

FRONT MATTER

Title: Unbiased lexicometry analyses illuminate plague dynamics during the second pandemic.

Short Title: Informatic analysis of plague-related texts.

Authors

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Abstract

Knowledge of the second plague pandemic that swept over Europe during the 14th-19th centuries, mainly relies on the exegesis of contemporary texts, prone to interpretive bias. Leveraging bioinformatic tools routinely used in biology, we here developed a quantitative lexicography of 32 texts describing two major plague outbreaks using contemporary plague-unrelated texts as negative controls. Nested, network and category analyses of a 207-word pan-lexicome over-represented in plague-related texts, indicated that “buboes” and “carbuncles” words were significantly associated with plague, signaling ectoparasite-borne plague. Moreover, plague-related words were associated with the words “merchandise”, “movable”, “tatters”, “bed” and “clothes”, while no association was found with rats and fleas. These results support the hypothesis that during the second plague pandemic, human ectoparasites were the major drivers of plague. Analyzing ancient texts using here reported method would certify plague-related historical records and indicate particularities of each plague outbreak, including sources of the causative *Yersinia pestis*.

MAIN TEXT

Introduction

Plague, a deadly zoonosis caused by the bacterium *Yersinia pestis* [1], has been incontrovertibly identified via paleomicrobiological methods in numerous historically described burial sites in Europe, ending decades-long controversies regarding the etiology of the so-called “Black Death” episode (1346-1353) and related episodes forming the 1346-18th century second plague pandemic [2–7]. Ancient texts related to these plague episodes reported massive mortality [8–11], with an estimated ~ 30 million deaths attributed solely to the “Black Death” episode (4, 11). Such figures have never again been observed during the plague outbreaks forming the 1894-current third plague pandemic [12,13], leaving unknown the forces that shaped plague dynamics during the second plague pandemic.

Indeed, the sources and routes of the spread of *Y. pestis* in medieval European populations remain speculative, deriving as they do from the mathematical modeling of ancient plague episodes [13], which obviously cannot be verified, and from cumulative observations made during the third pandemic, which may not be applicable to the second pandemic [14,15]. As an example, transmission of *Y. pestis* by rats and their flea ectoparasites or by the respiratory route, well described during the limited 20th century plague outbreaks [13,16,17], may not have been sufficient to fuel the massive medieval mortality, pointing to the complementary role of human lice (*Pediculus humanus humanus*) and anthropophilic fleas (*Pulex irritans*) [13,18,19]. Accordingly, the relative contributions of rats, other mammals and animal and human ectoparasites to the dynamics of the second plague pandemic are poorly documented. Historical texts describing ancient plague outbreaks have been studied for more than one century [20–22], yet measuring the relative contributions of each factor during the second plague pandemic remains challenging in the absence of any quantitative analysis involving comparison with negative control texts, perpetuating the controversies regarding the dynamics of historical plague outbreaks [13,18,23,24].

To resolve some of these controversies, we designed a purposely naïve unbiased method for the automatic analysis of ancient plague texts derived from a method routinely used in biology to measure the relative expression of genes in a set of biological samples including negative control samples [25]. This model uses ancient plague-related text sets and negative control texts to measure the differential expression of plague-related words, creating a core-lexicome (core signature) of ancient plague and an accessory-lexicome specific to each ancient plague outbreak and opening an avenue for studying the pan-lexicome of plague. The method described here was developed based on positive control texts describing the paleomicrobiologically confirmed Great Plague that affected the city of Marseille and Provence at large in 1720-1722 [2,6,26,27] and was subsequently applied to texts describing the historical plague of 1629-1631, which ravaged Northern Italy, an episode still in need of paleomicrobiological confirmation [27,28].

We cataloged words significantly associated with plague in these records and derived original knowledge regarding the sources and transmission of *Y. pestis* during two outbreaks attributed to the second pandemic in Europe.

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Results

Building the Marseille word database

A word repertoire drew from 16 historical French texts describing the microbiologically documented 1720-1722 Great Plague of Marseille, France [2,6,26], and from 11 contemporary plague-unrelated French texts dating from the same historical period (Data file S1 and S2), after verification that the maximum Jaccard index between two texts was 0.08 using the “Jaccard” package in Rstudio (fig. S1A). This ensured that the 27 texts were original enough (without significant plagiarism) to be used as independent samples. This repertoire comprised a total of 2,049,566 words directly imported (without any modification) from Google Books into Rstudio, including 473,681 words (23.1%) poorly digitized due to damage resulting from preservation conditions and that therefore could not be included in further analysis. Then, 1,575,885 words (76.9%) representative of 10,315 unique words were cleaned by removing noncharacter letters and spaces, replacing ancient characters with homologous characters in the contemporary alphabet (i.e., the “long S” was replaced with “s”), filtering (with a French glossary of 336,631 words, conjugated verbs and proper nouns) and deleting words with fewer than five occurrences in all 27 texts (Complete script present as Supplementary Text 1). Altogether, the final 1,575,885-word database comprised 904,005 words from the 16 plague-related texts and 671,880 words from the 11 negative control texts.

Analyzing the Marseille word database

This word database was used to compare the relative expression of words in the 16 plague-related texts and the 11 negative control texts (Fig. 2A). This comparison was performed by leveraging informatics methods and employing cut-off values commonly used in the field of transcriptomics (the analysis of RNA sequences, i.e., significant letter series using the universal biological code, in biological samples) (Fig. 1). Accordingly, using the DESeq2 package originally developed to identify dysregulated genes in transcriptome analyses, we generated a list of 70 words ($\log_2\text{foldchange} > 0$ and $P \text{ adjust} \leq 0.05$) (0.0007%), being overrepresented in plague-related texts compared to control texts as presented in the WordCloud (Fig. 2; Table S1; Data file S3). Two words are represented twice such as “Contagious” and “Infected”. Our results confirmed the significant report of the two plague signs, namely, “bubo” ($P \text{ adjust} = 5\text{e-}07$) and “carbuncle” ($P \text{ adjust} = 0.003$). Notably, these two signs have been continuously described, by Procopius in Antiquity [29], Guy de Chauliac in medieval times [30] and Yersin and Simond at the beginning of the third, current plague pandemic [31,32]. The significant detection of these two words, constituting internal positive controls, validated our method and allowed us to consider enriched words as significantly associated with plague. Notably, the words “rats” and “fleas” appeared only 11 and 5 times in plague-related texts versus 5 and 3 times in negative control texts, respectively; the differences were not significant. Further careful examination revealed that the word “rat” was misleading in 5 cases, resulting from the abbreviation of the word “magistrate”; ultimately, there were 6 true occurrences in one text reporting dead rats in the streets and rats fleeing houses where plague was declared, but the author spoke of plague in general, and in any case, he does not mention rats during the Marseille plague [33]. Likewise, the word “flea” was mainly used to describe spots on the dura, observed during autopsy, that looked “like flea bites” and once to describe spots

on the belly of a plague-patient as being “like flea bites”. In only one case, “flea” unambiguously referred to the ectoparasite, but in an out-of-plague context.

