

PLAGUE NARRATIVES FROM THE GREAT LAKES

Evidence of the Second Pandemic South of the Sahara

By:

David L. G. Miedzianogora

History



ABSTRACT: The second plague pandemic spread across Eurasia during the 14th century and continued until the 19th century. Recent contributions have argued that it also spread to sub-Saharan Africa. Here, I support that argument by presenting a study on the first emergence of plague in the kingdom of Buganda based on a combination of sources. These include notes from missionaries sent to Buganda by the Church Missionary Society in the 19th century, early ethnographic work on the Baganda, and Apolo Kagwa's published oral history of the Baganda kings, as well as a critical review of the archaeological record from the region and studies on East African plague genomes. I suggest that the most likely introduction of plague into the region was the turn of the 17th century, which is then discussed in a broader African context. This highlights that sub-Saharan societies should be included in global studies of the second pandemic.

KEYWORDS: plague, African history, Buganda, the church missionary society, the second pandemic



Introduction

Plague, the disease caused by the bacterium *Yersinia pestis*, has a millennia-long history in human societies.¹ Most infamous is the medieval Black Death, which killed between a quarter and half of the population throughout Europe and the Middle East (Benedictow 2021: 869-75; Dols 1977: 212-23). However, this was not an isolated epidemic but the first major outbreak in what historians have termed ‘the second pandemic’ (Tab. 1). This encompasses a lengthy and global phase of the history of plague characterised by recurring outbreaks throughout Eurasia beginning in the 14th century and continuing until the 19th century. Christian Europe, as well as the Islamic Middle East and North Africa have been the primary focus of scholarly study, but by now major studies have also appeared on the second pandemic in Central and East Asia (Green 2020; Hymes 2014; 2022; McGrath 2021; Slavin 2023a; 2023b). Attempts have also been made to include sub-Saharan Africa in the emerging, global narrative of the second pandemic (Chouin 2022: 145-49). Yet, the conventional explanation still holds that plague only appeared south of the Sahara during the third pandemic which began in the mid-19th century in the Yunnan region of China and subsequently spread across the globe from Hong Kong beginning in 1894 (Bramanti *et al.* 2016: 3-7). This is despite increasing evidence pointing to the contrary. Decades of studies on the African past have clearly demonstrated that sub-Saharan polities were connected through trade with the Muslim states of North Africa and the Middle East and, on occasion, western Europe and Asia (see Mauny 1978; Fauvelle 2018). This would have provided many opportunities for plague bacteria to spread beyond

¹ The present article is based on a dissertation delivered in partial fulfilment of the BA in History at the University of Copenhagen in June 2023. I wish to extend my thanks to Avner Shamir who supervised the project, as well as Monica Green who helped me think critically about the genetic evidence for plague in sub-Saharan Africa, Gérard Chouin who generously shared his thoughts about medieval plague on the subcontinent, and Guillem Mas-Fiol who shared tentative results about his research on the 1.ANT strain that seem to support some of the general conclusions drawn in this article, all of whom made the project possible. Thanks are also due to the editors of *Culture and History*.

Name	Time period	Geographic spread
The first pandemic	6th-8th century	Europe, the Middle East, North Africa, East Africa*, South Asia*, Central Asia*, East Asia*
The second pandemic	13th/14th-18th/19th century	Europe, the Middle East, North Africa, sub-Saharan Africa*, South Asia*, Central Asia, East Asia*, Russia
The third pandemic	19th century-present	Europe, the Middle East, North Africa, sub-Saharan Africa, the Americas, Australia, South Asia, Central Asia, East Asia, Russia

Tab. 1. Geography and time period of the three plague pandemics. Asterisks denote possible spread but a lack of scholarly consensus.

the Sahara. Genetic studies of plague bacteria even point directly to their introduction into sub-Saharan Africa during the second pandemic in the Great Lakes region of East Africa (Green 2014: 35-45; 2018: §34-39). Additionally, the major abandonment of sites throughout West Africa during the mid-14th century is increasingly being interpreted as a direct consequence of the Black Death, placing equatorial West Africa squarely in the middle of the deadliest epidemic in human history (Chouin 2018: §10-21). Although an increasingly substantial body of evidence for the presence of the second pandemic in sub-Saharan Africa is amassing, several questions persist, not least determining exactly when the second pandemic spread to different parts of the subcontinent and why the timing and mode of its spread might have varied across regions (Chouin 2022: 147-49).

In this article, I contribute to the research on the timing and mode of spread of the second pandemic south of the Sahara by providing a study of the history of plague in Buganda, a kingdom located on the borders of Lake Victoria in modern-day Uganda, which became a powerful political player in the region during the middle of the 19th century. My main questions are whether plague can be

identified prior to the third pandemic around the Great Lakes, how it spread to the region, and which impact it had on the populations. My focus on Buganda owes largely to biased availability of source material, even though I will argue that plague in the region likely predates the kingdom. In addition, this article also provides a roadmap for how to study plague prior to the third pandemic in sub-Saharan Africa by combining different kinds of source material with distinct strengths and weaknesses. Genetic sources are becoming increasingly important for histories of disease by emphasising directly the causative agent of a specific disease (Green 2022). This has even allowed historians to hypothesise the presence of diseases in parts of the world where other sources are absent or underexplored, *e.g.*, the Indian Ocean (Green and Jones 2020: 40-48). Uncertainties concerning the exact mutation rate of plague bacteria and the high mobility of humans disturbing the evolutionary processes that form the assumptions behind genetic models mean that the conclusions drawn from these studies should be used cautiously by historians (Eaton *et al.* 2023). The archaeological record is a key source when written or oral sources are absent, but it can also be used in combination with these sources by highlighting material aspects of the past (see Renfrew and Bahn 2020 for an introduction). For example, similar material objects suggest cultural cohesion and can be used to establish chronologies, the changing density of a site through time can be used to explore population histories, and radiometric dating such as carbon 14 can provide unambiguous calendar dates for when things happened (within a margin of error of several generations and considering best practice is followed; see Chapple 2013). This type of evidence can therefore highlight aspects of the past that may not be evident from textual or oral sources, yet it cannot directly show the presence or absence of plague since, *e.g.*, site abandonment, a possible indications of plague, might be the product of several factors, disease but one among them. As it concerns Africa, written sources are compounded by the often colonial context of their production or the significant time frame that has passed between the events described and the production of the text, as well as an often poor understanding amongst Western-trained historians about the context and biases of traditional, oral sources (see Henige 1982). Whilst these sources all have their combination of issues, by combining them it becomes possible to test inferences about the second pandemic in Africa from a variety of angles, strengthening the conclusions that I draw.

This article does not represent the first study of plague in Buganda. The importance of the Great Lakes region, including Buganda, for understanding the spread of the second pandemic in sub-Saharan Africa has already been proposed by Monica Green (2018) in a study on the biogeographical history of the 1.ANT plague strain, which is endemic to the region, while the main corpus of texts I examine have previously been studied by Henri Médard (2005). Green's study did in many ways pave the way for the present article, yet she focused mainly on the genetic evidence, whilst Médard's study assumed that the Great Lakes was one of the ancestral homes of plague, and thus failed to consider when the disease first appeared in the region. Subsequent genetic studies have now shown that the disease did not originate in Africa, however, but in East Asia (Morelli *et al.* 2010). This study therefore adds upon both previous studies. In the case of Médard, my sources are consulted with the explicit aim of understanding when and how plague appeared in the region, therefore asking a fundamentally different question than Médard. In the case of Green, I analyse a wider range of sources, bringing in new perspectives and strengthening the conclusions of her study.

