiar and significant concept, that of the "seeds" of diseases, associated with the idea of transmissibility of the disease itself⁷. Doctors, but also philosophers and other ancient 'scientists', by way of inference – observations at the microscopic

7- The matter has been investigated by Nutton (1983), who refers to the passages mentioned here. On the concept of miasma and contagion, see also the valuable contribution by Grmek (1984), and Jouanna (2001).



level being impossible – hypothesized the existence of tiny, invisible, pathogenic living beings, able to penetrate the body through the breath or the droplets of saliva and thus to transmit diseases. The most striking formulation is perhaps the one that can be read in Marcus Terentius Varro's treatise on agriculture, the first book of *De re rustica*, written in 37 BCE. Here, in dealing with the choice of the correct location for a farm, Varro – less an expert farmer than an intellectual – invites us to pay attention to the marshy areas: “Note also if there be any swampy ground ... because certain minute animals, invisible to the eye (*animalia quaedam minuta, quae non possunt oculi consequi*), breed there, and, borne by the air, reach the inside of the body by way of the mouth and nose, and cause diseases that are difficult to be rid of” (Varro, On agricultural topics, I 11, 2).

In the background, there is perhaps the atomism of Lucretius, in whose poem *On the Nature of Things* clear reference is made to this type of invisible components of matter even in the case of epidemic diseases, precisely with reference to the plague of Athens described by Thucydides: seeds, carriers of death, flutter in the air; air undergoes a process as of putrefaction and becomes harmful, spreading diseases such as ‘plague’ (Lucretius, On the Nature of Man, VI 1093-1102, see also lines 655-666, etc). Not long after, another expert of agriculture, Columella, formulated the developments of that theory with a terminology that is evocative to us: “Neither should there be any marshland near the buildings, and no military highway adjoining: for the former throws off a baneful stench (*noxium virus*) in hot weather and breeds all those little animals armed with annoying stings which attack us in dense swarms; then too it sends forth plagues of swimming and crawling things deprived of their winter moisture and infected with poison by the mud and decaying filth, from which are often contracted mysterious diseases (*caeci morbi*) whose causes are even beyond the understanding of physicians” (Columella, On Agriculture, I 5,6).

For a doctor like Galen, the phenomenon is just as intuitive since he is clearly aware of the possibility for a disease to be transmitted directly from one individual to another: this is the case in particular of *psora* (scabies), of epidemic diseases such as the so-called plague (*loimos*), of phthisis, and indeed of eye diseases. The Aristotelian author of the work entitled Problems (VII 8, 887A) had explicitly observed this a few decades earlier, asking why some diseases are transmitted by contact or proximity while others are not:

“What is it that those who come into contact with phthisis or ophthalmia or scurvy become affected by them, but there is no contagion from dropsy or fevers or apoplexy and the rest? ... In phthisis is the contagion due to the fact that phthisis makes the breath weak and laboured, and those diseases are most quickly contracted which are due to the corruption of the breath, as is seen in plagues? He, therefore, who comes into contact with the sufferer inhales this corrupted breath, and so himself becomes ill because the breath is unhealthy; and he catches the disease from one person only, because that person exhales this particular breath, which is different from that which others exhale; and he catches the same disease, because, in inhaling the breath by which he becomes infected, he is inhaling just such breath as he would if he were already suffering from the disease. Scurvy alone is catching among similar diseases, such as leprosy and the like because it affects the surface of the body and causes a glutinous discharge. For this is the nature of itching diseases, and so this disease, being on the surface of the body



and glutinous, can be conveyed by contact" (Aristotle, 1927, p. 887).

Also according to Galen, the air can carry the "seeds of an epidemic" (Galen, *The Different Kinds of Fever*, I 6, see Nutton, 1983, p. 6), which contaminate the healthy body through breathing. However, for the body to get sick, there must be a sort of predisposition so as to offer a favorable ground for the disease, thus explaining why some people in contact with others or with unhealthy air get sick, while others do not (Nutton, 1983, p. 6 sg). The empirical evidence was not difficult to find: Galen explains that when an army sets up a camp in an area of stagnant water or near a swamp, soldiers get sick much more easily (Galen, *Commentary to Hippocrates, On the Nature of Man*, II 3-4 (V 9, 1, p. 62 f. CMG)). Further details are provided later by Oribasius, who produced a collection of extracts from earlier medical texts, mainly Galen's (Oribasius, *Collectiones medicae*, IX 6-13). This has important consequences also on urban and territorial planning: public health reasons suggest avoiding building houses, and above all cities, in areas of this type, favouring sites where the temperature change is not extreme, and building wide and airy roads.