Categorizing the Marseille word database

By analogy with bioinformatics, where clusters of orthologous genes (COGs) are defined as functional categories [34], the 70 plague words were classified into 19 categories of words, each category comprising words related to the same function in the plague-related texts (Data file S4). The category “Other” was the most abundant, comprising 15/70 (21%) unclassified words, followed by the categories “Consequence” (10/70 words, 14%), “Public Response” (8/70 words, 11%) and “Nature of plague” (7/70 words, 10%). Some words, such as “police”, “physician”, “hospital” and “infirmary” were classified into two different categories: “Prevention” and “Public Response”. Indeed, it appeared that these professions or places already existing before the plague surge were strengthened due to the catastrophic situation because of the construction of new infirmaries and hospitals and the increase in the number of doctors and police personnel. Faced with the assignation of some words to several categories, we specifically consolidated the category “Sources” by analyzing every sentence in which each word of this category was used to determine the number of its occurrence as a *bona fide* plague source. This analysis indicated that the word “movable” was used in 194/207 (94%) occurrences as a plague source; “tatters” was used in 196/225 (87%) occurrences as a plague source; “clothes” was used in 128/153 (83%) occurrences as a plague source; and “merchandise” was used in 561/810 (69%) occurrences as a plague source (Table 1).

Marseille word database: nested and network analyses

Nested analysis was used to contextualize the 70 words overrepresented in the plague-related texts by extracting the 25 words downward and the 25 words upward of each of these overrepresented words and then testing the significance of each; WordClouds for each overrepresented word was generated using a $P \text{ adj} < 0.001$ (Data file S5; fig. S3). As an illustration of this nested analysis representation, the word “merchandise” (Fig. 3) in the category “Source” was significantly associated with “Levant”, “smugglers”, “June”, “fur”, “ship”, “clear”, “unseating”, “exposed”, “purged”, “tatters”, “transport”, “porter” and “Jarre” (the name of the quarantine island in the Marseille gulf) ($P \text{ adj} < 0.001$) (Fig. 3). Likewise, in the symptoms category, the word “carbuncles” (the gangrenous lesions consecutive to the blisters corresponding to a microbe’s gateway through the skin) [32] had 625 occurrences and was significantly associated with “groin”, “parotid”, “arms”, “leg” and “thigh”, all words indicative of the topography of the lesions ($P \text{ adj} < 0.001$). The word “bubo” (the lymph node proximal to the inoculation site (blister or carbuncle)) [32,35] had 948 occurrences and was significantly associated with “groin”, “armpit”, “arm”, “throat”, “parotid”, “ear”, “maxillary”, “jugular” and “thigh” ($P \text{ adj} < 0.001$) (Fig. 3), all words designating localizations unsurprisingly similar to those associated with “carbuncles”, with 95% similarity. Concerning plague sources, the words “tatters”, “movable” ($P \text{ adj} < 0.001$), “cloth” and “air” ($P \text{ adj} < 0.005$) were found to be linked with “infected” and multiple other plague-related words (Fig. 4). The word “tatters” was associated to infection (e.g. “kill”, “corrupt”, “communicated”, “filth”, “contaminates”, “miasms”, “infect”, “infection” $P \text{ adj} < 0.001$), disinfection-related words (e.g. “purge”, “burn”, “aromatic”, “confiscation”, “punished” $P \text{ adj} < 0.001$), and also interesting words

related to the dissemination of the plague and its origin (e.g. “smugglers”, “Turkish”, “Tripoli” $P_{adj} < 0.001$). The word “movable” was linked to words from the same lexical field as “tatters” (e.g. “tatters”, “cloth”, “clothes” $P_{adj} < 0.001$). It was also associated with infection (e.g. “dangerous”, “infection” $P_{adj} < 0.001$) and disinfection-related words (e.g. “burn”, “purge”, “destroyed”, “disinfection”, “perfume”, “purify”, “confiscation” $P_{adj} < 0.001$). All these associations suggest that contemporaries considered tatters, clothes, and movable as plague sources that communicated plague across the city. Likewise, the word “merchandise” was linked to multiple disinfection related words (e.g. “purge”, “quarantine” $P_{adj} < 0.001$). The word “air” was dichotomously associated with contagion (e.g. “bad”, “corrupt” $P_{adj} < 0.001$, “infected” and “poisonous” $P_{adj} < 0.005$) and with purification (e.g. “purify”, “pure” $P_{adj} < 0.001$). In Fig. 4 it can be clearly seen that the word “infected” is linked with the words “tatter”, “cloth”, “movable”, “air” and “merchandise” ($P_{adj} < 0.01$). Other networks for potential sources of plague and the relation with other words are reported as fig. S5 and S6.

Documenting plague in Northern Italy

We then processed 16 historical texts describing an epidemic outbreak in 1629-1631 in Northern Italy (Data file S6), which was never microbiologically confirmed as plague [28]. Twenty Italian texts from the same historical period were used as negative control texts (Data file S7) (Jaccard index between two texts < 0.03) (fig. S1B). The repertoire of words included 1,574,910, of which a final word database of 1,063,483 words total, including 451,856 words from the plague-related texts and 611,627 words from the negative control texts. Using the DESeq2 package, we obtained a list of 147 overrepresented words (0.03%) (P adjust value ≤ 0.05 and $\log_2\text{foldchange} > 0$) (Fig. 5) (Table S2; fig. S2B; Data file S8). Seven words are represented twice such as “contagion”, “could”, “did”, “infected”, “our” and “stuff” while “were” is represented three times. These 147 words were then classified into the same categories used for the Marseille text analysis (Data file S4), and the words in the “source” category were consolidated as explained previously (Table 1). In particular the Italian words “roba” and “robba”, which have been translated into the English word “stuff” and are used in a general way to indicate multiple things, such as movable, merchandise, food and especially clothes (Supplementary Text 2), were present more than 400 times in plague-related texts and in 90% of the cases the term was considered by the author as a plague source. Interestingly, the Italian word for “rat” was present only four times in the plague-related texts: it appeared twice in a figurative sense, once as a general premonition of plague (“If the underground animals flee their rooms, they come upon the earth, unable to live in the extreme putrefaction of their mother, which are worms, snakes, toads, rats, and being on the ground they die, then they are the cause of infection”) [36] and once in a statement that rats, together with dogs, cats, hens and doves, should be killed as a precaution to protect houses from the disease [36].

Nested analysis on Italian overrepresented words indicated that words such as “clothes”, “beds”, “air” and “rooms” were directly linked to infection, disinfection and danger-related words, indicating clear attention to them as potential plague sources (Data file S9; fig. S4). In particular, the word “bed” was linked to infection (“infected”, “contagion”, “pestiferous” $P_{adj} < 0.01$), disinfection (“purge”, “perfume”, “air”, “boil” $P_{adj} < 0.01$), and “caution” ($P_{adj} < 0.01$). Similarly, the word “cloth” was found to be associated with plague-related words, such as “infected” ($P_{adj} < 0.01$), “caution” ($P_{adj} < 0.001$), and

“poison” ($P_{adj} < 0.01$). The word “poison” was also associated with “clothes” ($P_{adj} < 0.01$). Moreover, the word “air” was linked to “infected” ($P_{adj} < 0.001$), “bed” ($P_{adj} < 0.001$), and “pestiferous” ($P_{adj} < 0.01$).