In fact, little work has been published which explores the possibility of plague in sub-Saharan Africa preceding the third pandemic, save for studies assuming that East Africa was the ancestral home of plague, which is now known to be wrong (see Sussmann 2016: 325-37). The first major attempt to call for a historicisation of plague in Africa was voiced by Green (2014) when she proposed that historians of plague should widen the geographic lens with which the disease was studied and take the notion of "pandemic" seriously. Prior emphasis had been largely on Western Europe with a few landmark studies on the Middle Eastern experience of plague (Dols 1977; 1979; Conrad 1981) or the origins of the second pandemic (McNeill 1976: 149-74; Norris 1977; Dols 1978; Norris 1978). More recent contributions have begun to draw on notions of plague grounded in genetics, and there are now histories focusing on the experience of plague beyond these (Varlık 2015; Varlık 2020; Hymes 2014; 2022; McGrath 2021; Green 2020; Slavin 2023a; 2023b; Mengel 2011; Tsiamis 2022: 105-22, 153-84). Yet, Africa remains underexplored, with only a 2018 special issue of *Afriques* standing out as having specifically focused on the question of plague in Africa prior to the third pandemic (Chouin 2018; Derat 2018; Gallagher and Dueppen 2018; Green 2018), as well as a recent article by Chouin (2022), with most other Africanists simply alluding to the presence of the disease (see Mitchell 2004: 14, 114, 201). In fact, a major, recent monograph on the second

pandemic found it viable to adamantly reject the notion that plague spread beyond North Africa (Benedictow 2021: 174-75). Nevertheless, evidence is increasingly appearing which suggest that plague did spread beyond the Sahara prior to the third pandemic, and this article seeks to contribute to these studies.

The sources I consult are a combination of the correspondences from the missionaries of the Church Missionary Society (CMS) in Buganda, oral histories of the Baganda,² the archaeological record of the region, and genetics. Based on these sources, I will argue that plague in the Great Lakes predates the third pandemic and dates to the second pandemic, most likely the turn of the 17th century. This adds to an emerging narrative of the second pandemic in sub-Saharan Africa which not only emphasises the presence of the disease but also its history across the subcontinent. Questions for future studies include understanding exactly which regions were struck by the Second Pandemic across the African continent, when it spread to different areas, and which differences and similarities might have existed in different parts of Africa and why.

Identifying historical plague epidemics in precolonial Africa

Sub-Saharan Africa has often been excluded from global histories of plague. One of the principal reasons for this is due to the paucity of the source material. The Christian and Muslim worlds were characterised by a developed writing culture during the 14th century, when the second pandemic initially spread to these regions. This allowed contemporaries to record the appearance and consequence of plague for posterity. The same was not the case in most parts of sub-Saharan Africa, where oral traditions were the primary method of recording the past. This has led Africanists to develop supplementary approaches suited to the oral sources available in many parts of Africa in addition to traditional methods from documentary history (*e.g.*, Henige 1982), as well as a greater emphasis on archaeological data. Despite the lack of written sources compared to Europe, North Africa, and the Middle East, the conclusion that there exists no contemporary evidence for the spread of the second pandemic into the subcontinent is unsubstantiated (see, *e.g.*, Benedictow 2021: 174-75). In fact, writings by travelers, colonists, and traders to Africa mention plague on the

² The kingdom is called Buganda, the people Baganda.

continent as far back as the 14th century (see Spinage 2012: 1336-59), and what is needed, therefore, is a proper understanding of the available sources and how these can be used to probe the history of plague.

Most of the textual sources in precolonial Africa derive from travelers to the subcontinent. Beginning in the 19th century, these were increasingly European explorers and missionaries who travelled to the interior of Africa to map the continent and spread their faith. They produced numerous texts on the subcontinent and, although highly biased in their descriptions of customs, beliefs, and cultures, these texts can be used critically to reconstruct the history of African peoples (McKittrick 2003). This is also the case for the history of disease on the continent, although caution should be exercised in projecting modern diseases into the past based on written documents (see Cunningham 2002). Nevertheless, it is possible to show a relationship between disease symptoms as they appear in premodern texts and the symptoms that we associate with specific diseases today: if we have no reason to suspect rapid evolution in a disease changing how it is symptomatically expressed today compared to the historical case we are studying, it is parsimonious to propose the presence of a specific disease in the historical record based on specific symptoms described in our sources, so long as we have no reason to be skeptical of the author of the source when it concerns disease descriptions, and can show that the presence of the disease is otherwise historically viable. Whilst this can produce a likely historical scenario, only genetic studies can positively identify a disease in the historical record, making genetic studies an important supplement to the historian of disease. Most important is the study of ancient DNA (aDNA) which allow plague and other diseases to be studied directly through their causative agent, in this case *Y. pestis* (Spyrou *et al.* 2019). By comparing the genetics of modern and ancient plague strains, it is possible to determine where different populations of the bacterium appeared, how and when they evolved, and reconstruct the routes they travelled from one place to another. In the case of Africa, a 2018 paper by Monica Green argued that the presence of the modern plague strain 1.ANT in the Great Lakes region was the product of a distinct evolutionary history of plague in East Africa, meaning that at some point in the past, plague was imported into East Africa where it underwent a distinct evolutionary history (Green 2018). However, determining the introduction of the strain into Africa is difficult, as current age estimates differ widely for 1.ANT (Eaton *et al.* 2023: 6-7). This can be solved by the publication

of more genomes from the region. While work is currently underway to produce more modern 1.ANT genomes, the most important research to determine the evolutionary history of 1.ANT would be the sequencing and publication of aDNA belonging to the strain. This would provide a better understanding of when and where different strains diverged from each other. Consequently, it would become possible to test the two current hypotheses for the introduction of the strain into the Great Lakes. On the one hand is Green's interpretation of a second pandemic introduction of 1.ANT into Africa while an alternative proposed by Sussman (2016) argues that the disease only entered the region during the turn of the 19th century. As it stands, these hypotheses are both congruent with the genetic evidence and which is to be favoured depends on the Interpretation of other historical evidence. This article will argue that Green's hypothesis should be supported when taking the historical evidence available for the region into account.

The following paragraphs present an analysis of a combination of documentary, oral, and archaeological sources for the history of plague in Buganda. Buganda is the focus of the study due to the rich source material available for the kingdom, much of it produced by missionaries welcomed by the king (*kabaka*) Mutesa during the mid-late 19th century, detailed ethnographic work during the early 20th century, and availability of published versions of the oral histories of the Baganda. The Great Lakes and East Africa in general harboured many polities and future studies of these may help produce a stronger regional narrative of the history of plague in this part of Africa. Although the publication of new genetic data is necessary to fully understand the history of plague in the region, there is also value in revisiting old material and interpreting it in light of the emerging narrative of the presence of the second pandemic on the continent. The present study does the latter with the explicit aim of proposing an improved hypothesis for the history of plague in the Great Lakes by considering a greater variety of evidence for the region than previous studies. Yet, it is only through the publication of aDNA from the region showing the presence of plague bacteria in human remains that the presence of the disease can be indisputably demonstrated. This applies not only to East Africa but to the subcontinent in general, just as it did to Europe and the Middle East until recently (Little 2011). Nevertheless, studies like the present article, which draw on an array of sources, can produce detailed and testable hypotheses that future genetic studies can either refute or validate, whilst providing a framework within which to interpret the same future genetic studies.

