

Article: the  
archaeology of  
“plague” by daniel  
antoine



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Article: The Archaeology of " Plague" by Daniel Antoine Daniel Antoine uses the Black Death burial site at East Smithfield, London to provide a background into the archeology studies of ancient plagues. Antoine not only will discuss archaeology, but to also show the limitations of archaeological data. The Royal Mint burial ground in East Smithfield London is used as the basis of Antoine's paper. In 1986 the large cemetery was discovered. The site contained two mass burial trenches and a mass burial pit filled with hundreds of skeletons. Antoine cites written evidence that the Royal Mint site was an emergency burial ground built to cope with the Black Death epidemic. It is believed that a majority of the 2400 bodies buried at Royal Mint died due to the Black Death. Antoine brings up that *Yersinia Pestis* may not be the cause of the Black Death. He starts presenting his theory with bringing up that some researchers have found differences in the epidemic of 1347-1349 and recent outbreaks of the bubonic plague. He references Stephen Porter on the role of rats and the fleas they carry. Europe winter climate would have made it hard for fleas to reproduce. The cold weather would have slowed if not stopped to spread of the disease. According to the text there is no evidence of the winter months stopping the spread of the disease. The rats themselves are vulnerable to the plague, there is a lack of evidence that dead rats were piling up like the humans. There are two well documented fifteenth-century plague epidemics in Iceland referenced that rats are believed to have settled on the island until much after the epidemic. Antoine offers that Scott and Duncan (both cited) suggest a highly lethal and contagious virus. In the article Daniel Antoine discusses the role of archaeology in the investigation of ancient plagues. He briefly goes over archaeology multidisciplinary approach and describes the sub disciplines of <https://assignbuster.com/article-the-archaeology-of-plague-by-daniel-antoine/>

vertebrate and invertebrate zooarchaeology, archaeobotany, geoarchaeology, palaeoecology, urban archaeology, material culture, burial archaeology, archaeological dating, bioarchaeology, and palaeopathology. The black rat or *Rattus rattus* is believed by some to be the main carrier of *Yersinia pestis*. This species of black rat may have been displaced and succeeded throughout Europe by the bigger brown rat or *Rattus norvegicus*. The bigger brown rat is thought to be less likely to spread its fleas to humans. According to Antoine looking at the changes in rodent ecology may help explain the cycles of plague that continued throughout Europe. It is possible to distinguish between the species of the black and brown rat using cranial morphology. The nature of the evidence is not the best due to how well specimens were preserved. Also the poor preservation of fleas puts limits on the study of the ancient plague. Climate can be used to recreate the flea's ability to reproduce and test how well they would have survived. In the year 1348 it was believed to be warmer than normal. This could have had an effect on the spread of the Black Death. Examples of how the climates are provided along with the source information. Some of the information is poor from before the seventeenth century and uncertainties still remain regarding the exact climate of medieval times. Archaeology can help establish the epidemical environment by providing researchers with an idea of the urban environment and the social conditions of the time. Housing and population density, water supply, infrastructure, food supply, and general facilities are great places for researchers to look at how these things affected the spread of the disease. An example of this would be in London that experienced enormous growth causing deforestation, overcrowding, and increased demand on infrastructure. All of which could have aided in the spread of a highly infectious

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disease. The expanding of London’s railway system aided in food supply but could of also aided in bring in diseases into London. Antoine brings up questions like how the urban environment of multi-story timber buildings in London could have affected the ecology of humans, rodents, and other possible vectors of the plague. Or would storage rooms have been a suitable place for *Rattus rattus* or *Rattus norvegicus* in the winter months allowing for their fleas to reproduce. Through experimental archaeological and reconstructing a fourteenth-century house would have been a suitable environment for *Yersinia pestis*. Looking at the Royal Mint burial site which was excavated in 1986 Antoine says it’s important to appreciate the nature of the evidence as non randomness and system bias in an assemblage can lead to interpretation errors. An assemblage is the result of culture, preservation, or a mixture of both. Antoine brings up factors that could have affected the skeletal remains such as the acidity of the soil of the burial site. At Royal Mint out of 2400 bodies buried at the site only approximately 600 bodies were recovered. Differences in sex and age among the recovered skeletons can be used to asses the effect the plague had on the different people in the population. Again Daniel Antoine cited all of the information he used in the footnotes of the article. Soft tissue is difficult to study as it has not been well preserved unless proper mummification was preformed on the individual. Recent developments in biomolecular methods like polymerase chain reactions (PCR) have allowed researchers to amplify and analyze small fragments of preserved ancient DNA. The unrepeatable studies and technical difficulties lead to Alan Cooper and Hendrik Poinar to propose criteria of authenticity which is laid out in all of its steps in the article. The plague DNA has provided mixed results. PCR test of *Yersinia pestis* in one child and two

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adults from a burial site in France tested positive. Another set of researchers failed to replicate the same results tested on 108 specimens from the same burial site. All information that was referenced was cited.