

INVESTIGATING A MURDER THE CASE OF THE JUSTINIANIC PLAGUE IN SCYTHIA MINOR

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Abstract: The study beforehand applies a logical scheme of analysis over a possible presence of the Justinianic plague in the province of Scythia Minor. Following a logic borrowed from the criminalistics, we tried to apply this scheme in order to see if the theory of presence of the epidemic is viable in the given region. Although we have not come with decisive pieces of evidence, a great deal of research is still necessary in order to confirm or infirm this theory. We therefore aim to open a discussion, considering the problem plausible, for the disease had the means and opportunity to affect the province. As previously stated this study is merely a plan of study that shall be developed in a forthcoming work.

Keywords: Justinian, bubonic plague, Scythia Minor, effects, cities

Let us presume we are to investigate the simple scheme of a crime. Such a scenario must have a set of elements. Firstly, there is the crime *per se*, in our case, a murder. Secondly, there must be a victim. Thirdly, there ought to be a perpetrator. Generally, a suspect may be considered guilty once he or she meets the three aspects of a crime: means, motive and opportunity. Needless to say, a rather large amount of evidence must back up such a theory if we are to convict somebody.

For the sake of the argument, let us try to apply this scheme to a disease. Obviously, we have to cross out the motive, assuming that any pathogen seeks only to replicate or multiply as much as possible. Taking into account that we are considering a human disease, we also have a victim. The crime to which we refer is therefore attempted murder or murder. Apart from singular cases, the murderer will leave behind a set of evidence, which will be used to identify and prevent him from leaving behind more victims. Therefore, either we incapacitate the pathogen somehow (with modern medicine) or we try to limit its means or opportunity. For example, wearing a simple mask will significantly reduce the rate of infectivity of any given individual, negating the aerial mean of spreading. On the same note, raising one's immunity will make him less prone to an infection. On this line, it is the case of modern-day diseases that are endemic in certain parts of the world (e.g. Ebola in the West Africa or the MERS virus in the Middle East) and which alarm the world population.

However, as historians and archaeologists, we do not study contemporary epidemics or pandemics. Therefore, some evidence may have disappeared in time. This may lead to difficulties in identifying a specific pathogen or the presence of a disease in a given area. A good example is considered the Spanish flu pandemic. Because the majority of the countries have chosen not to report these deadly cases of influenza (in order to not

lower the morale of the combatants), the total death toll is still unknown, estimations ranging from 50 to 100 million.

In this article, I will try to enunciate a scheme of study, applying it on the province of Scythia Minor during Justinian's plague. In tone with my previous murder example, one should try to understand the active period of the killer, in my case, the chronology of the plague. Most historians¹ agree on a general span from the middle of the 6th century, starting from Pelusium in 541 AD² to the middle of the 8th century. In Scythia Minor, the situation is a bit more complicated as most cities are deserted during the first half of the 7th century, most likely due to the multiple barbarian attacks.

The following step is to delimitate the area of activity. Literary sources inform us that the disease spread westwards as far as Ireland, and eastwards, through Palestine, into the Persian Empire. On a northern directionality, it reached Constantinople in merely months and travelled as far as Moesia.³ The means of travel of such a disease are by the use of commercial routes, travelling armies or massive relocations of population. In the case of this pestilence, we can safely assume that commerce was mainly responsible for its spread throughout the Mediterranean basin, Europe and Near East. For Scythia Minor, the presence of Egyptian and Syrian material is more than enough to suggest trade routes, and therefore a means of travel for the disease, with the before mentioned provinces, in the 6th century⁴. Moreover, as Scythia Minor is bordering the province of Moesia, close contact between the two is understandable.

Having defined spatial coordinates and a chronology, we now must study the effects such a plague has in context. Following a scheme of primary, secondary and tertiary effects⁵, we will try to discuss and apply each of the means in the hope of obtaining at least a part of the evidence in the case of Scythia Minor.

PRIMARY EFFECTS

In the event of such an epidemic, primary effects are considered the illness and death of given individuals, such as a leader or cleric. Examples may be found in contemporary texts, such as the death of pope Pelagius II in 590 A.D. or Mo-bi Chlárainech in 544 AD⁶. Moreover, if one would be able to identify the remains of those individuals, a paleogenetical analysis could be undertaken, providing the researcher with a substantial argument in favour of a suspect. Unfortunately, the Scythia Minor lacks such literary evidence. If this is to be considered an aspect, the last archbishop from Tomis is mentioned in 550-553 AD in an exchange of letters with Pope Vigilius and at the Council of Constantinople⁷. Taking into account the fact

¹ The problem of the plague is treated most ample in the work of LITTLE (ed.) 2007, covering problems of chronology, spread and impact. We are also fully aware of Nancy Benowitz's article The Justinianic plague: evidence from the dated Greek epitaphs of Byzantine Palestine and Arabia in *Journal of Roman Archaeology* 27 (2014), unfortunately, we were unable to gain access to a full online copy.