Kawumpuli: the plague of Buganda

Here, I will analyse the missionary records produced by the CMS missionaries during the late 19th century and the oral histories of the Baganda as they relate to the presence of plague prior to the third pandemic. Around the same time that Buganda became politically powerful and began exercising imperial power over a range of subjected peoples in the region from the 1840s (Osterhammel 2014: 445), trade routes began to connect the kingdom with the East African coast. Muslim, and later Protestant and Catholic, missionaries were invited to court, where they vied for religious dominance against each other and the traditional religious institutions of the Baganda (Brierley and Spear 1988: 601-4). It was in this context that missionaries from the CMS arrived in 1877 to spread their version of Christianity in one of the most powerful polities in the East African interior.

In June 1881, A.M. Mackay, one of the two British missionaries in the kingdom at the time, noted in his journal that a disease known locally as *kawumpuli* was spreading in Buganda, which he directly likened to the “black death, which, in former days, carried off millions of beings in Europe” (Mackay 1882a: 478). In a letter sent to the CMS later the same month, the diagnosis was softened, describing *kawumpuli* as “closely akin to, if not quite identical with” the plague epidemics known from Europe (Mackay 1882b: 98). However, as the outbreak continued, this reservation on the nature of the disease was abandoned, and in subsequent correspondences with the CMS the disease was either referred to as “plague” or “black death”, not just by Mackay, but by all the missionaries (*e.g.*, Mackay 1882c: 727). They themselves saw a direct link between the version of plague that they experienced in Buganda and the plague that they had learnt about in Europe. The word *kawumpuli* may, however, also refer to epidemic diseases in general, much like “plague” in English and French (Médard 2005: 89-90). In addition, the missionaries had little medical training, and their diagnosis of plague might have been wrong. The mention of *kawumpuli* can therefore not be equated uncritically with plague, although I will argue below that other lines of evidence strongly suggest that most of the mentions of *kawumpuli* by the CMS missionaries do, in fact, refer to the presence of *Y. pestis* bacteria. It is important to note, nevertheless, that not all mentions of *kawumpuli* by the

CMS missionaries is likely to align with plague, and any analysis focusing only on the missionary records is likely to over-estimate the prevalence of the disease.

Kawumpuli remained a deadly disease throughout the time of the mission in Buganda, with outbreaks noted in 1881, 1882, 1883, 1884, 1885, 1887, 1889, 1890, and 1891, all preceding the spread of the third pandemic from Hong Kong in 1894 (Mackay 1882a: 477–81; Mackay 1882b: 98; Mackay 1882c: 727; Mackay 1883: 532–47; O’Flaherty, 1884: 223–24; O’Flaherty 1885: 242; Mackay 1885: 725; Mackay 1887a: 492; Mackay 1887b: 624; Mackay 1888: 18–19; Walker 1890a: 363; Walker 1890b: 371; Walker 1890c: 618-619; Walker 1890d: 623; Walker 1890e: 771; Baskerville 1892: 105). Based on the descriptions of the disease, these outbreaks seem to have varied in mortality, but since the missionaries did not keep statistics on the virulence of the disease, it is impossible to recreate its death toll. Nevertheless, the missionary and ethnographer John Roscoe noted in his work on the Baganda from 1911 that their population had been halved, from around 3 million when the kabaka Mutesa took the throne in 1856 to around half by his death in 1884, although plague was not mentioned as a possible cause (Roscoe 1911: 6). Nor was disease in general, but the testimonies from the missionaries make it clear that outbreaks happened in the 1880s and early 1890s, thus making it likely that disease was a principal component in the halving of the Baganda. Indeed, the political decline of Buganda in the late 19th century needs to be understood in the context of climate deterioration and a virulent disease environment (Gooding 2022: 221-29). The numbers given by Roscoe should not be taken to be exact, of course, but they strongly indicate a steep population decline during the late 19th century among the Baganda.

Apart from mentions of its high lethality, descriptions of the epidemiology of kawumpuli are almost absent from the missionary records. Mackay and R.H. Walker, another of the missionaries, remarked that the disease produced “swollen glands” or “ulcers” (Mackay 1883: 547; Walker 1890e: 771). A little later, G.K. Baskerville, who arrived in Buganda in 1891, noted that the disease existed in two forms: “externally it produces swellings in various parts, and may be cured in the above way [by bursting the blister]; but if it is internal, no cure is known” (Baskerville 1892: 105). This may seem to disregard *Y. pestis* as the causative agent of kawumpuli since the only cure for the disease would be antibiotics which remained unknown for decades. But it may also be explained by the

mortality rates of bubonic, pneumonic, and septicaemic plague. The swellings noted by Baskerville correspond to the buboes produced by bubonic plague, whereas the internal variant may correspond to pneumonic and septicaemic plague where the infection does not produce visible symptoms. The latter forms have a substantially higher mortality rate than bubonic plague, killing almost all their victims if left untreated. As such, the cure for the “external” variant noted by Baskerville, which only made recovery “probable”, but not certain, would be due to a lower fatality for that specific type of plague rather than an actual cure. The epidemiological characteristics of kawumpuli, as described by the CMS missionaries, are congruent with modern plague. This is substantiated by the inability of the early missionaries to contain the disease when it was first reported in 1881. In June 1881, Mackay had sent his then only companion at the mission site in Buganda, P. O’Flaherty, to kabaka Mutesa’s court to introduce measures aimed at controlling the outbreak of kawumpuli (Mackay 1882a: 478). Six measures were proposed, including drinking hot water and weekly cleaning of the house. These were introduced by Mutesa, and although the capital did become less polluted, the outbreak continued (Mackay 1882b: 98). This led Mackay to conclude in October 1882 that the disease must be endemic in the area, moving from region to region and “periodically breaking out in alarming virulence” (Mackay 1883: 547), although he continued pleading for the adoption of his programme to halt the spread of the disease (Mackay 1885: 725).

The idea that kawumpuli was endemic in the area is supported by the Baganda conception of the disease. When Roscoe produced the first substantial ethnographic work on the Baganda in 1911, he noted that plague, “which had been known for many years, was more feared than any other sickness” (Roscoe 1911: 102). Since Roscoe wrote some years after the Third Pandemic had entered sub-Saharan Africa, this is, on its own, of course not strong evidence of the earlier presence of plague in Buganda. However, he also remarked that the Baganda had a highly developed “cleansing ceremony” specifically for plague (Roscoe 1911: 310); complex rituals develop over sustained periods, suggesting that the Baganda’s history with plague preceded the arrival of European missionaries. In fact, CMS missionaries only describe a handful of Baganda seeking their medicine to cure the disease, despite the Baganda “[dying] off like flies” (Mackay 1885: 725), lending credit to the idea that they had their own forms of treatment. If the Baganda had a long history of interaction with plague, a key question, then, is determining when it began.