The 'Perinthus case' became, for Hippocratic doctors, a paradigm of the influence of seasons on the nature of diseases, and as such, it was also mentioned elsewhere in the collection of works attributed to Hippocrates (Hippocrates, *Epidemics* II 3. See Grmek, 1980, p. 212): in other writings, cases of individual patients who fell ill and were visited on that occasion are also recorded. A date between 427 and 410 BCE can be proposed for the outbreak in Perinthus (See Littré, 1846, p. 16 f; Grensemann, 1969, p. 72; Grmek (1980), pp. 212-214), that is, in the same years as the Peloponnesian war narrated by Thucydides, when Perinthus, involved along with other colonies in a revolt against Athens, was subdued by the Athenians under the leadership of Alcibiades (Xenophon, *Hellenica* II 1,21. See Oberhummer, 1944, c. 806).

As in the case of Athens, moderns have tried to identify the disease of Perinthus (See e.g. Souques, 1934; Goodall, 1934). Grmek concludes that the nosological elements that integrate the Hippocratic description are more than one (Grmek, 1980, p. 220 f). One can recognize viruses, such as influenza syndromes attributable to rhinovirus and enterovirus; also bacterial infections, identifiable in diphtheria and pulmonary tuberculosis, and avitaminosis A. The paralysis mentioned in the text could perhaps be traced back to a form of acute anterior poliomyelitis: the result was a pathocenosis – the word used by Grmek to define the set of all diseases that occurred in a certain population in a certain period and in a certain social context –, with different symptoms associated with each other in a significant way.

Local epidemics and the Antonine 'plague': the disease in the centre of power

While the epidemic described by Thucydides had involved distant countries, as well as a large part of the Mediterranean area, Perinthus' cough was instead localized in the restricted area of that city, at least according to the Hippocratic sources; although it cannot be excluded that a greater diffusion had radiated from the epicentre. Localised epidemics seem to have been a typical phenomenon of the ancient world, also due to the demographic distribution: the Romans, to be sure, at least starting from the first century CE had contacts with Eastern regions reaching as far as China, as is evidenced by Chinese sources and by finds of Roman coins of the first century CE in China. Before that time,



except for military missions and the movements of troops, common life usually revolved around the Mediterranean basin and often in individual cities, which in the fourth century BCE rarely housed more than fifteen thousand inhabitants. Exceptions were Athens, Corinth, Carthage, Syracuse⁸.

Over time, the size of cities grew, as in the case of Alexandria and Rome, until the age in which the inhabitants of the capital city of the empire numbered in the millions. This was to happen in the age of emperor Augustus, in the first century CE. The Greek countryside had depopulated in the last two centuries before the Christian era while settlements were growing in the territories of Italy.

Epidemics thus found increasingly fertile ground. They occurred at almost regular intervals. There is no need to list them here, nor to describe in detail at least the major ones⁹; but ignoring them entirely would be just as inappropriate. Tacitus, Dio Cassius, Suetonius – among the greatest Roman historians – report the epidemic that suddenly struck Rome, in the autumn of 65 CE, causing tens of thousands of victims. From the southern region of Campania, as Tacitus reports, a devastating storm of wind reached the outskirts of Rome,

“where a terrible plague was sweeping away all classes of human beings without any such derangement of the atmosphere as to be visibly apparent. Yet the houses were filled with corpses and the streets with funerals. Neither age nor sex was exempt from peril. Slaves and the free-born populace alike were suddenly cut off, amid the wailings of wives and children, who were often consumed on the very funeral pile of their friends by whom they had been sitting and shedding tears. Knights and senators perished indiscriminately, and yet their deaths were less deplored because they seemed to forestall the emperor’s cruelty by an ordinary death” (Tacitus, 2008, p. 13).

Suetonius (Svetonius, *Lives of the twelve Cesars* – Nero 39) provides numerical data when he writes that to the evils caused by Nero “were added some proceeding from misfortune. Such was a pestilence, by which, within the space of one autumn, there died no less than thirty thousand persons, as appeared from the registers in the temple of Libitina”¹⁰.

