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# Chronology, routes, and conditions for the spread of the plague in Portugal during the Black Death

André Filipe Oliveira da Silva\*

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## Resumo

Apesar de ao longo das últimas décadas termos assistido a avanços importantes no estudo da epidemiologia histórica, em particular sobre a peste, o impacto e as consequências da Peste Negra em Portugal são largamente desconhecidas. Este artigo propõe uma cronologia de introdução e propagação da epidemia em território português, através de uma tentativa inédita de reconstituição das vias e da cronologia de infeção das diversas regiões do reino. Embora as referências documentais diretas sejam escassas, fornecem informação suficiente para que se estabeleça um esboço, destinado a ser melhorado, corrigido ou desmentido pelo avanço futuro da investigação sobre o tema.

**Palavras-chave:** Peste Negra; Século XIV; Portugal Medieval; Peste.

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## Abstract

Although the last decades witnessed major advances on the study of historical epidemiology, particularly the plague, the impact and consequences of the Black Death in Portugal remain largely unknown. This paper aims to propose a chronology of introduction and spread of the epidemic in Portuguese territory, offering a first attempt of reconstitution of infection routes and chronology. Although direct documentary references are scarce, they provide enough information to present a first draft destined to be improved, corrected, or contradicted by future research.

**Keywords:** Black Death; 14<sup>th</sup> century; Medieval Portugal; Plague.

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## Chronology, routes, and conditions for the spread of the plague in Portugal during the Black Death

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### Introduction

The Black Death of 1347-1352 (in its European route) is, by far, the most studied epidemiological phenomenon in human history. Frequently labelled as the deadliest pandemic of all times, it reached, by now, almost two hundred years of fruitful and permanently growing scholarship. The last decade proved to be one of the most important, with the paleogenomic confirmation of the *Yersinia pestis* as the main pathogenic agent of the disease and – even more importantly – with a remarkable genetic proximity between the 14<sup>th</sup> century pathogen and today's same species bacterium (Bos *et al.* 2011).

Although this epidemic is so intensively studied, the theme is far from being closed or exhausted. In opposition to some well documented and known European, North African or Levantine areas, others remain mainly as white spots in the maps of Black Death or represented in incorrect ways. The medieval kingdom of Portugal is one of the most poorly known cases. Portuguese historiography paid little attention to the mid-14<sup>th</sup>-century plague. Naturally, this is not due to the lack of interest on the theme, but mainly because of the lack of the preferential documentary sources used by Black Death historians in other regions (series of wills, complete manorial records, etc.). The absence extends to the narrative sources. Very few Portuguese chronicles and annals about those years remain, and the silence about Black Death is almost complete. In the conventionally designated by *Crónica de Portugal de 1419*, for example, the narration of king Afonso IV of Portugal (r. 1325-1357) reign ceases after the Battle of Río Salado (1340), and the remaining years are mainly narration of Castilian events. Black Death is only mentioned in the quite simple reference to the death of Alfonso XI of Castile during the Siege of Gibraltar, in March 1350. The richest, and almost unique narrative testimony comes from an annals collection from Coimbra, a text that will be analysed forward.

Other factors may be considered in this lack of previous studies. Portuguese medievalist historiography usually focuses in two alternative chronological axes – the period of formation and consolidation of the

kingdom, in 12<sup>th</sup> and 13<sup>th</sup> centuries, and the start of the Portuguese overseas expansion, its influence in culture, society and economy of the 15<sup>th</sup> century, thus leaving a gap around the difficult 14<sup>th</sup> century.

The historiographical *corpus* dedicated to the Black Death in Portugal gathers less than a dozen short papers, mostly about one or a restrict number of documents, explicitly involving someone who died during the plague, but not allowing global views or readings (Baião 1942; Rau 1963 and 1966; Moreno 1978, 1983 and 1996; Roque 1979; Coelho 1980; Barroca 2003, vol. 3). It is in some works not directly dedicated to the study of the Black Death that the most important contributions to the theme are made: the doctoral thesis of Maria Helena da Cruz Coelho (Coelho 1989), one of the most important Portuguese works on medieval rural history, and the ones of Maria Ângela Beirante (1995), Ana Maria S. A. Rodrigues (1995) and Maria da Conceição Falcão Ferreira (2010), three of the finest Portuguese works on medieval socioeconomic urban history, are some enlightening examples. The monographic approach allows a comprehensive survey of local sources and reveals a big picture frequently unexpected: tendencies in prices, wages, variations in the agricultural area or in urban expansion/contraction, short term violent changes in rents, leases, and concessions (be it in the number of contracts, be it in the amounts practised), among other signs of instability. It reveals that, although direct or preferential sources of Black Death are largely absent in Portuguese archives, thousands of parchments remain and may provide important indirect data to reconstruct the impact and the socioeconomic consequences of the pestilential outbreak of 1348-49 in the Western Iberia.

The aim of this paper is to study the beginning and the spread of the Black Death in Portugal. Before any analysis of the impact of the pandemic and the study of short-, mid- and long-term consequences, it is important to understand where the infection came from and how it spread through the Portuguese territory. To achieve these purposes, the text will be divided into two main topics. I will start discussing the chronology of introduction and spreading, comparing it not only with the Iberian neighbours, but also with what is being said or cartographically represented over the years; then, the hypothetical routes and means of diffusion of the infection among the population will be presented and analysed, and some comparisons with later Portuguese outbreaks of plague will be made, a way to deal with the extensive gaps. This is an exploratory paper, presenting hypotheses and dealing with some speculative answers. However, the incipient state of this matter in Portugal makes it necessary and useful, as a starting point to future works.