This can be illuminated by turning to the origin story of the god (lubaale) of plague: Kawumpuli.³ Before attaining godhood, Kawumpuli was the deformed child of Kayemba, the brother of the kabaka Jjuuko. The child soon died and entered the pantheon of deities in the traditional religion in Buganda as the lubaale of plague. To save the country from the epidemic disaster that would follow if his spirit was ever let loose, the hole in which Kawumpuli was believed to reside was rigorously kept sealed. However, this was not enough to save the kabaka, for he died when he one day looked toward Bulemeezi, the region in the north of the kingdom where Kawumpuli was kept. If taken literally, the story places the beginning of the worship of Kawumpuli in the late 17th century, since this was the time that Jjuuko reigned as kabaka according to the Buganda king lists (Kagwa 1971: 195). It could even be argued that what killed Jjuuko was the disease kawumpuli, which would explain the sudden introduction of a new lubaale into the Ganda pantheon.⁴ In fact, Apolo Kagwa, prime minister of Buganda and the first to compile the king list in written form and publish them in 1901, noted that this event in the genealogy of the kabaka was regarded by the Baganda “as the origin of pestilence”, and linked fatal diseases with swollen glands as a symptom directly to Kawumpuli (Kagwa 1971: 53). He described several outbreaks of the disease, most convincingly one caused by rats during the rule of the kabaka Kyabaggu in the mid-18th century, and notes how the disease often led to the abandonment of old capitals and establishment of new ones (Kagwa 1971: 83-84, 93, 96). In other words, the Baganda had developed specific ways of dealing with kawumpuli, suggesting a centuries-long history with the disease in the kingdom.

Uncertainties surrounding the historical accuracy of the king lists complicate the literal interpretation. Despite stretching back to the 14th century, critical appraisals of the king lists suggest that the early period of the first eight kabaka should be interpreted as mythical rather than historical (Atkinson 1975). Although Jjuuko postdates the mythical kings, he, too, may be a mythical figure. This is based on biographical details in his canon more reminiscent of a creation myth than royal exploits, supported by the possibility that his name is a Bantu derivation of the word for divinity (*juok*) in the Lwo languages, which contributed significantly to the Ganda vocabulary (Wrigley

³ The following is the version of the story as it is told in Roscoe (1911: 309).

⁴ Médard argues that Kawumpuli was imported into the pantheon from the Buvuma Islands at the same time since he was “an atypical deity, unrelated to the rest of the region’s pantheon” (Médard 2005: 87, my translation).

1996: 79-84, 178-82). A historical reading remains possible, however, based on the ability to link a total solar eclipse in 1680 with a story about a priest who ordered the sun to set after which “darkness enveloped the earth” during the early reign of Jjuuko (Kagwa 1971: 47-48). Therefore, the historical precision of Jjuuko’s reign is ambiguous, meaning that any reconstruction of the history of Buganda based on his chronology can only be hypothetical. Despite these apparent issues with the king lists, they nevertheless suggest that at the time of recording in the early 20th century, the Baganda had a history with kawumpuli which was long-ranging enough for the disease to play a role in oral histories, whether one favours a mythical or literal reading of them. Considering also the CMS correspondences, it seems quite likely that the beginning of this history predated the third pandemic, and it might even be hypothesised that it might correspond in time with the tale of Kawumpuli and, thus, have been introduced around the 17th century, although other evidence is needed to strengthen that hypothesis.

The reports from Buganda were not isolated. In 1859, the explorer Richard Francis Burton noted that Muslim traders had heard of “táún” (henceforth: *ta’un*), the Arabic word for plague, when they first arrived in Karagwe, a kingdom bordering the west of Lake Victoria (Burton 1859: 387). The traders themselves used the word *ta’un* to describe the epidemic, which is significant since it was the word that was used throughout Islam for the disease caused by plague bacteria beginning with the second pandemic (Arıcı 2021), unlike the word *waba’*, which simply designates any epidemic disease (Dols 1977: 35). Since plague outbreaks occurred in both Egypt and Syria at this time, the traders would have been familiar with the disease (Dols 1979: 175-77). Thus, it is likely that the disease they identified as plague was just that. As it stands, there are myriad mentions of plague by travelers, colonists, and traders throughout Africa as far back as the 14th century (Spinage 2012: 1336-59), but apart from the mentions by the CMS missionaries in Buganda in the 1880s and 1890s, and the mention by Burton in 1859, it is difficult to determine the exact meaning of the reference. Several of these earlier mentions may therefore have referred simply to epidemic outbreaks of any kind rather than the presence of plague bacteria. The same cannot be said for the reports from Buganda, nor that of Burton, which seem to be likely instances of *Y. pestis* bacteria.

A population collapse

As mentioned earlier, the dating of the introduction of plague into the Great Lakes remains ambiguous based on the genetic evidence (Eaton *et al.* 2023: 6-7). The Buganda king lists suggest that it may have happened around the late 17th century, but this is based on a historical reading of events that happened centuries prior to its recording, and they may be mythical. In this section, I will argue that the archaeology of the region supports the interpretation of the oral and written sources I outlined above, which together provides a strong case for a 17th century introduction of plague into the Great Lakes region.

Archaeological studies can serve as a useful addition to historical studies, or a viable alternative when no written sources are present. In the case of the Great Lakes, prior to the kingdoms that appeared during the 18th century, another development had taken place by the end of the 1st millennium with the adoption of new subsistence practices, namely cattle herding and banana agriculture (Schoenbrun 1993). Subsequently, the archaeological record exhibits the development of hierarchical societies throughout the region with major sites appearing throughout the area that would later comprise Buganda and its immediate neighbour Bunyoro, such as the earthworks of Munsu, Mubenda, and Bigo, or the town of Ntusi, all requiring a significant labour force to construct and sustain the occupations attested from the archaeological excavations of the sites. These sites have been suggested to belong to a single polity, Kitara (Sutton 1993a), preceding Buganda and its neighbouring kingdoms, but based on the differences between the sites in both chronology and the nature of the finds it is more likely that they represent different political entities competing over resources (Robertshaw 1997: 18; Robertshaw and Taylor 2000: 13-19). Whatever the exact political nature of this phenomenon, the sites all seem to have been abandoned around the turn of the 17th century (Robertshaw and Taylor 2000: 19; Iles, Robertshaw, and Young 2014: 49), although a few late radiocarbon dates and scattered finds suggest minimal occupation or use may have continued in later centuries.

The oral traditions of the Baganda or Banyoro rarely mention these earthworks. They were therefore probably not direct antecedents to the later kingdoms, but rather their abandonment should be interpreted as a break between two political systems in the region (Robertshaw and Taylor 2000:

19). Researchers have favoured either a social explanation or an environmental one for the sudden, widespread abandonment (Chrétien 2003: 69). The shift from large, central sites to scattered homesteads does suggest a demographic change, and this may have been caused by climate-change-induced famine,⁵ although it may also have been caused by the introduction of novel diseases to which neither the human nor animal population of the region harboured any resistance. In fact, the high fatality associated with the first wave of the second pandemic fundamentally changed the economic and social situation in Europe (*e.g.*, Bailey 2021), and similar change may have occurred throughout impacted regions in Africa, including the Great Lakes. To better understand the shift from settlement mounds to scattered homesteads, future systematic studies considering the evidence for different causes behind the shift need to be conducted.

Nevertheless, the archaeological record in combination with the oral and written record does make it possible to propose a hypothesis for the shift between the Kitara political system and later lacustrine kingdoms. Beginning around 1500 CE and culminating around 1800 CE, a humid period was followed by a period of increased aridity (Marchant *et al.* 2018: 41), putting a strain on the Kitara system, which then fully broke down with the introduction of a highly fatal disease during the late 17th century. Afterwards, plague would have focalised in local rodent populations and continued to circulate in its new hosts in the wild, occasionally spilling into human populations (see Slavin 2023a for a study exploring this mechanism in depth in a Central Asian context). Abandonment of settlements struck by epidemics may have become an integrated way to deal with such events to minimise the spread of contagion, as attested for the Baganda during the 18th century. In fact, during the third pandemic in the early 20th century, medical experts throughout the Great Lakes remarked that many of the peoples under colonial rule had sophisticated ways of dealing with the spread of plague as well as local terms for it, lending further support to the idea of a locally known rather than novel disease at that point (Green 2018: §46-55). Based on a combination of written, oral, and archaeological sources, the most likely introduction of the second pandemic into the Great Lakes was around the end of the 17th century.