One century later, the famous Antonine ‘plague’ was anything but local; it devastated Rome and other regions of the empire at first between 166 and 172, lasting, with periodic relapses, until 189¹¹. This epidemic episode, also called “Plague of Galen” because the great physician at the court

8- I am drawing on Nutton, 2004, p. 19.

9- A long, detailed list of epidemics and famines from 284 to 750 CE can be found in Stathakopoulos, 2004, pp. 177-386, showing that there was almost no interval between one such dangerous phenomenon and the next one. People had to learn how to live with them. Harper, 2017, pp. 304-315, also lists and comments on a series of 38 epidemics from 558 to 749 CE, excluding other kinds of emergencies.

10- Libitina was the goddess of funerals.

11- On the impact of these vicissitudes see Duncan-Jones (1996).



of Marcus Aurelius – an eyewitness and an interested doctor – described its symptoms more and better than others, originated, like the plague of Athens, in distant regions. In this case Persia, Seleucia on the Euphrates (one of the wealthiest cities of the time, today Gaziantep in Turkey) according to ancient sources. The city had been besieged by the Romans during the Parthian campaign, and from there, crossing the Empire from East to West; the disease had reached Rome and Italy and had continued towards the Germanic regions, up to the river Rhine and Gaul.

Attempts at identification of the diseases of the past should always take into account the phenomenon of pathomorphosis¹², i.e. the changing of the characteristics of the diseases over time, and this is especially true in the case of infectious diseases. Still, the identification of the Antonine plague with smallpox appears to be quite plausible, even before the recent results of DNA analysis on ancient remains, that give further support to this thesis. Symptoms were fever, diarrhoea, pharyngitis, skin rashes and pustules starting from the ninth day: and there are those who believe that the emperor Lucius Verus, who ruled the Empire (together with Marcus Aurelius) and had been leading the expedition, also got sick and died of the infection, whereas according to the *Historia Augusta*, he is said, instead, to have died of a sort of apoplexy (apoplexi arreptus perit) (*Historia Augusta*, XIV 8).

Roman soldiers returning from expeditions to the eastern regions of the Empire likely acted as “plague-spreaders”, so-called “anointers”. Ancient stories related the origin of the contagion to religion, to the impious act of plundering a temple of Apollo, who was the god of medicine together with his fellow Asclepius. Alternatively, it has been hypothesized that the soldiers contracted the infection by staying in the vicinity of oil wells in northern Iraq, whose vapors contaminated the air and thus infected the soldiers through breathing, according to a reconstruction relying on the ancient idea of miasms that corrupt the air. Be that as it may, presumably between 10 and 15% of the population died, on average, but with much higher percentages, up to estimates of 30%, in large urban areas¹³; trade with the East was severely challenged and eventually declined since it was in the eastern regions that the main cities and the most important markets were located. Revealingly, finds of Roman coins in eastern countries drastically decrease. In the medium and long term, the economic damage was indubitable, and so was the political: “Rome had lost its vibrant Eastern commerce at the

12- See also above, n. 33, for Thucydides.

13- Other hypotheses move among the two extremes of half the population of Rome being killed – the traditional view –, and 1 to 2 per cent mortality, according to J.F. Gilliam; 7-8% according to Littman & Littman. These last estimates appear too low if compared to other smallpox epidemics of modern times, e.g. in eighteenth and nineteenth century Europe.



very moment of its greatest potential. The evidence suggests that as the Empire descended into financial crisis and civil war, Rome never regained its former prominence in Eastern trade” (McLaughlin, 2010, p. 60).

Compared to the previous ones, the Antonine plague was much more aggressive and virulent. It lasted for years. After breaking out in Persia in 165, it arrived in Rome in 166, and by 168, it had reached the provinces, with the same devastating consequences. Large urban agglomerations suffered the most violent impact, as expected; many of them – the empire thriving – had reached their maximum extent at the time. This was the case of Rome, to be sure, but also of cities such as Alexandria or Antioch. After all, it was a time when, according to Edward Gibbon, “the empire of Rome comprehended the fairest part of the earth and the most civilized portion of mankind. The frontiers of that extensive monarchy were guarded by ancient renown and disciplined valor. The gentle but powerful influence of laws and manners had gradually cemented the union of the provinces. Their peaceful inhabitants enjoyed and abused the advantages of wealth and luxury” (Gibbon, 1776, p. 2)¹⁴. Gibbon exaggerated, in line with the fascination exercised by the Augustan ideal of the *pax romana*: in fact, as in many times of material prosperity, moral insecurity was making its way, that same insecurity that led E.R. Dodds to define this time “an age of anxiety” (Dodds, 1965, p. 3)¹⁵. And the epidemic was certainly no secondary cause.