### **A relevant question: when does the Black Death start in Portugal?**

Portuguese historiography traditionally resort to a temporal reference contained in a codex with annalistic records – known as *Livro da Noa* or *Livro das Eras* –, produced in the city of Coimbra, at the *scriptorium* of the important monastery of Santa Cruz. According to this record, the epidemic started at the Michaelmas of 1348<sup>1</sup>. This reference to the Michaelmas seems oddly coincident with others from different European regions: one is found on an English chronicle, written around 1360, where it is said that the Black Death started in London in Michaelmas of 1348 (Sloane 2011, 30); another is from Avignon: Guy de Chauliac points the Michaelmas of 1360 as the starting day of the *Pestis secunda* in the pontifical city (Glénisson 1968-9, 31). Although I do not think these references may be connected in any way through a common textual tradition, they suggest that the feast of Saint Michael was an important chronological milestone, dating something roughly between the end of the summer and the beginning of the autumn, coinciding with harvest season and providing future readers with a familiar temporal reference.

In this Portuguese record, whose original manuscript survives, the day is not revealed in the body of the main text, but in a gloss written in a different, cursive calligraphy that may be coeval, or a bit later. However, coeval or not, this date cannot be the beginning of the plague; at most, it could be the date when the most intense phase of the epidemic was felt in the city of Coimbra, where the record was made. The main text – even offering the single 14th-century description of plague symptoms known in Portugal (and in Portuguese), and allowing us to identify the bubonic form as the most common one – says nothing about the initial date. As Ole. J. Benedictow refers, in his comprehensive and provocative synthesis, many coeval records of the beginning of the local manifestations of the Black Death only inform us when the plague was already spreading violently enough to produce social disruption and start interrupting the work of courts, notaries, town halls, markets and other local and regional institutions; the infection was probably present and spreading in its epizootic way for as long as six or seven weeks (Benedictow 2011, 87-91). Although not followed by all Portuguese medievalists, the suggestion of a much earlier infection is not new: Mário da Costa Roque proposed it more than

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<sup>1</sup> Arquivo Nacional da Torre do Tombo [ANTT], *Mosteiro de Santa Cruz de Coimbra*, liv. 99, fl. 21v.-22.

forty years ago – although the applied methodology reveals some issues and the thesis lies mainly on empirical, but not entirely accurate arguments (Roque 1979, 123-136). Roque dates the introduction of the epidemics as early as late April or early May; with the support of documentary sources, João Pedro Ferro adjusts this, showing the highly probable presence of the disease in the area of Lisbon during the early summer of 1348 (Ferro 1996, 85-86); plague was already present in Alenquer, a town about 50 km north of Lisbon, in the final days of August, which points towards an introduction of plague in Lisbon no later than final June.

The doctoral thesis of Ermelindo Portela da Silva about 12<sup>th</sup> to 14<sup>th</sup> century southern Galician bishopric of Tui, allows us to suggest the presence of the disease in the Galician coastal town of Baiona as early as late June, although the author, influenced by the Portuguese tradition based on *Livro da Noa* and by the scarcity of Galician testimonies, does not risk and prefers to point the beginning of the Black Death in the region somewhere between July of 1348 and January of 1349 (Portela da Silva 1975, 279). I think that it is precisely in the beginning of that chronological interval that lies the most probable introduction date. The geographical proximity to the Portuguese border makes the possibility of a Galician epidemic without Portuguese contamination very unlikely. Therefore, with the area of Lisbon and the far Northwest of Portugal probably contaminated in June, maybe with several introductions as early as May, the plague was ravaging parts of the country during late summer, reaching the peak of its violence in the autumn, or even during the winter of 1348-49 in the southern, warmer regions, the last ones affected.

When the Black Death reached Portugal, its route was already long and deadly. Trade and circulation between the Iberian Atlantic shore and Northern Europe, by one side, and the Mediterranean, by other, probably brought the news of a terrible unknown disease reaping the life of countless people, apparently attacking everyone, and jumping from region to region with no possible defence. We know examples of monarchs expecting the worse before it started: the English King, Edward III (Sloane 2011, 22-29), the Swedish-Norwegian King, Magnus Eriksson (Benedictow 2011, 209), or the Aragonese King, Pere IV<sup>2</sup>. The plague was fast approaching, with the

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<sup>2</sup> The Aragonese king heard the worrying news about the new epidemic that was severely affecting Sardinia (then an Aragonese territory) and sent a letter to the local authorities in Mallorca so they may be prepared to avoid a major cataclysm. However, when the letter was sent, and without the king knowing, the plague was already killing thousands in the Balearic Islands (López de Meneses 1956, 292).

infection of Catalonia in April and, soon after, Aquitaine – the first Atlantic region to be so. Unfortunately, any testimony that could allow us to know if the Black Death was expected in Portugal did not survive: there is a gap in royal chancery records from 1345 to 1357 (Homem 1990, 219-221) – the only gap of its kind in Portuguese royal chancery between 1248 and 1833, when it was officially extinct – and nothing is known about any previous preparation. Today we know that little could be done to prevent the disease, and, after the contamination of the coastal and northern borders area, the news was probably spreading internally, and the last affected regions, in interior South, were probably waiting in anguish by their own time.

### **Introduction or introductions? Routes, means and comprehension on how the disease spread.**

One methodological option must be stressed: I chose not to present any cartography due to several questions – first, the collection of data is not yet closed, with several years of work remaining to complete the whole Portuguese case; secondly, and more importantly, the problems concerning the cartography of epidemiological phenomenon, specially the Black Death, have been already matter of critical analysis of other authors, with whom I share those doubts: its particularly useful and stimulating the reflexion of David C. Mengel on this matter (2011). Starting from the international “consensus” around the absence of the Black Death in Bohemia – which the Czech historiography proved to be false – it moves towards the massive (and noncritical) reproduction of the map produced to the remarkable 1962 paper authored by Élisabeth Carpentier (1962).