² Procopius 2:23:6.451-453.

³ ANECDOTA SYRIACA 2:310 (*non vidit*).

⁴ BARNEA 1972.

⁵ SOLTYSIAK 2006, 346.

⁶ CRAWFORD 2011, 202-203.

⁷ POPESCU 2009, 407-417.

that Tomis had an autocephalous Archbishopric and at least two representatives at Constantinople, it is at least curious that no news whatsoever about the Christian community in Scythia Minor is to be found from the second half of the 6th century. As for the paleogenetic studies, we have to mention that no such research was done in the area.

SECONDARY EFFECTS

Demographic modifications are part of the secondary effect. By this, we mean not only a decline in the population size, but also a structural transformation. The decline is historically visible through literary sources and archaeological evidence (the level of inhabitation of a site for example). In Scythia Minor such effects appear but in a different context. Several invasions in the second half of the 6th century⁸ might as well account for the serious perturbations in the province's society. Thus, archaeologists undergoing the excavations in the city of Tropaeum Traiani, consider that, after the massive barbarian attack of 586/587 AD only parts of the city are repopulated, but sporadically and in a rudimentary fashion, suggesting a lower level of economy (over the rubble of the last homogenous urban layer, inhabitants lay clay floors and dry walls). In the case of Sacidava, inhabitants return after the massive attacks, but they do not reconstruct the older buildings.⁹ On the other hand, the before mentioned invasion seems to have not affected the cities in northern Scythia Minor or the ones on the seaside.¹⁰ Whether because of the war or perhaps the epidemic, the society undergoes a process of ruralisation towards the end of the 6th and the 7th century. The withdrawal of workshops and part of population inside the city walls (a situation best seen at Tomis). The presence of indigenous ceramic (dated in the 6th-7th century) inside one of the basilicas proves that some poorer citizens from outside the city walls have taken refuge there at some point. Again, whether this can be considered an effect of the barbarian attacks or a modification of the social system is still an open discussion.¹¹

TERTIARY EFFECTS

The following disturbances are direct consequences of the demographic modifications. Divided into economic and political, these abnormalities are caused by the new social status of the inhabitants. The economical ones relate to a drop in the workforce available, thus causing a number of workshops or small industries to shutdown, or work only for the nearby demand. In accordance, a lower demand implies a fall in trade. Again, such effects are difficult to imply on the epidemic, in the case of Scythia Minor. Given the fact that the province was almost constantly travelled by armies, byzantine or barbarian, such a decrease in trade and production is understandable. Nonetheless, coastal cities seemed to be less affected by the wars and battles carried out in their proximity, leaving their diminishing economical resources subject to interpretation. The political argument is somewhat different. The scheme is explanatory on this example, mentioning a relative growth in power of rather

⁸ MADGEARU 2001, 208.

⁹ SCORPAN 1972, 349-362.

¹⁰ SCORPAN 1972, 366-368.

¹¹ CÂRJAN 1971, 343.

marginal populations. Taking into account that as previously mentioned, a number of military activities take place in the province. In addition, we strongly believe that the byzantine army recruited intensively from the area, finally leading to an army strong enough to support a new Emperor, Phocas.

PSYCHOLOGICAL EFFECTS

Once we have taken into consideration the physical ways in which the epidemic had disturbed the inhabitants from the empire, we are due to present the psychological ones. From social to religious, this type of disturbance is appears as a change in burial rites, a theological interpretation and a rise in the use of apotropaic items.

The Christian tombs rarely contain material, it is difficult to attribute them an absolute chronology. Thus, most of the tombs or necropolises are dated between the 4th and 6th century. However, certain exceptions do arise. One of most exemplifying one was found at Tomis in 1973. Archaeologists uncovered two 6th century funerary complexes (named A and B). The interesting part is that, although complex A is clearly larger, with five rooms distributed in the form of a cross, only one defunct was discovered. We are due to mention that two of the rooms are too small to permit inhumation in accordance with the Christian rites (only 1.2 m on the east-west axis). From complex B only two rooms were excavated, with 10 coffins in total.¹² We consider complex A of high interest because it is hard to believe that somebody spent such a large amount of resources to build a tomb intended for one person. The reason of this occurrence is left unknown, but one could speculate.

For the theological interpretation, we have no written evidence in the province. Unlike areas known better through the works of Procopius, Paul the Deacon or Gregory of Tours, Scythia inferior does not benefit such a special treatment. For example, in the *History of the Franks* the author describes an interesting number of plagues to which we shall return when considering the suspects for this epidemic.