⁵ The abandonment did happen during a period of climatic instability in the region (Robertshaw *et al.* 2004: 540–42).

Interlacustrine plague narratives in an African context

If plague spread into the Great Lakes, it is likely that it also plagued other regions. This might have provided centres from which it could spread into the Great Lakes during the turn of 17th century, as well as regions that were infested from the Great Lakes. Likely centres from which plague could reach Lake Victoria include trans-Saharan trade routes, the Nile, or through the Red Sea or the Persian Gulf (Green 2018: §57-65). Whatever the exact route taken by the pandemic, its origin as it concerns sub-Saharan Africa were the North African or Middle Eastern trade centres with links to the Islamic coasts of Africa. These regions saw continued epidemics throughout the second pandemic (Dols 1977; 1979; Conrad 1981), and plague bacteria could easily have been transported southwards along maritime or trans-Saharan trade routes. Another region that was likely affected by plague is equatorial West Africa, where the abandonment of sites during the 14th century has been argued to be indicative of plague; notably, the Ghanian earthworks (Chouin and DeCorse 2010; Chouin 2012), Kirikongo in Burkina Faso (Dueppen 2022), as well as both the Malian Jenne-Jeno complex (Dueppen and Gallagher 2016; Gallagher and Dueppen 2018) and the mounds of Sadia (Huysecom *et al.* 2015). Indeed, the sheer number of abandoned sites throughout the region strongly suggest that something major happened at this time (Dueppen 2016). Although not all sites were abandoned, many experienced stark decreases in population size at this time. The dating of the sites is particularly interesting, as a mid-late-14th century abandonment due to plague would mean that sub-Saharan West Africa should be included in histories of the Black Death, the original spread of the second pandemic, which reached Europe and the Middle East in 1347. It makes sense that the pandemic spread south as trade between North and West Africa was highly developed by then, moving traders and pilgrims along known, well-traversed caravan routes through the Sahara (*e.g.*, Mauny 1978).

Two issues concern this evidence. First, the dating of the abandonment is based on carbon 14 dating which, due to the margin of error, makes it impossible to create a fully secure chronology. Consequently, some sites may well have been abandoned prior to the introduction of the Black Death in West Africa (see Sanderse 2019: 35-42). Nevertheless, the geographic spread of the abandonment suggests a regional pattern which needs to be explained. If not plague: then what? As

Chouin and DeCorse have remarked with regards to the Ghanian earthworks, but which applies to the whole region: “it seems that only one event can possibly explain such a large-scale phenomenon: the occurrence of the Black Death” (Chouin and DeCorse 2010: 143). Although other possibilities should continuously be investigated, the strongest explanation for the abandonment of major sites throughout West Africa is the introduction of plague into the subcontinent.

The second issue is the lack of direct evidence, which has been dealt with at length as it concerns 17th century Buganda throughout the article, but which is even more problematic during 14th century Africa as a whole. Whereas the 1.ANT strain shows that plague did appear around the Great Lakes with a likely dating to the second pandemic, no such plague bacteria have been proven to exist in West Africa. Nor are there any definitive indications of plague in any textual sources, although several sporadic mentions occur after the arrival of the Portuguese (Spinage 2012: 1336-59). In fact, the silence of the traveler Ibn Battuta, who journeyed to West Africa in 1352 and returned in 1354, and who would therefore have experienced or heard about ongoing plague epidemics in the region, has been taken as a strong indication that the Black Death remained north of the Sahara. This is especially the case since he and his editor, Ibn Juzayy, reported no less than ten outbreaks throughout the *Rihla*, a written account of Battuta’s travels. Furthermore, despite other parts of his travels having been severely questioned, his African journeys have been largely accepted as fact (Waines 2010: 8-26). If Battuta did not report on plague in West Africa in the 14th century, the logic goes, then plague was not present in the region.

It is intriguing, then, that this key eyewitness for the spread of plague in the Muslim world has only recently been the subject of sustained critical discussion concerning the validity of his account of the plague. This work was undertaken by Claudia Maria Tresso. She concluded that Battuta is a reliable source for the spread of the Black Death in the Muslim world yet, importantly for the present discussion, he may have been silent on some occasions when he encountered plague. Notably, no mention is made of plague (*ta’un*) or epidemic (*waba’*) in either Mecca, Baghdad, Tunis, or the Delta Region, despite these locations being affected by the Black Death during his sojourn there (Tresso 2021: 169, footnote 158). Therefore, it is entirely possible that the same was the case in West Africa and that Battuta’s silence on plague should not be equated with absence of the disease.

In fact, Tresso points out that the passages on plague break with the tone and style throughout the *Rihla* which merits explanation: she suggests either that this was due to pragmatic decisions taken during the preparation of the manuscript or that it was a literary device (Tresso 2021: 170-74). Whatever the reason, her examination of Battuta proves that the absence of direct evidence for plague in West Africa is not the same as evidence of its absence. The mass abandonment of sites during the mid-14th century is currently best explained by West Africa being part of a broader Afroeurasian experience of the second plague pandemic, despite the pressing need to produce direct evidence to support this hypothesis.

If the Black Death ravaged West Africa in the mid-14th century, the same does not seem to have happened on the eastern coast and its hinterland. It has been noted that several sites were abandoned or show signs of stark decline (Green 2014: 44-45; 2018: §36), yet the dating is ambiguous in this part of Africa. Great Zimbabwe, for example, was abandoned in the 15th century and not during the mid-late 14th century as would be congruent with a Black Death (Chirikure and Pikirayi 2008; Hoffman 2010; Pikirayi and Chirikure 2011). The mosque in Kilwa declined concurrent with when it would be expected for an introduction of the Black Death (Sutton 1993b), but most other sites on the western littoral of the Indian Ocean show signs of abandonment only by the 15th or 16th century (see contributions in Wynne-Jones and LaViolette 2018). Whatever led to the decline of the Swahili city states was a complex process that occurred over centuries, and what is needed is a systematic review considering the possibility of plague in this process, beyond the scope of the present article. If the disease was associated with the decline, it was more likely a later introduction of the second pandemic rather than the arrival of the Black Death. Consequently, as has already been noted by Chouin, the eastern and western parts of Africa exhibit two very different histories of plague due to different environments and ecologies (Chouin 2022: 145-48). Yet the issue remains to demonstrate the presence – circumstantially or definitively – of plague in East Africa beyond the Great Lakes region.

If plague did appear on the East African coast, the disease could have been transported to the Great Lakes through intermediary trade connections. Despite the common notion that the Great Lakes were largely isolated until the mid-19th century (Chrétien 2003: 26), the presence of bananas, a

South Asian domesticate, at Munsa dating to the fourth millennium BCE suggests a more integrated history of commerce connecting the Great Lakes with the western Indian Ocean littoral than is usually assumed (Lejju, Robertshaw, and Taylor 2006). The presence of cowries at Ntusi shows that there were trade connections with the Indian Ocean throughout the occupation's history (Kusimba and Kusimba 2005: 403). I am not suggesting sustained, direct commercial relations between Swahili trading towns and Kitara sites on the far side of Lake Victoria. Rather, what should be imagined is a mosaic of interactions at different scales which, through intermediate stages, would have connected the far interior of eastern Africa with the coasts (Kusimba 2018). These networks may well have been able to spread *Y. pestis* bacteria from Swahili towns to the interior of Africa and vice versa.