Plague pan-, core- and accessory- lexicomes

To define the plague pan-, core- and accessory- lexicomes (the complete collection of words associated with plague, the plague words in common between the French and Italian lexicomes, and the plague words specific to each episode, respectively), all the French and Italian words were translated into English using the translation function in Microsoft® Word. Misleading translations of four words (three from French texts and 1 from Italian texts) resulted either from a truncated word (e.g., “conta” for “contamination”) or from an isolated letter (e.g., “o”), so that DESeq2 analysis incorporated a total of 68 unique words for Marseille and more than twice the number (139 unique words) for Northern Italy. This difference in the richness of the repertoire between the two datasets and the stronger association between words obtained from the nested analysis for French text respect to the Italian ones (Datasets S5 and S9), could be explained by the fact that the Italian texts in the Northern Italy dataset were largely written by nonmedical professionals such as religious figures, historians and economists (Dataset S6), while the French texts in the Marseille dataset were all written by doctors (Dataset S1). Additionally, the Italian texts described an epidemic covering multiple cities in multiple small countries in Northern Italy, while the French texts covered a much more geographically limited region. The plague pan-lexicome was composed of 10,743 words and included a core-lexicome of 2,645 words: 4,063 words are specific to Marseille’s plague and 4,035 to the Italian plague. Regarding overrepresented unique words, there were 207 in the pan-lexicome (Fig. 6); the core-lexicome had 17 unique words: 51 specifics to Marseille and 122 specifics to Northern Italy constituted the two accessory-lexicomes. Words significantly enriched in the Marseille plague texts had a significant probability of also being enriched in the texts related to the 1629-1631 Italian plague compared to control texts (Fisher’s exact test performed with two conditions, $P_{val} < 0.001^{***}$; $P_{val} < 0.00001^{****}$). The French and Italian datasets were then merged graphically to create networks of common and unique words. Words of interest present in both datasets were compared and placed together to form a network evidencing nested words that were unique or common to both datasets ($P_{adj} < 0.01$). The network representing the significant symptoms of plague (bubo and carbuncle) showed overlap between the Marseille and Northern Italy datasets corresponding to the most common locations for buboes and carbuncles (“groin”, “armpit”, “throat”, “parotid”, “leg”, and “arm”) (Fig. 7). Interestingly, three words “air”, “bed” and “cloth” from the category “Sources” overlapped in the network for “infected” (Fig. 4). No other potential plague sources were observed in common between the Marseille and Northern Italy datasets.

Discussion

Updated lexicographic analyses of ancient texts describing deadly outbreaks proved efficient for identifying them as plague-describing texts and provided valuable information regarding plague dynamics during the second pandemic.

We developed and used a method derived from automatic bioinformatics to obtain quantitative information from ancient texts. Our data, coupled with paleomicrobiological analysis [2,6,26], confirm that these ancient texts speak of a plague caused by *Y. pestis*, as revealed by the significant presence of the words “buboes” and “carbuncles”, the two main symptoms of plague during the second pandemic. These results resolve a years-long debate as to the etiology of plague in historical sources. Indeed, plague was initially interpreted as a hemorrhagic fever [23,37,38] because of the absence of rats and their fleas and because some researchers thought that the term “Black Death” denoting the medieval plague partly reflected the symptoms of the disease. In reality, this term was anachronistic and remains largely metaphorical (reflecting the idea of disaster) [39]. Furthermore, through our analysis, we ascertained that contemporaries of the second plague pandemic did not consider animals as sources of plague. In no case did the historical texts significantly mention animals as a source of plague, disrupting the traditional picture of plague as a primary zoonosis during the second pandemic [18]. In particular, the words “rat” and “fleas”, repeatedly put forward as the source and vector of *Y. pestis* during the second plague pandemic [18,40], did not reach significance and were not enriched in plague-related texts, relativizing the role played by rats and fleas in the transmission of the plague during the second pandemic. Whereas we cannot estimate the predictive negative value of words, such an absence cannot be taken as supporting the prominent role of rats and their ectoparasites during the epidemic episodes.

Instead, contemporaries traced plague outbreaks in Marseille and Northern Italy to imported stuff, a general word encompassing the significantly enriched words “movable”, “tatters”, “clothes”, and “merchandise”; specific references were made to fur imported via the maritime route in Marseille, with a possible unanticipated role of smuggling, and clothes brought by the French and Imperial Allemans soldiers into Northern Italy during the war of Mantua [41–43]. All such clothing was in direct contact with plague-stricken people, and contemporaries insisted on the dangers that these clothes represented in spreading plague. In addition to discussing the Marseille and Northern Italy outbreaks, numerous historical texts reported interhuman transmission of plague through the transportation of movables, merchandise or clothes belonging to plague-stricken persons [44]. Accordingly, the people of those times saw infective potentiality in textiles and other merchandise that came from infected places or with which plague victims had been in contact. Indeed, the trafficking of the clothes of deceased plague victims was a major problem in epidemic periods, given that in preindustrial Europe, wages were so low that buying clothes was a luxury that ordinary people could only afford a few times in their lives [45]. There are multiple direct accounts of episodes in which buying, selling and stealing clothes was reported as having triggered plague in houses, small villages or even cities [41,45,46]. In Milan, the purging and sequestering of all the clothes and movable of plague victims were two primary prophylactic measures. The results herein reported can be put in perspective by those obtained on typhus by the Nobel Prize winner Charles Nicolle: during a 1909 typhus outbreak in Tunis, Nicolle demonstrated for the first time the role of body lice as vectors of infectious diseases in an epidemic context [47]. He found that patients’ lice-infested clothes and their feces infected other people [48,49]. Nicolle noted that bathing and changing clothes stopped contagion [48]. Nicolle’s observations shed light on our results by showing that when an epidemic disease is

transmitted through clothing, it is actually transmitted via human ectoparasites such as body lice, acknowledged vectors of typhus and plague [19,48]. The fact that the vector role of lice was demonstrated in 1909, late in the history of infectious diseases, partially explains why historians neglected body lice in the interhuman transmission of plague, applying the rat-rat flea model, despite all the evidence [13].

In texts from both Marseille and Northern Italy, the words “carbuncle” and “bubo” were significantly enriched. Interestingly, the word “carbuncle”, referring to the skin ulcer following the introduction of *Y. pestis* through skin [32], seems to be very representative of the second plague pandemic, whereas it is rarely described during the third pandemic and no longer reported in contemporary cases of plague. Notably, “buboes” and “carbuncles” were localized all over the body, including the face and the neck (specifically ear, jugular, parotid gland, and maxillary regions), localizations that do not support a role for fleas because rodent fleas are known to bite mainly the lower part of the body (legs and thighs) [Barbieri in press, 2020]; rather, they suggest a role for human ectoparasites, including body lice and human fleas, as vectors of *Y. pestis*, which could explain the rapid spread of the epidemics [19,50–52], as supported by epidemiological [13,17], historical [53] and archaeological studies [18].