We have considered apotropaic items the phylactery or amulet casings discovered in the province, dated based on analogies. First, there is a gold amulet casing found at Pârjoaia, dated in the last years of the 6th-first decade of the 7th century. This chronology was done based on analogies and on the fact that the settlement appears to be deserted in 7th century.¹³ Another example was found at Tomis, a string necklace with 2 bronze phylactery and a cross. The cross has the narrowest period of dating, that being the 6th-7th century (based on an analogy from Crimea). Although these types of amulets are banned in the empire in the 4th century, it seems that by the time of Pope Gregory the Great, in the years of the 6th century, the practice of using them is reintroduced.¹⁴ Taking into account that his predecessor, Pope Pelagius II, fell ill and died during the 590 AD epidemic in Rome, one could presume that amulets are permitted once again following this event, and that of the fear installed throughout the Christian world.

THE SUSPECTS

The evidence presented so far is in nowhere near rock-solid. The lack of written sources and the disturbance caused by the constant wars and pillages make the situation of analyzing the presence of the epidemic extremely difficult. The chronology of the late roman necropolises is also troublesome, because the lack or scarcity of the material found in tombs leaves us with a generous chronology of over two centuries. However, in theory, taking into account the connections with more than surely affected provinces, travelling armies and intensive trade, a potential transmission route is ensured.

Now let us discuss the suspects. Prior to the last few years, historians have assumed the *Yersinia Pestis* pathogen of being responsible with the major pandemic, which took place between the 6th and the 8th century¹⁵. In 2013, a group of scientists have finally come with the decisive piece of evidence. Their DNA study was able to identify the traces of the bacterium in the dental pulp of several individuals buried in the 6th century Ascheim-Bajuwarenring cemetery. The study was conducted on a group of 19 individuals buried in 12 graves. In addition, the study provides for the scientific communities that *Yersinia Pestis* had a much earlier human pathogenic strain than thought. In addition, all the strains considered guilty of being the cause of the human plague, have originated in Asia.

This 'investigation', carried out by two different ancient DNA laboratories (in Mainz and Munich), searched for a specific gene, called *pla* (short for *plasminogen activator/coagulase gene*), which is a marker of the most *Yersinia Pestis* strains. The gene tested positive in eight cases.¹⁶

However, what is the plague?

Plague is a severe, acute, infectious disease caused by the *Yersinia Pestis* bacterium, thought to be transmitted to human hosts either by the bite of an infected *Xenopsylla Cheopsis* (the rat flea), or through direct contact with a person suffering from the pneumonic form of the disease (*Yersinia Pestis* bacteria flourishes in the droplets resulted from coughing). However, in the past decade, several studies propose a different approach towards the transmission of the bacillus. Thus, plague may have not necessarily been transmitted by intermediate rat hosts. This study was executed on the medieval plagues in the northern Europe, unveiling that rat bones are generally rare in the archaeological excavations covering the period and so the authors' hypothesis is that there must have been another insect transmitting the disease such as human fleas or lice.¹⁷ Interestingly enough the same is the situation in Scythia Minor. The archaeo-zoological studies that were consulted for this paper did not provide a large number of wild rodents, let alone rats. Whether the bones were selected randomly by archaeologists or that they simply did not preserve, no rat or mice bone was found.¹⁸

In addition, plague managed to infect communities leaving in a cold environment in the past century, whereas temperature under 10°C significantly decreases the rate of

¹² CHELUȚĂ GEORGESCU 1974, 363-376.

¹³ CULICĂ 1969, 359-362.

¹⁴ CÂRJAN 1970, 383-389.

¹⁵ LITTLE 2007, 3.

¹⁶ HARBECK et al. 2013.

¹⁷ HUFTHAMMER/WALLØE 2012.

¹⁸ HAIMOVICI 2007, 541-558; STANC 2004, 311-328; HAIMOVICI 1991, 355.-360.

infections due to the flea. The best examples are the two major Manchurian epidemics (1910-11 and 1920-21). The first left behind 60,000 casualties in only 5 months, while the second killed approx. 9,300 people. Wu Lien-Teh, the Chinese physician in charge of containing the epidemics observed that transmission usually occurs in poorly ventilated houses or inns. In addition, for one to be infected, one must have prolonged contact with a last-stage of disease victim.¹⁹ We mention the temperature aspect because, as it is known so far, the Danube had a habit of freezing, suggesting a particular cold climate in Scythia Minor also. The years this climatic event occurred were 558 and 559AD²⁰ Moreover, recent cases showed that that *Yersinia Pestis* can infect humans through direct contact with the corpse of an animal, in this case a mountain lion.²¹

The speed of this disease is based on calculations of the last pandemic (1896) showing that, in India, it travelled at a fairly slow pace²² nowadays calculated at 12-14 km per year. Nevertheless, unlike the modern pandemic, the first is said to be moving with roughly 4.2 km per day in 664 AD.²³ However, this account is not consistent with the information we have from Ireland, where the disease mentioned to have caused an epidemic in 664AD is not plague (*bléfed* in Old Irish), but a so called yellow plague (*buidhe connail* in Old Irish).