In conclusion, this article has attempted to take seriously the possibility of plague predating the third pandemic in sub-Saharan Africa. This goes against the stance taken by most researchers, who due to the difficulty of the source material have tended to argue that plague was a strictly Eurasian phenomenon. But by combining archaeological, genetic, oral, and written sources in novel ways, I have here attempted to answer when plague entered the continent and how it spread. Based on my analysis of Baganda oral histories, missionary records, the archaeological record from the region, and the presence of the 1.ANT plague strain in eastern Africa, it seems likely that the second pandemic did spread to the Great Lakes region, and that this likely happened during the 17th century. Adjacent regions would likely also have experienced plague in distinct ways, and the approach taken in this article can be successfully applied to other parts of Africa, although adjustments will have to be made to account for different source material. As such, this article serves as an attempt to take seriously the possibility of the second pandemic in sub-Saharan Africa, and thereby begin to include the subcontinent in global histories of plague. Several questions still remain to be answered to achieve this goal, such as whether or not plague became endemic in West Africa despite a likely introduction during the first spread of the second pandemic in the 14th century (Chouin 2022: 148), whether the breakdown of several polities in the East African coast during the 14th-16th centuries can be associated with plague, as discussed above, and whether certain parts of Africa evaded the pandemic altogether, and if so, why. As these and other questions relating to the second pandemic south of the Sahara are answered, our narratives about Africa's place in the world

will become increasingly refined. This article has attempted to begin answering some of these questions as they relate to Buganda and the polities that immediately preceded the kingdom, and has tried to improve our understanding of the early history of plague in the kingdom. It remains for future research to extend this narrative to other parts of the continent and further qualify the conclusions drawn throughout this article. Only then can we begin to comprehend the full implications of the deadliest pandemic in world history.



Litteraturliste

- Arıcı, Mustakim 2021. “Silent Sources on the History of Epidemics in the Islamic World: Literature on Ṭā‘ūn/Plague Treatises”. *Nazariyat Journal for the History of Islamic Philosophy and Sciences*, 7(2), pp. 99-158. <https://doi.org/10.12658/Nazariyat.7.1.M0132en>
- Atkinson, R. R. 1975. “The Traditions of the Early Kings of Buganda: Myth, History, and Structural Analysis”. *History in Africa*, 2, pp. 17-57. <https://doi.org/10.2307/3171464>
- Bailey, Mark 2021. *After the Black Death: Economy, society, and the law in fourteenth-century England*. Oxford University Press: Oxford. <https://doi.org/10.1093/oso/9780198857884.001.0001>
- Benedictow, Ole Jørgen 2021. *The Complete History of the Black Death*. Boydell and Brewer: Woodbridge. <https://doi.org/10.1017/9781787449312>

- Bramanti, Barbara, Stenseth, Nils Chr. and Walløe, Lars 2016. "Plague: A Disease Which Changed the Path of Human Civilization". Ruifu Yang and Andrey Anisimov (eds.): *Yersinia pestis: Retrospective and Perspective*. Springer: Dordrecht, pp. 1-26. https://doi.org/10.1007/978-94-024-0890-4_1
- Brierley, Jean and Spear, Thomas 1988. "Mutesa, the Missionaries, and Christian Conversion in Buganda". *The International Journal of African Historical Studies*, 21(4), pp. 601-618. <https://doi.org/10.2307/219743>
- Burton, Richard Francis 1859. "The Lake Regions of Central Equatorial Africa with notices of the Lunar Mountains and the Sources of the Nile; being the Results of an Expedition Undertaken Under the Patronage of Her Majesty's Government and the Royal Geographic Society of London, in the Years 1857-1859". *Journal of the Royal Geographic Society*, 29, pp. 1-464. <https://doi.org/10.2307/1798278>
- Chapple, Robert M. 2013. "Radiocarbon dating: theoretical concepts and practical applications (all you ever wanted to know about 14C but were afraid to ask)". Bernice Kelly, Niall Roycroft, and Michael Stanley: *Futures and Pasts: Archaeological Science on Irish Road Schemes*. National Roads Authority: Dublin, pp. 75-86.
- Chirikure, Shadreck and Pikirayi, Innocent 2008. "Inside and out the dry stone walls: revisiting the material culture of Great Zimbabwe". *Antiquity*, 82(318), pp. 976-993. <https://doi.org/10.1017/S0003598X00097726>
- Chouin, Gérard F. 2012. "The 'Big Bang' Theory Reconsidered: Framing Early Ghanaian History". *Transactions of the Historical Society of Ghana*, 14, pp. 13-40.
- Chouin, Gérard F. 2018. "Reflections on plague in African history (14th-19th c.)". *Afriques. Débats, méthodes et terrains d'histoire*, 9. <https://doi.org/10.4000/afriques.2228>
- Chouin, Gérard F. 2022. "Environments of Health and Disease in Tropical Africa before the Colonial Era". Lori Jones (ed.): *Disease and the Environment in the Medieval and Early Modern Worlds*, Routledge: London, pp. 127-158. <https://doi.org/10.4324/9780429055478-11>
- Chouin, Gérard F. and DeCorse, Christopher R. 2010. "Prelude to the Atlantic Trade: New Perspectives on Southern Ghana's Pre-Atlantic History (800-1500)". *The Journal of African History*, 51(2), pp. 123-145. <https://doi.org/10.1017/S0021853710000241>
- Chrétien, Jean-Pierre. *The Great Lakes of Africa: Two Thousand Years of History*. Transl. by Scott Straus, Zone Books: New York.
- Conrad, Lawrence Irwin 1981. "The Plague in the Early Medieval Near East". Ph.D. dissertation: Princeton University.

- Cunningham, Andrew 2002. "Identifying disease in the past: cutting the Gordian knot". *Asclepio*, 54(1), pp. 13-34. <https://doi.org/10.3989/asclepio.2002.v54.i1.133>
- Derat, Marie-Laure 2018. "Du lexique aux talismans : occurrences de la peste dans la Corne de l'Afrique du XIIIe au XVe siècle". *Afriques* 9. <https://doi.org/10.4000/afriques.2090>
- Dols, Michael Walters 1977. *The Black Death in the Middle East*. Princeton University Press: Princeton.
- Dols, Michael Walters 1978. "Geographical Origins of the Black Death: Comment". *Bulletin of the History of Medicine* 52(1), pp. 112-13.
- Dols, Michael Walters 1979. "The Second Plague Pandemic and Its Recurrence in the Middle East: 1347-1894." *Journal of the Economic and Social History of the Orient*, 22(2), pp. 162-189. <https://doi.org/10.2307/3631953>
- Dueppen, Stephen A. 2016. "The Archaeology of West Africa, ca. 800 BCE to 1500 CE". *History Compass*, 14(6), pp. 247-263. <https://doi.org/10.1111/hic3.12316>
- Dueppen, Stephen A. 2022. *Divine Consumption: Sacrifice, Alliance Building, and Making Ancestors in West Africa*. Cotsen Institute of Archaeology at UCLA: Los Angeles. <https://doi.org/10.2307/j.ctv2m8h1q4>
- Dueppen, Stephen A. and Gallagher, Daphne 2016. "Changing Crafts in the Spaces Between States: Formal, Functional, and Decorative Transformations in Fifteenth-Century CE Ceramics at Kirikongo, Burkina Faso (West Africa)". *African Archaeological Review*, 33(2), pp. 129-161. <https://doi.org/10.1007/s10437-016-9219-x>
- Eaton, Katherine, Featherstone, Leo, Duchene, Sebastian, Carmichael, Ann G., Varlik, Nükhet, et al. 2023. "Plagued by a cryptic clock: insights and issues from the global phylogeny of *Yersinia pestis*". *Communications Biology*, 6(1), pp. 1-13. <https://doi.org/10.1038/s42003-022-04394-6>
- Fauvelle, François-Xavier 2018. *The Golden Rhinoceros: Histories of the African Middle Ages*. Princeton University Press: Princeton. <https://doi.org/10.1515/9780691183947>
- Gallagher, Daphne and Dueppen, Stephen A. 2018. "Recognizing plague epidemics in the archaeological record of West Africa". *Afriques. Débats, méthodes et terrains d'histoire*, 9. <https://doi.org/10.4000/afriques.2198>
- Gooding, Philip 2022. "Climate Change and Political Instability in Equatorial Eastern Africa, 1876-84". *International Journal of African Historical Studies*, 55(2), pp. 207-229.
- Green, Monica H. 2014. "Taking "Pandemic" Seriously: Making the Black Death Global". *Medieval Globe*, 1(1), pp. 27-64. <https://doi.org/10.17302/TMG.1-1.3>