In summary, new data generated by a mostly unbiased lexicographic tool provided contrasting knowledge regarding the dynamics of the second plague pandemic, challenging the proposed hypothesis that these episodes resulted from the reactivation of local plague foci [6] by suggesting human ectoparasites as vectors of the deadliest and most widespread plague pandemic in human history.

Materials and Methods

Ancient texts

Texts were retrieved from Google Books, Archive.org and Buisante.parisdescartes using the following keyword combinations: plague & Marseille; plague & Italy with specific period ranges such as plague & Marseille & 1720-1820 or plague & Italy & 1629-1680. A total of 32 historical texts describing the 1720-1722 Great Plague of Marseille (16 complete books) and the 1629-1631 Italian plague, also known as the Manzoni plague, after the famous novel written by Alessandro Manzoni in 1827 [54] (13 complete books and 3 book chapters), were retrieved (Data files S1 and S6). Additionally, we retrieved 11 contemporary negative control texts for Marseille and 20 contemporary negative control texts for Northern Italy, all written during the 17th-18th century and describing surgery, plants, universal history, industry and architecture; these texts were scanned within the framework of the “Google Books” program undertaken by Google and the Archives program (Data files S2 and S7).

French texts’ disposition

To filter the raw text words (see the historical text mining analysis section), we used a list of French words comprising 336,631 words, conjugated verbs and proper nouns compiled from the Français-Gutenberg Dictionary. The symbol “f” (“long S”, which was used in most languages in Europe until the industrial revolution) was automatically substituted with an “s” only if the new word with an s existed on the list of French words. To standardize the words, plural forms ending with a “s” or “x” were converted to the singular form only if the singular word was present on the list of French words.

Italian texts’ disposition

Italian texts (plague-related texts and controls) presented ambiguities that could lead to errors in the analysis. Indeed, most Italian books present, at the upper part of each page, the name of the book or chapter. Another problem of Italian books is the repetition of the last word of each page at the beginning of the next one. To avoid problems due to the overrepresentation of some words, these two types of repetitions were manually corrected by removing the name of the book/chapter from each page, together with the last word of each page. As reported above, the symbol “f” (“long S”) was automatically substituted with an “s”. However, we observed that optical character recognition (OCR) programs tend to recognize the “f” symbol as an “f” and not as an “s”. To avoid the loss of the Italian word “peste” (“plague”) due to OCR mistranscription, the word “pefte” (no meaning) was changed to “peste” in all the texts. Accordingly, the only words identified were those present on the list of Italian words (including singular and plural forms, conjugated verbs, proper names, and surnames = 931,657 words). Of these words, 427 (32%) were discarded. Moreover, one-letter words were removed, and singular and plural forms of the words were unified as best as possible into only one word following Italian grammar rules for plural formation (Supplementary Text 3). Plague-related and control text word counts were compared using the DESeq2 R package with default parameters (version 1.22.2).

Historical text mining analyses

After the raw texts were imported into R (see Supplementary data) in .txt format, all the words were separated and converted to lowercase; accents, empty cells and non-letter characters such as "?", "!", " ", "[.]", "-", "_", "%", "\$", "€", "#", "\\", "+", "*", ":", ";", ">", "<", "§", "&", "•", "«", "»", "[{}]", "'''", "\"", and "" were removed. The number of occurrences was computed for each word in the 63 texts. Regarding the plague-related texts, 3,624,476 words were identified, with 2,049,566 words from the French texts and 1,574,910 words from the Italian texts. Given that we were not able to systematically repair ancient mistranscribed words, only words matching those in exhaustive list of French words (including singular and plural forms and all conjugated verbs = 336,631 words) and the exhaustive list of French cities, towns and places or Italian words were considered. Of ~ 3.5 million words, 2,721,742 were conserved (75%), resulting in 25,659 and 44,475 unique words for the French and Italian texts, respectively. Then, we applied a cut-off value for removing all unique words present fewer than 5 times in the French and Italian texts preliminary to the DESeq2 analysis, resulting in 10,315 and 10,645 unique words for the French and Italian texts, respectively. Subsequently, plague-related and control text word counts were compared using the DESeq2 R package with default parameters (version 1.22.2). This approach identified 70 French and 147 Italian terms that were overrepresented in plague-related texts compared to control ones ($P_{\text{adjust}} < 0.05$ and $\log_2\text{foldchange} > 0$) and 213 French and 313 Italian words that were present > 4 times in plague-related texts compared to controls ($\log_2\text{foldchange} > 2$) (Data files S3 and S8).

Nested analysis

In a second step, we used a “nested” analysis to identify the words that lay in close proximity to overrepresented words in the plague-related texts. We extracted words located ± 25 words apart from significant terms and compared them to the remaining part of the texts using DESeq2. Significant words (adjusted P value ≤ 0.001 and $\log_2\text{FoldChange} > 0$) were plotted using the “wordcloud” R package (version 2.6) (Data files S5 and S9).

Word translation

All the French and Italian words were translated into English using the translation function in Microsoft® Word. Each overrepresented (only the words with $P < 0.05$ or $\log_2\text{foldchange} > 0$) and nested (words associated with overrepresented words) words were controlled by the operators for mistranslation and then corrected. Words with no English translation were maintained as they were; this was the case for one French word, “corbeau” (a person responsible for burying plague victims), and 4 Italian words, namely, “monatti” (people responsible for burying plague victims), “espurgatori” (people responsible for stuff purging), “untori” (people accused of intentionally spreading the disease using “special” ointments), “caldiera” (a tool used to untie the cocoons of silkworms), with no direct English translation. Words exhibiting an “out of context” translation were also manually corrected, such as “carbone”, “tacchi”, and “unti” in Italian and “preservatif” in French texts.

Network Representation using Gephi

Graphical representation of the nested analysis results was performed using the software Gephi 0.9.2 [55]. This software was used exclusively for representation purposes of the data and statistics obtained by the nested analysis. The results of this analysis were converted into nodes and edges to generate the network. At each node, a word was obtained from the nested analysis, and the edges between two words represented the association between these words. Only words with a strong statistical significance ($P_{adj} < 0.01$) were represented. The spatial position of the words in the network has no statistical meaning. To maximize the efficiency of the comparison between the French and Italian datasets, for the construction of the comparison networks, the words nested with the word of interest and the words with which the word of interest was nested were used. Therefore, an edge was created each time a word of interest was associated with another word with a significance determined by a $P_{adj} < 0.01$.

H2: Supplementary Materials

Supplementary materials and methods.

Fig. S1. Jaccard index analyses for French texts corpus (A) (plague related-texts and control texts) and for Italian texts corpus (B).