There are three major forms of this pestilence. The first one is the most common, bubonic plague. The disease debuts after a period of 1 to 8 days of incubation. Its name comes from the specific swollen lymphatic nodes, especially the groin and femoral ones.²⁴ As the bacteria replicates itself, other symptoms follow, such as peradenitis and pulmonary oedema, with the buboes feeling extremely painful. On the surface of the skin petechial wounds or ecchymosis may appear. Complications, such as sepsis or a state of general toxicity of the body, can be deadly in one or two days. In this form mortality figures range between 10 and 70%, if left untreated with modern medicine.

The second major form is the pneumonic plague. This is a very severe form, with a rapid evolution, ending in death in as little as two days. Symptomatology includes dyspnea, cyanosis and coughing associated with bloody droplets.

The third and the rarest of the forms is the septicemic plague, occurring in very few cases, which are usually lethal if left untreated. This form is characterized by a state of general toxicity in the body.²⁵

Although most historians argue that plague was the disease responsible for the Justinianic plague, written sources inform us of other pestilences in Europe and not only, throughout the 6th to the 8th century. For example, in early medieval Ireland epidemics of smallpox (*bolgach*) are signalized in 544, 742 and 779 AD²⁶. Other diseases such as *buidhe connail*/yellow plague and *scamach*/Influenzal

Pneumonia are also endemic.²⁷ In Wales, the yellow plague (*Y vad velen*) is a recurrent disease in 526, 537, 547 AD²⁸. Other descriptions in accordance with the smallpox (or other diseases induced by the orthopox virus family) symptoms appear in in 565 AD, one year before the Ligurian Plague. Paulus the Deacon and Nicephorus describe a strange affair, where some “white crusts of a peculiar deposition from the air adhere to all things”²⁹, consistent with the before mentioned affections. Marius, bishop of Avenches, mentions, “a great disease accompanied by dysentery and *variola* affected Italy and Gaul” in the years of 569-570 AD. These are but a few examples of numerous other diseases that ravaged through Europe in the 6th century only. Outside Europe lie other examples. For instance, we are told that Greek soldiers fighting near Mecca brought smallpox home (569-570AD).³⁰

Probably the largest effect of this pandemic, or more likely this set of different epidemics recurring every few years, had was the rise and invasions of the Arabs and Slavs. In a recently published study, the author states that there must be a connection between the epidemic and the barbarian invasions in late 6th and 7th centuries. Although this research requests a more definitive evidence, this theory could provide us with an explanation for the deserted cities in Scythia Minor.

In conclusion, in the case of a possible spread of the Justinianic plague in the province of Scythia Minor the evidence is scarce. As explained previously, in order to have a case we need motive, means and opportunity. The opportunity is in this case the destabilisation of the province that leaves room for a pathogen to spread undisturbed. Means are covered by the trade with affected provinces. Therefore, in theory, such an epidemic is plausible. Nevertheless, because we lack proper evidence, nothing can be said about an actual occurrence of this plague in Scythia Minor. Until further research is accomplished, we are due to say that, although the province is a potential victim, no definitive piece of evidence has inclined us to believe in the presence of the epidemic.

The study beforehand is merely trying to propose a work scheme suitable for a study of an epidemic in any given area. Although this is a general plan, which may not lead to exceptional results, at least until some DNA analysis are undertaken, we believe that overall, it expands the area of study, researching the implications of such a calamity. However, this study is merely a plan for a much more ample work that will be developed in the nearby future

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- ²⁷ CRAWFORD 2011, 116.
- ²⁸ WHITEY 2011.
- ²⁹ FLEMING 1871, 39.
- ³⁰ KOHN 2008, 128-129.

¹⁹ KOOL 2005, 1166-1172.

²⁰ MARUSEK 2010, 18-19.

²¹ WONG et. al. 2009, 33-38.

²² BENEDICTOW 1992, 79-81.

²³ MADDICOT 2007, 190.

²⁴ The term is derived from the Greek word βουβών, meaning groin.

²⁵ VOICULESCU 1971, 638-642.

²⁶ CRAWFORD 2011, 203-205.

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