The issues of the cartographic representation of the plague diffusion are also felt when the Portuguese case is included. The classical representation of a wave map usually reverses the infection main direction in Portugal. This happens partially in the referred 1962 map, but some worse – and much more recent – examples may be pointed: in the mentioned Ole J. Benedictow’s synthesis, the featured map assumes that the northern half of Portugal was contaminated in 1348, while the southern half, with the division being made by the Tagus River, would only be affected in 1349. As I will demonstrate ahead, this is incorrect but difficulty avoidable, since Benedictow could not access almost any work about the Black Death in Portugal, and the lack of information about Portuguese plagues during the Second Pandemic is almost complete and highly distortive of the

general readings tried to the whole European continent. The main source of Benedictow's Iberian routes of spread is the pioneer work of Antonio Ubieto Arteta (1975), to which I will return further ahead.

This kind of problems, in a wider way beyond the cartographic representation, were already discussed by Joris Roosen and Daniel R. Curtis, taking as starting point another poorly internationally known region (until recently) in plague studies – the Netherlands – to contest the construction of statistic models of European tendencies from dated and France-centric databases of outbreaks (Roosen and Curtis 2018). One example applied to the Portuguese case reveals the way how a complex and methodologically correct model produces a totally incorrect pattern and chronology of spread: only the north-western region of Entre-Douro-e-Minho is represented as infected until September of 1348, leaving cities as Lisbon, Coimbra and Évora, and entire regions that we know were already affected by that time, outside (Christakos, Olea and Yu 2007, 709-710). The problem is not in the model, whose conception was rigorous, but in the incomplete historical data from which it is built.

As I said, there is news of contagion in Portugal in the transition from the summer to the autumn of 1348, which points towards a first contagion in early summer. The most acceptable scenario is the one with multiple contamination routes. The strongest candidates are the main Portuguese maritime ports, Porto, Lisbon, and the network of the Algarve, responsible for the introduction of the disease in northern, central and southern Portugal. Secondary seaports as Viana da Foz do Lima, Aveiro or Setúbal would play an important role in national diffusion, but not as a main door through international commercial traffic.

The terrestrial contagion is also possible, although the only region where this may be a probable hypothesis is in the aforementioned region of Tui or in the border between Chaves and Monterrei, through southern Galician interior; in southern lands, along the border between Portugal and Castilian Extremadura and Andalusia, a Portuguese-Castilian contagion seems more likely, considering the late outbreaks in Christian Andalusia of the time. In some classical visions (Ubieto Arteta 1975) the terrestrial route would be the main way of entrance and spread of the plague in 1348, seconding the seaports, with the plague covering the kingdom from north to south, even with 'jumps' that would allow Coimbra to be contaminated before Braga – with this last one laying 150 km closer to the Galician border –, and little importance of seaports. Although this traditional Iberian route has been already contested since a long time ago, specifically in the

Castilian case (Vaca Lorenzo 1984, 89-107), it is the one that Benedictow's map suggest, it is incorrect and contradicts most of what is known about the spreading of plague outbreaks in Medieval and Early Modern Europe.

It is difficult to measure the “metastatic leap”, to use the expression of Ole J. Benedictow (2011, 305-308), that allowed the introduction of plague in Portugal. Porto may have been contaminated both through ships coming from a Galician port or directly from Aquitaine; in Lisbon, these possibilities may be considered, although a Mediterranean (Aragonese? North Italian? Provençal?), seems more likely. The maritime navigation between the Mediterranean and North Sea was growing in importance since the early 1300's, motivated by geopolitical issues (Campbell 2016, 9 and 139-141), and Portugal was profiting from those changes (Andrade and Miranda, 2017, 343). The presence of Italian communities in Lisbon is documented (Farelo 2019), and Northern Portuguese merchants and sailors were a frequent presence both in English and French ports<sup>3</sup>. Undoubtedly, the “death that came from the sea” (Barros 2013) will always be the most feared and watched in the Portuguese territory until the 19<sup>th</sup> century, when the first terrestrial restrictions and surveys are put into action (Abreu 2018).

To study the spread of Black Death in Portugal it is essential to associate the road network, and its relationship with the main urban centres, just as it is being made in other European cases, regional or continental (Gómez and Verdú 2017). Man is the main responsible for the spread of rats and fleas in long distances, being the vehicle of diffusion through armies and commerce. Portuguese testimonies of the Black Death offer a challenge more: they are geographically static and, in opposition to what happens in 15<sup>th</sup> century and later plagues, the origin or route of the disease from one point to another is never mentioned. Therefore, the reliability of coeval testimonies of routes of spread is not an issue since we have none. In order to achieve a satisfactory level of reliability, I will use some known data from spread routes of later Portuguese outbreaks. However, the study of 15<sup>th</sup> and 16<sup>th</sup> century Portuguese plagues is also scarce. These studies on later plagues do not propose routes of spreading, and that is a major task yet

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<sup>3</sup> One unequivocal proof of the circulation of merchants, in this case from Guimarães, in international maritime commerce is the sentence from a royal officer, closing a process between the municipality of Guimarães and the royal officer in charge of the recruitment of the crossbowmen of the city. It is said that an important part of the town's men was absent, trading in France – and it is important to remember that the first Galician (and maybe directly Portuguese) contagion probably came from the Atlantic shore of France. AMAP, *Câmara Municipal de Guimarães*, Coleção de Pergaminhos da Câmara Municipal, 8-1-1-12.

to be done. Thus, all the proposed routes are discussable reconstitutions that must be, in future studies, improved and/or corrected.

River transportation in the Portuguese Middle Ages was far from having the same importance it had in Central Europe, France or England, for example. The most important Portuguese rivers – Douro, Mondego, Tagus, and Guadiana, three of them shared with Castile and León – played an important role as structuring elements of the territory and had traffic of people and goods, but always within a regional or ‘national’ scale during the 14<sup>th</sup> century. With only a fraction of the Portuguese territory close to a navigable section of a river, emerges another differentiating aspect of the spread standards usually presented in outbreaks of the Second Pandemics in Europe<sup>4</sup>. During a Portuguese epidemic, navigation through a river – but also between riversides, with numerous small boats connecting both sides when bridges were absent – could have some importance, but on a small, local scale. Hereupon, the main means of propagation were certainly the roads that connected the main cities and towns, from where the disease would spread radially towards their hinterlands, branching until reaching the majority of the most distant rural areas.