The Antonine ‘plague’: Galen, an eyewitness

Galen already was, at the time, the dependable physician of the imperial court, and certainly the most famous among the doctors in Rome and the Empire. He came across a brilliant idea: fleeing.

He left Rome at the beginning of October 166 when the epidemic had started spreading, and took ship for his native city of Pergamum in Asia Minor, where he would devote himself to correcting his books while staying on the sidelines. Self-imposed quarantine, one would say. Two years later, however, he was told by the emperors to join the expedition against the Germans. They summoned him by letter, urging him to join them at the field of Aquileia, on the northern border of Italy. Galen was worried; the epidemic was as violent as ever. He could not refuse and sat off: from Pergamum, he moved north towards Alexandria in the Troad, and embarked for the island of Lemnos. But “as soon as we arrived in Aquileia, the

14- It is the sentence that opens the book.

15- The formula was due to the poet Wylan H. Auden, a friend of Dodds’.



plague struck as never before, so much so that the emperors immediately fled to Rome together with a few soldiers, while we, the most numerous, struggled for a long time to save ourselves; but the most part died, not only from the plague but also because all this happened in the middle of winter” (Galen, *The Capacities and Mixtures of Simple Drugs (Simpl. med. temp. et fac.)*, IX 1). Galen, therefore, remained for some time in Aquileia where he had to take care of the victims of the epidemic. Then, he went back to Rome and managed to persuade Marcus Aurelius – who had remained alone on the throne after the death of Lucius Verus – not to ask him to join the new expedition against the Germans, but to let him remain at home in the city. Marcus Aurelius agreed.

In dealing with the ‘plague’, Galen must note the lack of effective drugs. He prepared a remedy with an astringent effect based on Armenian earth, which helped cicatrization and had a drying effect that made breathing easier. He thus obtained good results, at least on some patients: “During this plague, which was similar in form to the plague that occurred at the time of Thucydides, all those who drank the remedy recovered quickly, while all those who did not benefit died, not having benefited from any other remedy” (Galen, *The Capacities and Mixtures of Simple Drugs (Simpl. med. temp. et fac.)*, IX 1)¹⁶. Galen recalled the ‘plague’ in several writings, both technical and autobiographical, and being a doctor, the description he provides is sufficiently precise to have allowed the identification of the disease with smallpox; more precise than the one by Thucydides, as Galen himself observes, since the historian lacked the necessary medical skills. Galen wrote that there was “an enormous crowd of patients struck by an affection of this type”, and confesses the usual impotence of doctors, who “knew no more than those who were extraneous to the profession and indeed showed themselves inferior to any intelligent person”, that is, inferior to any citizen able to pay attention to the bad smell of the breath of the sick (a symptom already typical of Perinthus’ cough as described in the Hippocratic Epidemics book VI), thus recognizing the sign of the pestilence in progress (Galen, *On Prognosis by the Pulse (De praesagitione ex pulsibus)*, III 4).

The symptoms were clear, the most evident concerning the skin, which was covered with “black rashes” – in fact, dry pustules – “residues of blood putrefied during fevers, as if nature had thrown a sort of ash towards the surface of the skin” (Galen, *On the Therapeutic Method (Methodus mendi)* V 12). In positive cases, the exanthema evolved spontaneously, the superficial crust fell away and in a couple of

16- A summary on Galen and the Antonine plague is offered by Boudon-Millot (2016), pp. 155-165, who first proposed the later generally accepted identification with smallpox; see also Duncan-Jones (2018); Flemming (2019).



days, the lesion healed. The diagnosis was sufficiently certain. As in Thucydides, also in this case a typical symptom was represented by the desire to drink, a thirst difficult to satisfy and consequently a search for water or a cool place. The disease was accompanied by continuous fevers, refusal of food, secretion of black substances from the lower abdomen before the rashes appeared, and sometimes gangrenous putrefaction of the extremities of the feet.