- Green, Monica H. 2018. "Putting Africa on the Black Death map: Narratives from genetics and history". *Afriques. Débats, méthodes et terrains d'histoire* 9. <https://doi.org/10.4000/afriques.2125>
- Green, Monica H. 2020. "The Four Black Deaths". *The American Historical Review*, 125(5), 1601-1631. <https://doi.org/10.1093/ahr/rhaa511>
- Green, Monica H. and Jones, Lori 2020. "The Evolution and Spread of Major Human Diseases in the Indian Ocean World". Gwyn Campbell and Eva-Maria Knoll: *Disease Dispersion and Impact in the Indian Ocean World*. Springer International Publishing: Cham, pp. 25-57. https://doi.org/10.1007/978-3-030-36264-5_2
- Henige, David P. 1982. *Oral Historiography*. Longman: London.
- Huffman, Thomas N. 2010. "Revisiting Great Zimbabwe". *Azania: Archaeological Research in Africa*, 45(3), pp. 321-328. <https://doi.org/10.1080/0067270X.2010.521679>
- Hymes, Robert 2014. "A Hypothesis on the East Asian Beginnings of the *Yersinia pestis* polytomy". *The Medieval Globe*, 1(1), pp. 285-308. <https://doi.org/10.17302/TMG.1-1.11>
- Hymes, Robert 2022. "Buboes in Thirteenth-Century China: Evidence from Chinese Medical Writings". *The Medieval Globe*, 8(1), pp. 3-59. <https://doi.org/10.1515/9781802701128-003>
- Iles, Louise, Robertshaw, Peter, and Young, Ruth 2014. "A furnace and associated ironworking remains at Munsa, Uganda". *Azania: Archaeological Research in Africa*, 49(1), pp. 45-63. <https://doi.org/10.1080/0067270X.2013.877619>
- Kagwa, Apolo 1971. *The Kings of Buganda*. Transl. by M.S.M. Kiwanuka, East African Publishing House: Nairobi. Originally published in 1901 as *Basekabaka be Buganda*.
- Kusimba, Chapurukha M. 2018. "Trade and Civilization in Medieval East Africa: Socioeconomic Networks". Janken Myrdal, Kristian Kristiansen, and Thomas Lindkvist: *Trade and Civilisation: Economic Networks and Cultural Ties, from Prehistory to the Early Modern Era*, Cambridge University Press: Cambridge, pp. 320-353. <https://doi.org/10.1017/9781108340946.013>
- Kusimba, Chapurukha M. and Kusimba, Sibel B. 2005. "Mosaics and Interactions: East Africa, 2000 b.p. to the Present". Ann Brower Stahl: *African Archaeology: A Critical Introduction*, Blackwell Publishing: Malden, pp. 392-419. <https://doi.org/10.9783/9781934536261>
- Lejju, B. Julius, Robertshaw, Peter, and Taylor, David 2006. "Africa's earliest bananas?". *Journal of Archaeological Science*, 33(1), pp. 102-113. <https://doi.org/10.1016/j.jas.2005.06.015>
- Little, Lester K. 2011. "Plague Historians in Lab Coats". *Past & Present*, 213(1), pp. 267-290. <https://doi.org/10.1093/pastj/gtr014>

- Marchant, Rob, Richer, Suzi, Boles, Oliver, Capitani, Claudia, Courtney-Mustaphi, Colin J., et al. 2018. "Drivers and trajectories of land cover change in East Africa: Human and environmental interactions from 6000 years ago to the present". *Earth-Science Reviews*, 178, pp. 322-378.
<https://doi.org/10.1016/j.earscirev.2017.12.010>
- Mauny, Raymond 1978. "Trans-Saharan contacts and the Iron Age in West Africa". Fage, J.D. (ed. and transl.): *The Cambridge History of Africa: Volume 2 from c. 500 BC to AD 1050*, Cambridge University Press: Cambridge, pp. 272-341. <https://doi.org/10.1017/CHOL9780521215923.007>
- McGrath, William A. 2021. "The Princess and the Plague: Explaining Epidemics in Imperial Tibet, Khotan, and Central Asia". *The Journal of the American Oriental Society*, 141(3), pp. 637-661.
<https://doi.org/10.7817/jameroriesoci.141.3.0637>
- McKittrick, Meredith 2003. "Capricious tyrants and persecuted subjects: reading between the lines of missionary records in precolonial northern Namibia". Toyin Falola and Christian Jennings (eds.): *Sources and Methods in African History: Spoken, Written, Unearthed*, Boydell and Brewer: London, pp. 219-236.
- McNeill, William H. 1976. *Plagues and People*. Basil Blackwell: Oxford.
- Médard, Henri 2005. "La peste et la missionnaires : santé et syncrétisme médical au royaume du Buganda à la fin du XIXe siècle". *Outre-mers*, 92(346), pp. 79-101.
<https://doi.org/10.3406/outre.2005.4134>
- Mengel, David C. 2011. "A Plague on Bohemia? Mapping the Black Death". *Past & Present* 211(1), pp. 3-34. <https://doi.org/10.1093/pastj/gtq069>
- Mitchell, Peter 2004. *African Connections: An Archaeological Perspective on Africa and the Wider World*. AltaMira Press: Lanham.
- Morelli, Giovanna et al. 2010. "Yersinia pestis genome sequencing identifies patterns of global phylogenetic diversity". *Nature Genetics* 42(12): 1140-1143. <https://doi.org/10.1038/ng.705>
- Norris, John 1977. "East or West? The Geographic Origin of the Black Death". *Bulletin of the History of Medicine* 51(1), pp. 1-24.
- Norris, John 1978. "Response". *Bulletin of the History of Medicine* 52(1), pp. 114-120.
- Osterhammel, Jürgen 2014. *The Transformation of the World: A Global History of the Nineteenth Century*. Princeton University Press: Princeton. <https://doi.org/10.1515/9781400849949>
- Pikirayi, Innocent and Chirikure, Shadreck 2011. "Debating Great Zimbabwe". *Azania: Archaeological Research in Africa*, 46(2), pp. 221-231. <https://doi.org/10.1080/0067270X.2011.580149>