Despite all doubts, it is useful to propose an itinerary of the Black Death in Portugal. As I said before, the primal infection may have happened in the main seaports – Lisbon, Porto, and the Algarve network – reaching secondary ports that dealt with cabotage navigation, fisheries and salterns, and spreading to other cities through commercial transport. The Galician way may have been part of this, since cabotage navigation between the Galician port of Baiona, for example, and Portuguese secondary seaports as Viana da Foz do Lima, Caminha or Vila do Conde was frequent<sup>5</sup>. With a first contagion dating back to late May, or early June, the epidemics would be declared as late as the end of August or in the beginning of September. The maritime contagion was only the beginning, and Black

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<sup>4</sup> A relatively recent paper affirms that 95% of the documented plague outbreaks in Europe, from 1347 to 1760, occurred within a 10 km range from a navigable river. Although we do not have an exhaustive survey of plague outbreaks in medieval and early modern Portugal, this scale is undoubtedly far from Portuguese reality, since only a minority part of the country is within that range, excluding many places where plague outbreaks are known from the 14<sup>th</sup> to the 17<sup>th</sup> century (Yue, Lee and Connor 2016).

<sup>5</sup> The exportation of fish from Porto and northern seaports is a major issue presented by the representatives of Porto at the Parliament of 1361. The procurators of Porto say that most fishermen died during the Plague, and the remaining prefer to export the fish, since this choice allowed a considerably bigger profit, even with already extremely inflated prices in Porto (Marques and Dias 1986, 109-111).

Death could not reach the whole kingdom only through sea and rivers. Let us take a look at the roads.

Portuguese terrestrial network remained very close to the Roman roads developed more than a millennium before. The works about Portuguese medieval roads are scarce, with unequal attention paid to the several regions. Carlos Alberto Ferreira de Almeida graduation thesis, presented more than fifty years ago, remains the most comprehensive work about the road network of the north-western region of Entre-Douro-e-Minho (Almeida 1968) – although a cartographical representation of the main roads, in the whole kingdom is presented (Almeida 1968, 216) –, but new contributions are being made by a new generation of researchers, from whose I chose to highlight the master's dissertations of Helena Monteiro – dedicated to the *Estrada da Beira*, the main structural road of the Centre of medieval Portugal, connecting the sea with the Castilian border (Monteiro 2012) – and the one of Ruben Conceição – about the road system of the north-western regions of medieval Portuguese kingdom (Conceição 2020). The best works on the terrestrial communications below the Tagus river are the monographies dedicated to the urban centres – from where a network of roads and trails irradiated – and the analysis from the perspective of the historical geography made by João Carlos Garcia, concerning the period from the final *andalusi* years to the definition of a Portuguese south, with new political borders changing dynamics that, in some cases, also had survived since the Roman times (Garcia 1986).

Overlapping the main road system with the documentary references, I will present a general proposal of itinerary and chronology of spread. This simple approach concerns only the first contagion. For example, it is possible that Braga was first reached by terrestrial infection from the Galician terrestrial route, and later suffered a superimposition from the Porto route of infection, but I will highlight the route I believe to be the one that fits better as the main road to the first infections.

The first Galician contagion probably happened in the seaport of A Coruña, carried by boats coming from Bordeaux, maybe as early as late April of 1348, with the human epidemics starting in June, reaching the southern Galicia fast, not only because of the road system where thousands of pilgrims in the Saint James Way circulated, but also because of the cabotage navigation. In the bishopric of Tui – part of which was in the extreme northwest of Portugal (Nogueira 2000, 146-148) – Valença, the Portuguese town facing the Galician city of Tui, would become infected very quickly. Although physically separated by the flowy river Minho, both

urban centres maintained very close relationships in peace times – as the ones experienced before and after the plague –, and the circulation of people and goods in boats would be permanent. From Valença, the road would go south, and the territory between the rivers Minho and Lima was probably contaminated mainly by an initial Valença outbreak. In the middle of the road between Valença and Braga – the only archiepiscopal city of Portugal then – was the town of Ponte de Lima, where the only bridge over the Lima River in Portuguese territory already built in the 14<sup>th</sup> century was, making it a likely victim in this itinerary. The most precise references to the Black Death in this region are from Braga and Guimarães. These cities, separated by 20 km and a set of hills, were, together with Porto, the most important urban centres in the North of Portugal. Side by side, Braga was a lordship of the archbishop, while Guimarães remained a royal dominion. Braga is about 70 km south to the Galician border and 50 km north to Porto, in the road axis that connected Valença and the Galician border to Porto – a structural axis that remains today. Guimarães was lateral to this axis, but influenced the entire surrounding region, and developed its own road axis with Porto, which became one of the most important commercial roads in late medieval Portugal.

A documentary reference from 1351 refers unequivocally that the plague was ravaging Guimarães in October of 1348, when the will that gave rise to the judicial process closed in 1351 was made<sup>6</sup>. The number of documents produced in Guimarães fell in the beginning of the autumn, and only a few were writing until February of 1349; besides this, only two of eight notaries survived, and the survivors were absent from the town, as a will written in November and validated by public authorities only in February explicitly says (Ferreira 2010, 440-445). Following the propagation model, with the epizootic cycle and the following epidemic, Guimarães was probably contaminated during the summer, no later than middle August. First contagion was probably brought from Porto, through the commercial contacts between both cities. Being outside the main axis Galicia-Porto, and with a close business connection developed by Guimarães merchants, who have been using Porto as their seaport since a long time before the Black Death<sup>7</sup>,

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<sup>6</sup> ANTT, *Colegiada de Santa Maria da Oliveira de Guimarães*, Documentos régios, mç. 2, n.º 1.