Fig. S2. Volcano plot obtained from the analysis of the French texts corpus (A) and Italian texts corpus (B), generated using the DESeq2 package ($\log_2\text{foldchange} > 0$ and $P_{\text{adj}} \leq 0.05$).

Fig. S3. WordClouds generated from the nested analysis of French plague-related overrepresented words.

Fig. S4. WordClouds generated from the nested analysis of Italian plague-related overrepresented words.

Fig. S5. Word network representation for selected words from the Great Plague of Marseille (1720-1722).

Fig. S6. Word network representation of words associated to potential sources of plague.

Table S1. Statistical table summarizing the number of raw, filtered, used and unique words for each French plague-related texts and control texts.

Table S2. Statistical table summarizing the number of raw, filtered, used and unique words for each Italian plague-related texts and control texts.

Data files S1. Historical French text related to the 1720-1722 Great Plague of Marseille.

Data files S2. Plague-unrelated French texts dating from the same historical period of the Great Plague of Marseille which were used as controls.

Data files S3. All French words raw data generated by Deseq2 analysis.

Data files S4. List of the overrepresented plague-related words with specific classification into 19 categories of words.

Data files S5. All French words raw data generated by “nested” Deseq2 analysis.

Data files S6. Historical Italian text related to the 1629-1631 plague epidemic in Northern Italy.

Data files S7. Plague-unrelated Italian texts dating from the same historical period of the plague epidemic in Northern Italy which were used as controls.

Data files S8. All Italian words raw data generated by Deseq2 analysis.

Data files S9. All Italian words raw data generated by “nested” Deseq2 analysis.

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Acknowledgments

Funding: This work was supported by the French Government under the Investissements d'avenir (Investments for the Future) program managed by the Agence Nationale de la Recherche (ANR, fr: National Agency for Research) (reference: Méditerranée Infection 10-IAHU-03). This work was supported by Région Le Sud (Provence Alpes Côte d'Azur) and European funding FEDER IHU PRIMMI. The authors acknowledge Pierre Pontarotti (IHU-CNRS) for fruitful discussions about text analysis.

Author contributions: R.B. and R.N. performed data processing and analysis, interpreted the data, drafted the manuscript, and prepared figures. M.S. and S.E. interpreted the data and drafted the manuscript. D.R. and M.D. designed the study, interpreted the data, and drafted the manuscript. All authors reviewed the manuscript.

Competing interests: The authors declare no competing interests.

Data and materials availability: All data needed to evaluate the conclusions in the paper are present in the paper and/or the Supplementary Materials.

Figures and Tables

Overrepresented or nested words considered as plague sources during the Geat plague of Marseille 1720-1722

Word	Occurrence	Numbers of time where the term is used as a plague source	Percentage
Merchandise	810	561	69%
Tatters	225	196	87%
Movable	207	194	94%
Clothes	153	128	83%
Air	233	86	37%
Meat	133	8	6%
Dog	282	87	31%

Overrepresented or nested words considered as plague sources during the plague epidemic of 1629-1631 in Northern Italy

Word	Occurrence	Numbers of time where the term is used as a plague source	Percentage
Stuff	466	419	90%
Feather	29	26	90%
Clothes	89	55	62%
Bed Sheet	25	15	60%
Air	180	98	54%
Bed	146	58	40%

Table 1. Overrepresented or nested words considered as plague sources in the analyzed records. Table representing the number of occurrences of each

suspected plague source in plague-related texts from Marseille and Northern Italy featuring the percentage each word is used by ancient authors as a source of plague. Words for the “bona fide” analysis were selected depending on the results of the nested analysis, for the association with plague-related words.

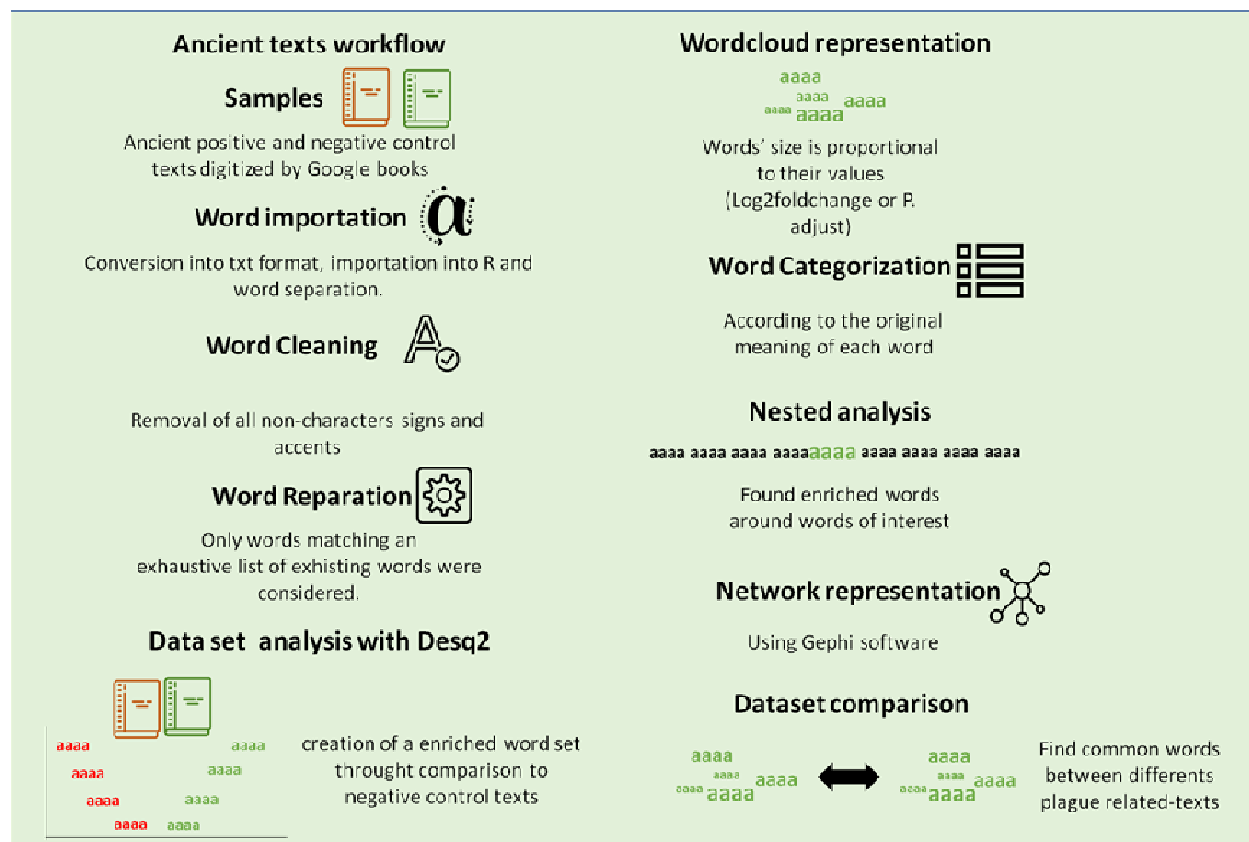


Fig. 1. Workflow summarizing the main steps of the method developed in this study.