The *Historia Augusta* further recalls that a decree was necessary regarding the burials and tombs, in order to forbid raising them – as had happened in Athens with the funeral pyres – wherever it happened, and that it was necessary to allocate every type of cart to transport the very numerous corpses. (The image of the city of Bergamo in northern Italy during the 2020 Covid emergence, with military trucks carrying corpses to other cities, and that of funeral pyres everywhere, along the streets of Indian towns in spring 2021, are not out of place here.)

An epidemic from East to West: Rome in the Chinese mirror

Surprisingly enough, we read in ancient Chinese sources dating back to the same age that precisely in the year 166, at the time when the epidemic that was to be called Antonine had reached Italy and the capital city, the Romans had sent an embassy that had landed, after a journey of 7,000 km (or, if carried out by sea, almost as many nautical miles, i.e. 12,000 km), in the regions of present-day North Vietnam, in Giao Chi (Jiaozhi for the Chinese), and later reached the capital of China, Luoyang, and was received by emperor Huan of the Han dynasty¹⁷.

The Romans, considered in the variety and extension of their empire, and of the different civilizations that constituted it, are described by contemporary Chinese sources, apparently relying on direct knowledge, as producers (or rather traders) of gold, silver and other precious stones, of glass – which was made the object of an intense export activity –, and fabrics listed in great detail. “They trade with Anxi [Parthia] and Tianzhu [Northwest India] by sea. The profit margin is ten to one. The people of this country are honest in business; they do not have two prices. Grain and foodstuffs are always cheap. The resources of the state are abundant”¹⁸.

According to the same sources, there was a definite will to establish relations with China, but these were difficult to implement, and this would add, if it were indeed the case, as a further reason to explain the permanent conflict of the Romans with the Parthians: “The king of this country – it is remarked – always wanted to send envoys to Han, but Anxi [Parthia],

17- The work is Hou Hanshu (History of the late Han dynasty), see now for a new translation of the text – in addition to the classic work with an annotated collection of sources by Leslie and Gardiner (1996) – Hill, (2009). A version of the translation updated to 2011 has appeared online as *A Translation of the Chronicle on the 'Western Regions' from the Hou Hanshu. Based on a report by General Ban Yong to Emperor An (107-125 CE) near the end of his reign di lui, with a few later additions. Compiled by Fan Ye (398-446 CE)*, on the website of the Silk Road Seattle, Simpson Center for the Humanities at the University of Washington. In general on the subject, see also Scheidel, 2009, in which the concluding page of P.F. Bang (p. 120), reads: «Han China and imperial Rome represent two separate cultural traditions. But they do seem to have had much in common and even to have shared some products at the level of luxury trade. They were comparable worlds».

18- On this kind of commercial relationships see Yu, 1967, especially p. 182 for the topic at issue.



wishing to control the trade in multi-coloured Chinese silks, blocked the route to prevent [the Romans] getting through [to China]”. It is worth dwelling briefly on the lines dedicated by the same source to the description of the Roman Empire, the city of Rome and its political system:

The kingdom of Da Qin [lit. ‘Great China’ = the Roman Empire, *so called because “the people of this country are all tall and honest” and “they resemble the people of the Middle Kingdom”, i.e. China*] ... as it is found to the west of the sea, is also called the kingdom of Haixi [lit. ‘West of the Sea’ = Egypt]. Its territory extends for several thousands of *li*. It has more than four hundred walled towns. There are several tens of smaller dependent kingdoms. The walls of the towns are made of stone. They have established postal relays at intervals, which are all plastered and whitewashed. There are pines and cypresses, as well as trees and plants of all kinds. The common people are farmers. They cultivate many types of trees, breed silkworms and grow mulberries. They shave their heads, and their clothes are embroidered...

The seat of government [Rome] is more than a hundred *li* [41.6 km] around. ... Each [palace] has officials [in charge of the] written documents [*archives*].

[A group of] thirty-six leaders [or generals] has been established to meet together to deliberate on affairs of state. Their kings are not permanent. They select and appoint the most worthy man.