<sup>7</sup> A clear example is the storage of a big number of leathers and rabbit furs that merchants from Guimarães had in Porto when, in a conflict between king Dinis and his son, the future Afonso IV, in 1321, all were taken as punishment for the resistance that Guimarães offered to the party of Infante Afonso. With the end of hostilities, the merchants were reimbursed in 1322. ANTT, *Convento de Santa Clara de Guimarães*, mç. 1, rolo não numerado.

the contagion from south seems more likely than the Galician way. The journey from Porto to Guimarães would take roughly two days (Almeida 1968, 171-173), and the territories between both cities were densely populated rural areas that could be affected at the same time. This route of spread, favoured by the intense commercial movements, remained important enough until the 17<sup>th</sup> century, when both municipalities exchanged letters about the possibility of plague outbreaks, with the compromise of the city of Porto to inform Guimarães every time the threat was real (Guimarães 1907).

Guimarães was a structural centre within that region, and it's very probable that Black Death radiated from the town to the surrounding rural areas, within and beyond the municipal borders, affecting satellite territories as Montelongo, Felgueiras, Basto among others, and maybe opening a way to the north-east of the kingdom: there are references to the circulation of merchants between Guimarães and Chaves<sup>8</sup>, an interior city close the border of the Galician bishopric of Ourense, and a possible second terrestrial route of infection from Galicia. However, the almost complete lack of documentation from the North-East region, Trás-os-Montes, only allows speculative proposals. Ferreira de Almeida does not mention any direct connection between Guimarães and Chaves and highlights the traditional connection that goes from Braga to Chaves, the old Roman road from Braga to Astorga (Almeida 1968, 195-196). It is possible that the Black Death was originally communicated from the coastal to the interior northern lands directly and reached the Leonese border, in the east, yet during 1348. The documented presence of the disease in the Zamoran town Villalobos in December of 1348 (Vaca Lorenzo 1990), less than 100 km far from that Portuguese-Leonese border and situated in the heart of the Iberian interior countryside, reinforces that hypothesis. This Leonese-Castilian area was probably contaminated from the east, maybe through the Saint James Way, or through the axis Asturias-León-Salamanca, and we cannot deny the possibility that the Portuguese easternmost North may have been contaminated from this third terrestrial way.

Returning to the coastal area, Braga seems to be affected a little after Guimarães – once again, the interruption in the normal flow of documentary production is the main proof –, with two main possible contagion ways: from Porto, through the old Roman road, or through a Galician contagion,

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<sup>8</sup> ANTT, *Colegiada de Santa Maria da Oliveira de Guimarães*, Documentos particulares, mc. 27, n.º 33.

from North, through the axis Tui-Valença-Ponte de Lima. This last one may be a better candidate: the commercial route was less intensive between Porto and Braga; in opposition, the archbishopric of Braga was the ecclesiastical metropolis of several Galician and Leonese dioceses, as Ourense, Mondoñedo, Tui and Astorga, and the documentation from the 1340's suggests a constant communication between the clergy of the metropolis and its suffragans<sup>9</sup>, allowing several ways of possible contagion, probably overlapped with time. In Braga, most notaries perished: within the group of 17 notaries documented between 1346 and the first days of 1349<sup>10</sup>, only five remain active after that period<sup>11</sup> and one of them, Gonçalo Pires, was probably already a peri- or post-plague nomination, with his first document produced on November 11, 1348<sup>12</sup>. A letter sent by the archbishop of Braga, Gonçalo Pereira, asking for papal confirmation of several new canons nominated after the death of their predecessors, killed by plague, was registered in Avignon on January 7, 1349 (Costa 1968, 152-154). By this time, the archbishop had been dead for a few weeks, suggesting that the letter was written and sent not later than the last days of November. The tone suggest that the epidemic was locally in its zenith.

The small coastal towns and minor seaports were similarly exposed. Although mid-14<sup>th</sup> century testimonies are scarce, the next century brings us one enlightening case: in 1466, in Vila do Conde, then a growing seaport town, the local authorities called a barber to inspect a possible case of plague, which is confirmed (Marques 1983). Despite the normal tension between authorities and population, several measures are taken, and one is to prevent boats coming from Aveiro, a major salt-producing area and important regional port from where plague rumours were coming, to dock in Vila do Conde. Although this late example presents a minor plague local outbreak, it reveals how the connection between small Portuguese ports was important – and perceived as such by coeval men – to the spread of plague.

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<sup>9</sup> Arquivo Distrital de Braga [ADB], *Gavetas do Cabido*, Gaveta dos Arcebispos de Braga, seus Privilégios e Jurisdição Espiritual, doc. 44, 85; ADB, *Colecção Cronológica*, Caixa 11, doc. 445, 449-451; ADB, *Gavetas do Cabido*, Livro 1<sup>o</sup> dos Testamentos, doc. 78, 79.

<sup>10</sup> Afonso Martins, João Domingues, Afonso Pires, João Martins, Lourenço Abril, Afonso Domingues, Fernando Aires, João Pires, Gonçalo Esteves, Mestre João, João Bentes, Afonso Eanes, Domingos Sobrinho, Gonçalo Domingues, Pedro Álvares, Gil Eanes and Gonçalo Pires.

<sup>11</sup> João Martins, João Pires, Afonso Eanes, Domingos Sobrinho and Gonçalo Pires.

<sup>12</sup> ADB, *Gavetas do Cabido*, Gaveta dos Testamentos, doc. 49.