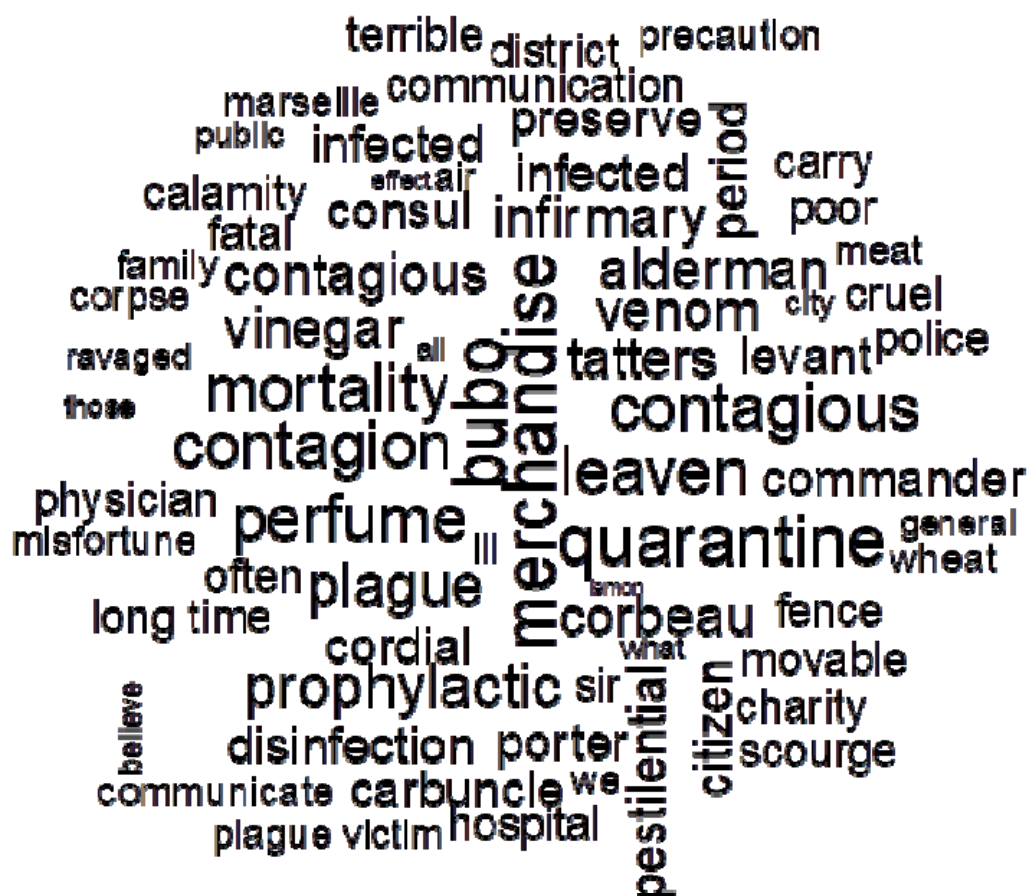


Fig. 2. Wordcloud displaying the words that were overrepresented in the Marseille plague-related texts ($P_{adj} \leq 0.05$ and $\log_2 \text{foldchange} > 0$). The size of the words represents their adjusted P enrichment in plague-related texts compared to negative control texts.

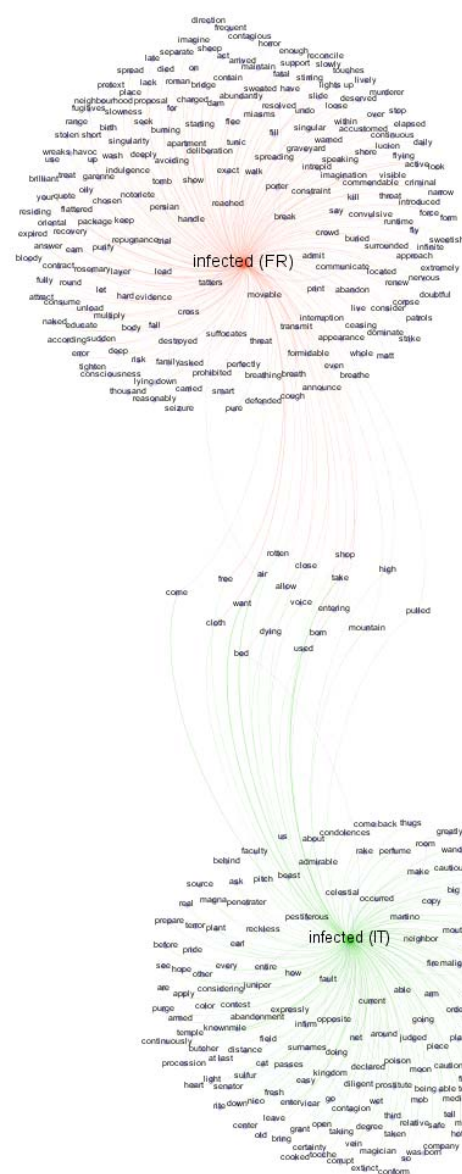


Fig. 4. Network representation of the relations between words generated using Gephi software based on the adjusted P values from the nested analysis ($P_{adj} < 0.01$) of the word “infected” (in green for Marseille and in orange for Northern Italy). Word label dimensions are proportional to the number of links with other words.