Chinese descriptions of the Roman Empire, dating back to the period between the first and fourth centuries, reveal a remarkable interest in the Western empire, and appear to be a mixture of fantasy and actual knowledge of the easternmost regions of the empire, and of history and tales handed down over time. But their historical base is beyond doubt, and the concrete elements undeniable, in particular as regards the expedition of 166: be it due to a decision by Marcus Aurelius, or to the personal initiative of imaginative traders, what matters here is the actuality of direct contacts:

In the ninth Yanxi year [166 CE], during the reign of Emperor Huan, the king of Da Qin [the Roman Empire], Andun [*or An tun, presumably Marcus Aurelius Antoninus, r. 161-180, for some time reigning together with Lucius Verus, until the latter died*], sent envoys from beyond the frontiers through Rinan [Commandery on the central Vietnamese coast], to offer elephant tusks, rhinoceros horn, and turtle shell. This was the very first time there was [direct] communication [between the two countries].

Since the offers did not seem adequate to the level of exchange between emperors of great kingdoms, the chronicler is skeptical:

The tribute brought was neither precious nor rare, therefore raising suspicions that the accounts might have been exaggerated.

The Antonine ‘plague’ in China?

In China, in that same lapse of time, an epidemic broke out. This was in the late Han era. At the beginning of the second century, a situation of the financial crisis that had been going on for some time had caused some trouble to the reigning Han dynasty. In the northwestern regions, sometime before, the Great Qiang Revolt (107-118) had created political uncertainty, socio-economic devastation, and military clashes for a decade. The consequences lasted until almost the end of the century, as the uprisings continued



until, in 168, a tough military campaign ended the Qiang revolt and made the Liang province, where it all began, a desert. For these years, between the middle of the century and 180, the sources record a succession of outbreaks of epidemic diseases, which left their mark economically, socially, culturally, and religiously: the flourishing of sects that promised healing testifies that in China as in Greece and Rome the popular reaction before uncontrollable events led to seeking refuge in faith. There was no shortage of consequences: the main among the sects, the one led by Zhang Jue and known as the sect of the Yellow Turbans (such was the colour of the headdress that its adherents used to wear), put together an army and went to the clash with the central power. It was defeated, but the clash had its after-effects.

The epidemic of 166, therefore, was at least chronologically parallel to the Antonine plague. It followed other minor ones which occurred in China starting from 146, then in 151, and in 161; it thus fell on fertile soil. The epidemic reached its peak around 171, under the new emperor, Ling, and continued in the following years, with four relapses attested between 173 and 185. It seemed to the people that a new type of disease had entered the body of society and the individual; and in the case of infectious diseases, the degree of novelty is generally directly proportional to lethality, as history has taught us.

Smallpox, which has been identified as the cause of the epidemic in Rome, is also clearly described in China at least since the fourth century, and although there is not enough evidence to extend this identification backwards to the epidemic of the second century (See De Crespigny, 2007, p. 514), the possibility is not to be excluded, as has been argued. This increases the similarity with what was happening in the West (See McNeill, 1976, p. 103 f). As well as the political system, personal, moral, and religious certainties wavered once again. The dominion of the Han dragged on for another decade, only to finally surrender shortly after 190.

It may have been a coincidence: but it cannot be excluded (also in the light of what we have experienced in 2020) that Rome and China in that period had not only commercial exchanges and political contacts – wherefore the embassy –, but also a shared health destiny: an epidemic which, starting from the Middle Eastern regions, had spread in both directions, west and east, without having to postulate a contagion carried directly by envoys or merchants from one end of the world to the other¹⁹. The latter hypothesis, indeed, would recall other episodes in the history of pandemics, but cannot be demonstrated.

19- McLaughlin, 2010, p. 59 argues in favour of a connection between the epidemics in Rome and China; see also, more cautiously, De Crespigny (2007), p. 515.



The plague – without quotation marks – termed Justinian's

Periodically, epidemics followed epidemics in Rome and the Empire: in the year 189; in 250; until the great and decisive plague of Justinian which broke out in 541. If already the epidemic of the Antonine age had involved a large part of the regions from Persia to Germany, the new one can be defined, given the extension and development of the ancient world, a real pandemic: it began in Egypt, reached Rome and Italy, Spain, northern Germany, perhaps Wales. It continued to occur at more or less regular intervals for two hundred years in the eastern Mediterranean, in the more densely populated regions (De Crespigny, 2007, p. 515); it was the first attested case in history – scholars largely agree on this – of bubonic plague. The name 'plague' is, therefore, in this case, and for the first time, appropriate. It was a decisive contributing cause, if not the main cause, as has been recently argued anew, of the collapse of the Roman Empire. In the midst of turbulences, due to the rapid spread of pathogens, nature, in the form of the environment that surrounds us, claimed its space: if it, by granting a particularly favorable climate, had helped the growth and consolidation of Roman society and the Empire up to the second century, likewise, in the form of an epidemic disease, it favored its decline and set the conditions for the unravelling of an early global world, which cultivated "the illusion of control"²⁰. The economic consequences of epidemics are immediately visible in their harshness; political, social, and cultural drawbacks are more elusive because they are medium or long term. They are less predictable yet equally inevitable, but more difficult to manage.