The Centre of Portugal, usually defined as the area between rivers Douro and Tagus, also presents several possible ways of contagion. Coimbra, one of the most important cities, was severely affected by the plague (Rau 1966; Coelho 1980). The already referred record of *Livro da Noa* suggests that the worst period of the disease started in late September or early October of 1348. Although Coimbra was in the riverside of Mondego, one of the main Portuguese rivers with a longer navigable section (Coimbra is almost 50 km far from the sea), and in the heart of one of the most fertile regions of Medieval Portugal, its role in international commerce was apparently small, and, if the contamination came from the sea, the contagion was probably carried from Porto or Lisbon, or through some other cabotage ports. Once again, terrestrial contamination seems more likely, and being closer to Porto (c. 120 km), than Lisbon (c. 200 km), I would prefer an original infection route coming from Porto. We do not have much precise chronological information on the Black Death in Central Portugal, although we know that at least the majority of the territory was affected. Another unique information that comes from Coimbra's *Livro da Noa* is the information about the duration of the epidemic: the author informs that the pestilence lasted for three months<sup>13</sup>, which suggests that, in Coimbra, it would be finished in late December of 1348.

Relocating our analyses in Lisbon, where plague was probably first introduced in the last days of spring of 1348, several radial routes must be traced. First, it was certainly from Lisbon that one of the major cities of the late medieval Portugal, Santarém (75 km in the northeast direction of Lisbon, also in the right riverside of Tagus), was contaminated, but the chronology cannot be determined yet. Following the Tagus towards the Castilian border, we have a suggestive document produced in Belver, a castle belonging to the Knights Hospitallers. Belver is more than 160 km far from Lisbon, and it is located less than 60 km far from the Castilian border. The document is a will, produced in an unknown day, critically dated in the beginning of 1349<sup>14</sup>. The tester, a knight named Vasco Martins do Vale, leaves the rural estate of Paço Velho, in the parish of Anta, to the

<sup>13</sup> ANTT, *Mosteiro de Santa Cruz de Coimbra*, liv. 99, fl. 21v.-22.

<sup>14</sup> The month is unreadable, but the year is 1349. The tester determines to be buried at the Monastery of Grijó, close to Porto, almost 250 km far from Belver, and how his body must be kept while the interdict over the diocese of Porto, where Grijó was located, remains. We know that it was written before May 24 of 1349, the day the will was published in a notarial act in the village of Castro Rei, a medieval municipality in the Centre North of Portugal. Later, in June, a new publication asked by Grijó was made. It is this one that survived until today. ANTT, *Mosteiro do Salvador de Grijó*, mc. 1, doc. 10.

Monastery of Grijó, if his heirs die without offspring. This reference to the possibility of all heirs perishing is not very usual, and the public form of the document that Grijó requested in June suggests that the heirs did die, and no offspring was left alive. If this testimony does not reveal when the disease arrived in the most interior Portuguese Tagus Valley, shows us that it was active and killing somewhere in the beginning of 1349. This way, we can roughly calculate the progress of the Black Death towards the Tagus valley, from Lisbon the Castilian border, in less than 1 km/day, taking more than six months to cover the whole region. Although this is an abstract average which says little about the real progress of the epidemic, it is a useful tool to show an apparently slower spreading than in what happens in the northern Portuguese regions – but below the superior limit of the average calculated to other European regions (Benedictow 2011, 141-143).

Before going south, the next stop must be Lisbon, again. The ports of the Peninsula of Setúbal – Almada, Sesimbra, Setúbal, for example – in the area immediately south of Lisbon and situated between the estuaries of rivers Tagus and Sado, had an important maritime traffic with the kingdom's main city. In the greater area below the Tagus River, we must centre the attention in Évora, a cathedral city whose diocese comprises the majority of the Entre-Tejo-e-Odiana, the medieval Portuguese *comarca* (a major jurisdiction) that occupied all the territory below the Tagus, except the Algarve, coincident with today's Alentejo region. In Entre-Tejo-e-Odiana, the contagion also had several routes. Once again, the main rivers only had a minor role. Guadiana was navigable until the town of Mértola, but it was mainly used to export grain from the southern Alentejo and bring back some products to the region of Mértola, a scarcely populated one (Garcia 1982, 13-18). In the coastal Alentejo, the small harbour town of Odemira, located in the navigable section of Mira River, was yet in an incipient state of consolidation, and its growing status was directly connected to the grain supply of Lisbon (Garcia 1986, 57-59). In Sado river, Alcácer do Sal was in a process of “geostrategic” decadence, motivated by the growing hegemony of Lisbon in the international commerce, and by the considerable decrease of the importance of Alcácer as the oceanic end of the axis that connected the Alentejo to the Seville territory since Antiquity, broken by the new Christian borders between Portugal and Castile (Garcia 1986, 40-44). Coastal Entre-Tejo-e-Odiana was sparsely populated, and the maintenance between the small sea or river ports and its surroundings difficulty would allow the survival of viable chains of transmission.

We must return to the roads. Évora was probably contaminated from Lisbon, through the town of Montemor-o-Novo or indirectly, through a

less likely, but yet possible ‘elbow’, from Lisbon to Santarém, and then to Montemor-o-Novo and Évora. Documentary evidence show that Évora was in the most intense epidemic phase in late November, early December<sup>15</sup>; the town of Montemor-o-Novo, in the Lisbon-Évora Road and home of an important population, was probably affected earlier: two wills, dating from late October<sup>16</sup> and November 4<sup>17</sup>, have a suspicious chronological proximity, since we only know 10 wills produced in this town between 1310 and 1379. The whole area of Central Alentejo could then be contaminated and towns like Estremoz, Monsaraz or Portel – regionally important, yet scarcely documented – were probably infected in a radial movement starting in Évora. In later plagues, Lisbon seems to be the most important source of concerns in the Alentejo region. In 1569, for example, when Lisbon experienced one of the deadliest outbreaks since Black Death, the news was quickly sent to the municipal authorities of Évora (Abreu 2006, 115). Despite the importance of Évora and the Alentejo, where Portuguese kings spent a considerable amount of time in 15<sup>th</sup> and 16<sup>th</sup> centuries, was far less in 1348 than in 1569, the road network and commercial dynamics of the region followed similar patterns.