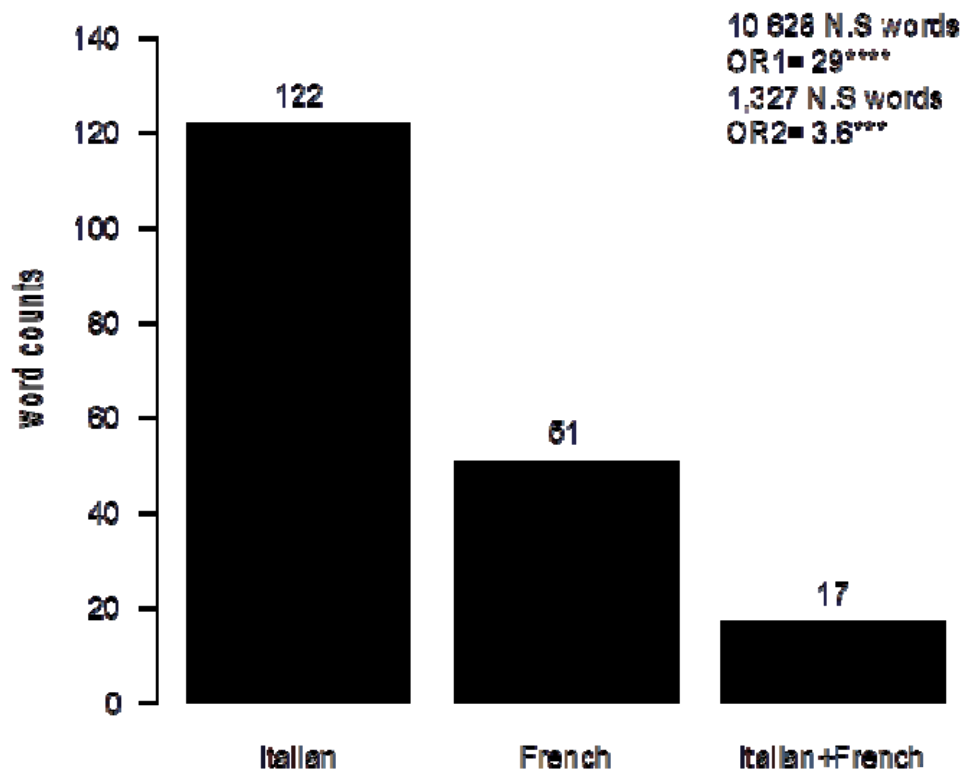


Fig. 6. Barplot displaying the numbers of unique significantly over-represented words from Italian (IT) or French (FR) or shared between both. The overlap of significantly over-represented words between Italian and French texts was tested using fisher test on all non-significant words (OR1) or non-significant words with a baseMean > than the lower quartile of significant words (OR2). Pval<0.001***; Pval<0.00001****

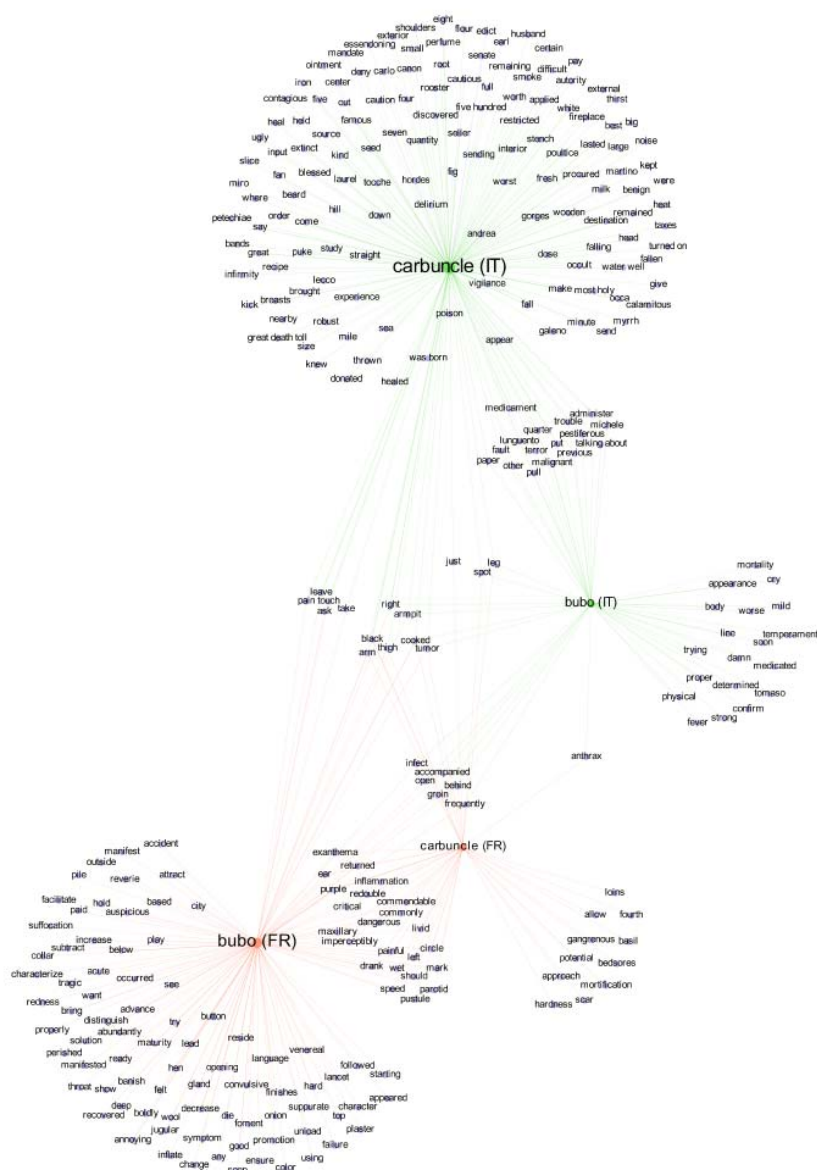


Fig. 7. Word network representation of words related to two plague symptoms, “carbuncle” and “bubo”, from the Marseille plague (displayed in green) and the Northern Italy plague (displayed in orange). Network generated with Gephi software based on the adjusted P values from the nested analysis ($P_{adj} < 0.01$). Word label dimensions are proportional to the number of links with other words.

fountain
mine pulled
pure breathe
attach newly
breathe
thousand
forget
answer
corrupt
this
bad
purify
pure
resume

before established
capital walking communication
enter form place spread
foodstuffs limits excite
narrow counterpartway
high which
main buy fence discharge
provision concordat save
avenue pose confer
passage uncertainty lifted
live guard prepare
notredame keep
examine end



hard using
purple
carbuncle
armpit deep
maxillary play
jugular circle groin show
arm maturity bubo lancet
pustule returned below
lead parotid solution wool
critical soap good
behind high gland purple open
banish throat left dangerous
finishes tumor
annoying

usefully covered
extremely extended
deep
bowels throw fountain
hungry narrow member
commonly live play proximity
miserably consume bury livid
earth remove return discover enough
dead concern bastion lifted street
infection dumper up straw
intrepid increasing
covered buried vain
mother handle train filled rotten fill
lime darkness live tree
discovered graveyard lifted death
thousand walk dragged
open worker show
inflammation open



those

the

carbuncle
exanthema
leg
thigh
arm
pustule
bubo
tumor
dangerous
parotid
groin
infection

game next
christian
zealous roman
charity
devote intrepid
alms
poor

municipal
main assemble
represent
citizen
notable
dear speaker
homeland



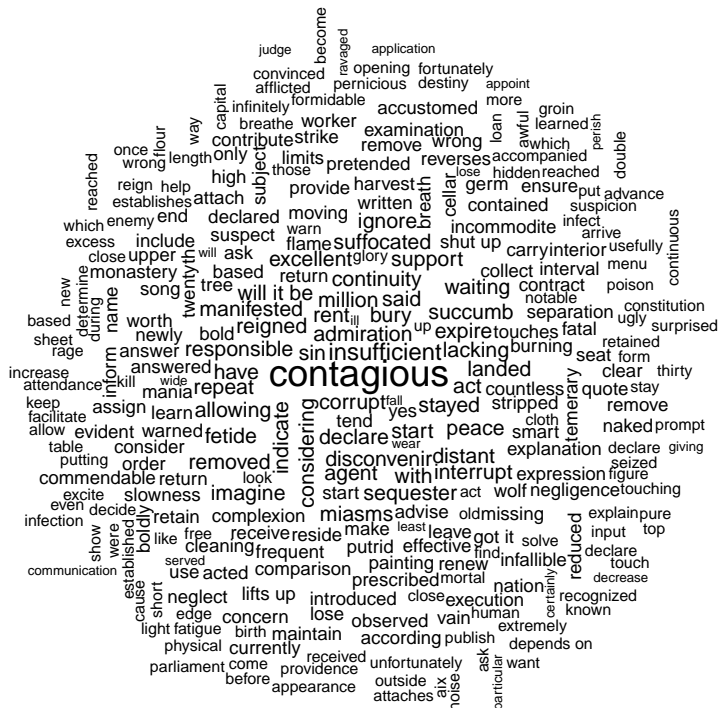
fountain required
butchery balm
vaucresson
commander
suffer hollow armed
warmly castle
paper rancid
chancellor charles
marecha