- Renfrew, Colin and Bahn, Paul 2020. *Archaeology: Theories, Methods and Practice*. Thames and Hudson: London.
- Robertshaw, Peter 1997. "Munsa Earthworks". *Azania: Archaeological Research in Africa*, 32(1), pp. 1-20. <https://doi.org/10.1080/00672709709511585>
- Robertshaw, Peter and Taylor, David 2000. "Climate Change and the Rise of Political Complexity in Western Uganda". *The Journal of African History*, 41(1), pp. 1-28. <https://doi.org/10.1017/S0021853799007653>
- Robertshaw, Peter, Taylor, David, Doyle, Shane, and Robert Marchant 2004. "Famine, climate and crisis in Western Uganda". Richard W. Battarbee, Françoise Gasse, and Catherine E. Stickley (eds.): *Past Climate Variability through Europe and Africa*, Springer Netherlands: Dordrecht, pp. 535-549. https://doi.org/10.1007/978-1-4020-2121-3_25
- Roscoe, John 1911. *The Baganda: An Account of their Native Customs and Beliefs*. Cambridge University Press: Cambridge.
- Sanderse, Daan. "The Ruining of an Empire: On the Causes of the Marinid Decline". M.A. thesis: University of Leiden.
- Schoenbrun, David L. 1993. "Cattle Herds and Banana Gardens: The Historical Geography of the Western Great Lakes Region, ca AD 800-1500". *The African Archaeological Review*, 11, pp. 39-72. <https://doi.org/10.1007/BF01118142>
- Slavin, Philip 2023a. "The Birth of the Black Death: Biology, Climate, Environment and the Beginnings of the Second Plague Pandemic in Early Fourteenth-Century Central Asia". *Environmental History*, 28(2), pp. 300-334. <https://doi.org/10.1086/723955>
- Slavin, Philip 2023b. "A Rise and Fall of a Chaghadaid Community: Demographic Growth and Crisis in 'Late-Medieval' Semirech'ye (Zhetysu), circa 1248-1345". *Journal of the Royal Asiatic Society*, 33(2), pp. 513-544. <https://doi.org/10.1017/S135618632200044X>
- Spinage, Clive A. 2012. *African Ecology: Benchmarks and Historical Perspectives*. Springer: Berlin, Heidelberg. <https://doi.org/10.1007/978-3-642-22872-8>
- Spyrou, Maria A., Bos, Kirsten I., Herbig, Alexander and Krause, Johannes 2019. "Ancient pathogen genomics as an emerging tool for infectious disease research". *Nature Review Genetics*, 20(6), pp. 323-340. <https://doi.org/10.1038/s41576-019-0119-1>
- Sussman, George D. 2016. "Scientists Doing History: Central Africa and the Origins of the First Plague Pandemic". *Journal of World History*, 26(2), pp. 325-354. <https://doi.org/10.1353/jwh.2016.0030>

- Sutton, J.E.G. 1993a. "The Antecedents of the Interlacustrine Kingdoms". *The Journal of African History*, 34(1), pp. 33-64. <https://doi.org/10.1017/S0021853700032990>
- Sutton, J.E.G. 1993b. "The Southern Swahili harbour and town on Kilwa Island, 800-1800 AD: a chronology of booms and slump". Paul J.J. Sinclair: *The Development of Urbanism from a Global Perspective*, Uppsala Universitet: Uppsala.
- Tresso, Claudia Maria 2022. "A Two-year Journey under the Arrows of the Black Death: The Medieval Plague Pandemic in Ibn Battuta's Travels". *Journal of Arabic and Islamic Studies*, 21(1), pp. 137-189. <https://doi.org/10.5617/jais.9292>
- Tsiamis, Costas 2022. *Plague in Byzantine Times: A Medico-Historical Study*. De Gruyter: Berlin and Boston. <https://doi.org/10.1515/9783110613636>
- Varlık, Nükhet 2015. *Plague and Empire in the Early Mediterranean World: The Ottoman Experience, 1346-1600*. Cambridge University Press: Cambridge. <https://doi.org/10.1017/CBO9781139004046>
- Varlık, Nükhet 2020. "The plague that never left: restoring the Second Pandemic to Ottoman and Turkish history in the time of COVID-19". *New Perspectives on Turkey* 63, pp. 176-189. <https://doi.org/10.1017/npt.2020.27>
- Waines, David 2010. *The Odyssey of Ibn Battuta: Uncommon Tales of a Medieval Adventurer*. I.B. Tauris: London and New York. <https://doi.org/10.5040/9780755699681>
- Wrigley, Christopher 1996. *Kingship and State: The Buganda Dynasty*. Cambridge University Press: Cambridge. <https://doi.org/10.1017/CBO9780511584763>
- Wynne-Jones, Stephanie and LaViolette, Adria 2018. *The Swahili World*. Routledge: London. <https://doi.org/10.4324/9781315691459>

Utrykte kilder

- Church Missionary Society Periodicals – Adam Matthews Digital: <https://www-churchmissionarysociety.amdigital.co.uk>
 - Baskerville, G. K. (1892). Personal journal. *The Church Missionary Intelligencer and Record* 17(Feb.), pp. 103-108.
 - Mackay, A. M. (1882a). Personal journal. *The Church Missionary Intelligencer and Record* 7(Aug.), pp. 476-490.
 - Mackay, A.M. (1882b). Letter dated 24 June 1881. *The Church Missionary Intelligencer and Record* 7(Feb.), pp. 98-100.

- Mackay, A. M. (1882c). Letter dated 26 March 1882. *The Church Missionary Intelligencer and Record* 7(Dec.), pp. 725-728.
- Mackay, A. M. (1883). Personal journal. *The Church Missionary Intelligencer and Record* 8(Sep.), pp. 532-549.
- Mackay, A. M. (1885). Personal journal. *The Church Missionary Intelligencer and Record* 10(Oct.), pp. 711-727.
- Mackay, A. M. (1887a). Letter dated 2 January 1887. *The Church Missionary Intelligencer and Record* 12(Aug.), pp. 489-493.
- Mackay, A. M. (1887b). Letter dated 8 March 1887. *The Church Missionary Intelligencer and Record* 12(Oct.), pp. 620-630.
- Mackay, A. M. (1888). Personal journal. *The Church Missionary Intelligencer and Record* 13(Jan.), pp. 18-28.
- O'Flaherty, P. (1884). Letter dated 31 August 1883. *The Church Missionary Intelligencer and Record* 9(Apr.), pp. 220-224.
- O'Flaherty, P. (1885). Letter dated 10 October 1884: *The Church Missionary Intelligencer and Record* 10(Apr.), pp. 241-244.
- Walker, R. H. (1890a). Letter dated 24 October 1889. *The Church Missionary Intelligencer and Record* 15(Jun.), pp. 361-370.
- Walker, R. H. (1890b). Letter dated 5 December 1889. *The Church Missionary Intelligencer and Record* 15(Jun.), pp. 370-371.
- Walker, R. H. (1890c). Letter dated 23 December 1889. *The Church Missionary Intelligencer and Record* 15(Sep.), pp. 618-620.
- Walker, R. H. (1890d). Letter dated 3 February 1890. *The Church Missionary Intelligencer and Record* 15(Sep.), pp. 623.
- Walker, R. H. (1890e). Letter dated 5 February 1890. *The Church Missionary Intelligencer and Record* 15(Nov.), pp. 770-771.