100 km east of Évora, in the Castilian border and facing the episcopal city of Badajoz is the Portuguese town of Elvas. A document written in August of 1349 refers to the *pestillença que este ano foy* – “the pestilence that occurred this year”<sup>18</sup>, revealing that the worst period of the epidemic in this location was undoubtedly in the winter of 1349, somewhere between January and February, with the first contagion occurring in November, or as late as December, certainly came from West, and not from the Castilian side: Extremadura and the then Christian parts of Andalucia seem to be

<sup>15</sup> A unique testimony in Portuguese territory, made while the plague was still ravaging Évora, informs us. Although the original document, that survives in parchment, is in a poor condition, with parts of the text missing, it is possible to restore its content using a copy made around 1530. Biblioteca Pública de Évora [BPE], Convento de São Domingos, Livro 2, fl. 28-29. The copy is misdated in the year – it says that was done in the era of 1346 (which, in Hispanic Era, would be 1308 AD) – but this mistake was probably made by the copyist because of the bad condition that the parchment already had in the 16th century. The direct and unequivocal references to the Black Death make me date it not from the era of 1346, but from 1386 (1348 AD), a confusion perfectly possible due to the proximity between the graphic representation of both forty and eighty words in the gothic writing of mid-14<sup>th</sup> century. BPE, *Convento de São Domingos de Évora*, Pergaminhos, mç. 1, doc. 12.

<sup>16</sup> Unfortunately, the day of the will is partially missing in the parchment, but we know that is 20 or 20 and something. BPE, *Pergaminhos Avulsos*, Pasta 17, doc. 074.

<sup>17</sup> BPE, *Pergaminhos Avulsos*, Pasta 21, doc. 045.

<sup>18</sup> Arquivo Histórico Municipal de Elvas [AHME], *Pergaminhos da Colegiada de Santa Maria da Alcáçova de Elvas*, n.º 4.

the last Iberian regions affected, as the death by plague of Alfonso XI of Castile in 1350 suggests. Another indirect factor that allows us to suggest that Elvas and its hinterland remained spared until the end of 1348 is the presence of the bishop of Évora in the town, where he executes a papal bull related to the financing of the Portuguese university a few days before Christmas of 1348 (Ferreira 1729, 143). The bishop, former royal physician, and a University of Paris master Afonso Dinis, survived the Black Death – did the bishop take refuge in an untouched area of his diocese?

We can say little about southern Alentejo. Later documents reveal the deep impact of the Black Death in the region (Viegas 1998), but no chronological references are made. We may speculate once again that the infection arrived by road, with Évora contaminating the south towards the road that crosses the hills of Portel, although the infection could come also from the area of Mértola, if the plague did penetrate through the valley of Guadiana, and, in this case, the contamination would rise from the Algarve shores. In the ‘kingdom’ of Algarve, whose difficult terrestrial transposition due to the rough hills that divide it from the rest of southern Portugal guaranteed a different regional identity, almost all of 14<sup>th</sup> century documentation is lost. The region does not offer any possible chronological reconstitution – which affects equally the reconstitution of lower Entre-Tejo-e-Odiana area –, although, once again, we know that the region was badly hit, and, for example, the episcopal city of Silves had not fully recovered more than twenty years after the epidemic (Marques, Dias and Salvado 1990, 137-138).

It is time to summarize this proposal of a Portuguese Black Death itinerary. Three main penetration ways were created at the seaports of Porto and Lisbon, and by the Galician border, no later than May of 1348. After the necessary weeks until the emergence of the epidemic, the infection spread through the main roads, jumping to important non-coastal urban centres, as Guimarães and Braga, in the North, Coimbra and Santarém, in the Centre, and Évora, in the Centre-South. The north-western region of Entre-Douro-e-Minho and the Centre seemed to be deeply affected in September, October, and November, while the first signs of institutional reorganization started from February of 1349 on. Although the most interior areas of the North and Centre are scarcely documented, the epidemic was still felt yet in 1348, as the presence of the infection in the Leonese side in December suggests. South to the Tagus River, the epidemic was apparently delayed, with Évora – in the middle of the way between Lisbon and Castile – being deeply affected in November-December, and Elvas, next to the border, affected already in 1349. Somewhere around the beginning

of the spring of 1349, the Black Death was apparently extinct. In a little more than a half year, the Black Death made its way from West to East, with advances and consequential local radial spreading, until the whole kingdom was hit.

As I said before, the hypothetical propagation ways would be only the inaugural, with subsequent asymmetrical radial diffusion and contamination overlapping that would allow an extension or intensification of the epidemic in a single wave (Kiss et al. 2006; Zhao et al. 2014; Gómez and Verdú 2017) or a second, less serious wave – a typical pattern in plague outbreaks of the last centuries (Audoin-Rouzeau 2007, 311-314). In its majority, the presented spread ways deserve a deepen study, parallel to the renewed and systematic study of Portuguese terrestrial communications in Late Middle Ages, integrating the diffusion of the Black Death with communication means, articulation of the territory with economical activities of production and distribution, institutional and administrative networks, troop movements and population circulation. Once again, the duality of the plague phenomenon demands a double analysis: an event originating from natural causes spreads, forming a mosaic unequivocally defined by a blend of human activity and ecological local peculiarities. The experience of other regions shows us that sometimes that blend creates apparently irrational itineraries of propagation<sup>19</sup>, if the analysis seeks for a simple ‘wave’ spreading. Thereby, the simple routes proposed to the Portuguese case (although never proposed before) may be simplistic too but, until new data is collected and critically analysed, they are the most likely and the starting point.