Conclusion

Shipwreck with spectator – The city, then, the big city, with its large population and its close coexistence, favours a showdown and tips the scales to the side of nature's claims. Into the country, instead, people went, as they still go, to take refuge, to sanction the distance of privilege with respect to those who do not have such alternative, such as the wealthy ancient Egyptians at the time of the Antonine plague, or the young members of polite society described by Boccaccio in fourteenth century Florence, or the English nobles during the plague that ravaged London in the 1600s, as masterfully portrayed by Daniel Defoe. Same is valid for the wealthy Pari-

20- So in the book by Harper, 2017, p. 293, whose subtitle explicitly runs Climate, Disease and the End of an Empire.



sians and Londoners today, but actually for anyone who finds refuge in a second home (a mirror of contemporary society and of its widespread and slimy well-being) or even just in a safer profession. From there, like the spectator who, from the coast, looks at the shipwrecked mariners in the storm described by Lucretius, one can observe – with an interest that recalls that of the entomologist in front of the insect captured and placed under glass – the others, those who struggle in an unequal fight, and now snivel, now curse and swear.

A shipwreck with spectator, in the words of Hans Blumenberg, who wants it to be the paradigm of a metaphor of existence, *Paradigma einer Daseinsmetapher*, a metaphor of being, of being here and now, a metaphor of life. There are no better words than the celebrated four lines that open the second book of Lucretius' *De rerum natura*, and describe the sweetness inherent in watching (*suave est ... spectare*), from a shelter, the distress of others:

*Suave, mari magno turbantibus aequora ventis,
e terra magnum alterius spectare laborem;
non quia vexari quemquamst iucunda voluptas,
sed quibus ipse malis careas quia cernere suave est.*

*It is sweet, when on the great sea the winds trouble its waters,
to behold from land another's deep distress;
not that it is a pleasure and delight that any should be afflicted,
but because it is sweet to see from what evils you are yourself exempt.*
(Lucretius, 1932)

The epidemic becomes an instrument for sanctioning the difference in wealth and possibility, against the appearance of a levelling instrument that would make all equally powerless, which consoles the naïve soul.

Lucretius' stormy sea is the world of nature, the world that surrounds us; it is the universe, and history; the safe dry land is for him philosophy, first of all Epicurus' philosophy, which helps to contemplate and understand, and to assign values to things. Throughout history, epidemics have often been charged with this role of awareness-raising, of curbing an unjustified optimism in things and in so-called progress, in "the splendid fortunes and progressive pace" (Leopardi, 1893) in which too much trust has often been placed. "Both progress and sinkings – Blumenberg wrote – leave behind them the same peaceful surface" (Blumenberg, 1985, p. 87). One becomes aware that the history of the individual cannot be separated from the history of the world, that the metaphorical navigation in the sea of existence retains the same dangers that every sailor fears every time he is faced with the sea, an alarming elementary reality: there are powers and gods responsible for it, but they "stubbornly withdraw from the sphere of determinable forces" (Blumenberg, 1985, p. 27).

It is easy to observe, and many have done so, the closeness of ancient descriptions – the symptoms, the bewilderment, the characteristics of the spread of the disease, the difficulties of doctors and treatment facilities, the reactions of people – with the events of today. But only the naïve will be surprised since anyone who is familiar with the history of these



phenomena, which is the history of mankind, knows their regularity and reoccurrence. Thucydides' hope that his description might be useful for future cases sounds most opportune; it rests, however, on an optimism of will rather than of reason, given that men have seldom been willing to learn from their history. The "progress" of science may have been extraordinary but human frailty has remained the same. And science does not speak to the latter.

Conflict of Interest

None.

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