## Conclusion

Black Death remains a scarcely known phenomenon in Portugal. A discussion of the chronology of introduction and spread, and how human and non-human factors may have been important in the expansion rhythm and impact is an important starting point. It is necessary to ‘situate’ correctly Portugal within the European and Mediterranean Black Death patterns, but

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<sup>19</sup> A perfect example comes from Scandinavia. While Norway was contaminated in 1349 by boats coming from English ports, Black Death was felt in Sweden and Denmark mainly in 1350, with a contagion probably originating from the Baltic Hanseatic coast, and not from their Norwegian neighbours, even if there was not only a geographic proximity, but also a dynastic union, with Magnus Eriksson as king of both Norway and Sweden. (Myrdal 2009, 82).

also understand if, or what peculiarities are characteristic of the Portuguese case. Traditional and massively widespread cartographic representations present errors in the Portugal pattern of propagation, proposing North-South, or East-West main routes, while the documentary sources prove that West-East – with small adjustments North-South or South-North and radial diffusion – was the main direction. All these partially speculative routes may be obvious, but they match with the data already collected, and contradict the “big European” reconstructed patterns and widespread cartography of Portugal. The study of later plagues may bring new lights on these problems. The current state of the art of medieval and early modern plagues in Portugal does not allow yet a fructuous connection between different outbreaks.

In all probability, in June of 1348, the seaports of Porto and Lisbon (probably first in Lisbon) were contaminated by the plague. The classic model of plague outbreaks leads us to the point the beginning of the epidemic stage six to eight weeks later in these cities, in August. From those epicentres, plague was spread into the interior through roads, and from these main seaports into smaller ones. In the final days of August, plague was already 50 km northeast of Lisbon, in Alenquer and in late September, early October, plague was already ravaging Guimarães (50 km northeast of Porto) and Coimbra (120 km south of Porto, 200 km north of Lisbon and 45 km east of the sea); Braga, 20 km closer to the sea than Guimarães and located at the same 50 km from Porto and 65 km far from the Galician border, was affected a little bit later, maybe late October, and November seemed to be the worst month. Évora, 120 km east of Lisbon and 85 km west of Elvas, in the Castilian border, experienced its worst time in late November, early December. Elvas, the Portuguese town that faces the Castilian city of Badajoz, was affected only in early 1349. We know that the North Interior, Centre, and the whole South were badly hit by the plague, but chronological information is scarce. Algarve probably had its own spread dynamic, considering that terrestrial communications with this territory were scarce and maritime transport was privileged.

Natural contrasts between the North and the South, the Coast and the Interior must be considered, and reconstitution of environmental conditions, with the complex web and hosts, vectors, temperature, and humidity patterns, will contribute decisively to a better understanding of these epidemic phenomenon. Differences between the speed of spreading between the North and Centre and the South may be explained by these factors. Once again, to say that Portugal had all the environmental elements to

a classical plague scenario<sup>20</sup> may seem a conclusion of little use, but the doubts raised about these matters in other European areas<sup>21</sup> show that it is important to confirm as much of these elements as possible, even if that means an apparent repetition or unimpressive conclusions.

The Black Death studies in Portugal need an urgent renovation that will allow to integrate the Portuguese reality within the European *big picture*, contributing not only to a better knowledge about a local or regional case, but also a more rigorous and credible European global interpretation.

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Arquivo Distrital de Braga [ADB]

*Gavetas do Cabido*, Gaveta dos Arcebispos de Braga, seus Privilégios e Jurisdição Espiritual, doc. 44, 85; Gaveta dos Testamentos, doc. 49; Livro 1<sup>o</sup> dos Testamentos, doc. 78, 79.

*Colecção Cronológica*, Caixa 11, doc. 445, 449-451.

Arquivo Histórico Municipal de Elvas [AHME]

*Pergaminhos da Colegiada de Santa Maria da Alcáçova de Elvas*, n<sup>o</sup> 4.

Arquivo Municipal Alfredo Pimenta [AMAP]

*Câmara Municipal de Guimarães*, Coleção de Pergaminhos da Câmara Municipal, 8-1-1-12.

<sup>20</sup> The black rat (*Rattus rattus*) is extant in Portugal today, with a more documented presence in littoral areas (Paupério *et al.* 2019, 142-143); this is verifiable also with the vectors: more than discuss the hypothetical role of the human flea (*Pulex irritans*) or other human exoparasites as plague vectors, or to stress the never completely understood and long neglected role of the northern rat flea (*Nosopsyllus fasciatus*) had in Black Death (Audoin-Rouzeau 2007, 81-93) – a debate to which, as a historian, I cannot contribute – it's important to verify that all three species (*X. cheopis*, *P. irritans* and *N. fasciatus*) are extant in Portugal until today, and are long identified (Abreu 1973), even before any warming effect already produced by the current climatic changes, which confirms that environmental conditions in the 14<sup>th</sup> century – a relatively warm period – were much likely able to support populations from the three aforementioned species. Anyway, this is an empirical suggestion that archaeozoologists may or may not confirm in the future.

<sup>21</sup> The paper authored by Gunnar Karlsson about the plague in a probable context of total absence of rats in Late Medieval Iceland was harshly criticized by Ole J. Benedictow, for example, but also by another Nordic scholars, with this particular case being only one of the most expressive examples of deeply contrast positions about the topic (Karlsson 1996; Benedictow 2011, 201). Less extreme are more recent papers on the theme, published after the confirmation of *Y. pestis* as the responsible pathogenic agent of medieval and early modern plagues (Hufthammer and Walløe 2013; Fallow and Evans 2016).

Arquivo Nacional da Torre do Tombo [ANTT]

*Colegiada de Santa Maria da Oliveira de Guimarães*, Documentos régios, maço 2, n.º 1; Documentos particulares, maço 27, n.º 33.

*Convento de Santa Clara de Guimarães*, maço 1, unnumbered roll.

*Feitos da Coroa*, Inquirições de D. Afonso IV, liv. 1

*Mosteiro de Santa Cruz de Coimbra*, liv. 99.

*Mosteiro do Salvador de Grijó*, Maço 1, doc. 10.

Biblioteca Pública de Évora [BPE]

*Convento de São Domingos*, Livro 2; Pergaminhos, maço 1, doc. 12.

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