approach
avoid ensure
free break
fear no contract pray
avoiding sequester
communication
between ban visible
intimidate assign
gallows
contain train

perfect immediately receive decrease
compliant model would
convenience flour currently doubt husband
those live attach attract way enemy
separate add doubtful infect explanation accustomed
lead happy daily it managed free free indicate slow
forced agreed limits separate sheep spread
hidden even will lose
error divide purity jews extraordinary approach
complain can mix eternal defended probably capital want
keep lack reiterated seizure swell with reconcile continue
finished multiply fly assume chaplain abundantly
wear readiness unique putrid communicate deprive basis
decrease operate like go compare preventing exhale bind
force active mis frequent transmit real nation passage
necessarily serve civil cobbler garenne shoe uniform cloth
retirement like meet complained take lady deliberate
prince trial freely ready insane save acquired custom
dare channel front debauchery confused division separate
convinced exact convince visiting submit conjecture
prohibited sement immediate breath chest pretext
project almost delayed consult active terminal
viewing wrong compose infallible fixed penetrate
accompanied facilitate communicate

homeland
consul

continuous
prove commonly
evidence error lady persuade
pretended show menu increase
repugnance popular old pernicious
to watch active examination use win necessarily
satisfy speak shorten length operate boldly
notwithstanding persuaded caused themselves distinguish
persuade free positively consult reign think
laugh inform aspect civil disposed copy best
march meeting calm dysentery report paid hunting close
mark observe check transmit like lifts up
excite verily observed
steam ruin based with tell separated hear clearly
spread redouble alexander tank nine admit palace
france deadly temerity off acute passed
presently alexander transmit continuation
disease undertake exhale
pernicious separately finish mount print
warned pull deny charles noble
finished important atom prevented doubt
common produced examine
neglected certainly

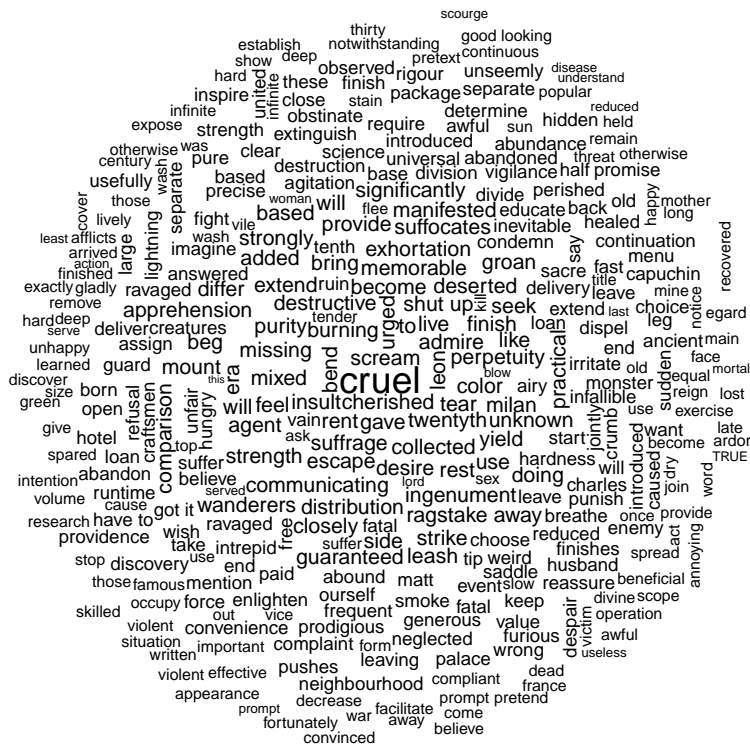


contagion^{the}

dangerous
 pledge depends
 help proximity
 add cleaning bed
 dumper commonly
 lacking declare
 content fall enjoy
 serve cover fillify and
 absolute sowers
 wanderer shat
 find missed
 transport job
 important avignon return
 open delivered
 approach keep abandon
 bourgeois
 thirty-five
 covered
 free
 come
 shoe carrier
 sweepers activity
 lived
 serve
 cobble order
 overwhelming
 bathe renew
 deep
 error
 handle
 bury clean
 core

attached
prescribed
purify keep hearty purgative
interior increase
abound lacking failure
active pharmacy
era^{the} helping unnecessarily
spirit diaphoretic^{fifth}
regime sulphur decoction laxative^{is off} cordial^{slightly soft} vulnerary provide
ardor satisfied elixir freshness round twenty-four
dejection benign irritation emetique
light cleaning preference best
making use palpitation adding sometimes
oriental put viper strengthen
reiterate theriac
internally laugh sudorific
usefully

slow come
attaches infinite established
destiny said accompanied close
usefully say precious attached pretend
fatigue educated providence happy pray compose violent
whole noble myself temerity want chancellor caused
spread want currently deny reverses comparison universal remain lived qualms
annoying powerful look value discover died obstacle ballast
which took blind sweat admit will provide necessarily
important spend will suffer can paradox decreasing concern
publishes offer condemn depth submit steam frequent reader hold ecclesiastical
engage learn ignore should dissipation concentrate day take strongly respect
prodigious self spend feeling presumption operate persuade increase big provide
opinion will credulity that approach lets end browsing TRUE entrust ignorance cluster dangerous
capital popular real kill warn must viscous fill neant unfair voluntarily approach searches accuracy refusal form
sweetness increase healed deserved doing touch turkish these ensure foresight generous abuse contest closed put off order waiting access tell destroy
reiterated over cruelty will expedient shield cruelly uncertain mine other battle approval born hear
ancient occurred discovery excite new even pretend described read vine sing interrupted redoubt gain agitation hidden appearance
advantageous ensure reiterate over cruelty will expedient shield cruelly uncertain mine other battle approval born hear
respect compensated camping slightly evidence use agent people feel speed give
continuous menu united loan smell had repande birth rude vulgar perished provide
conjecture seized laughing colic confess misthose similar convert many lack returned form
passage doubt FALSE natural convince expression which wander how examine more
terminal wish contribute negligence interior set probably irritation unique lady verry notice
compliant abandoned communicated infection gras attached
explain excite oriental perfume start century arrived
judgment pure wrong impossible reign
extremely discover violent believe secret



disinfect
disinfection
repair
chapel movable
made

warn
alderman

product
effect
produce

increase decrease
strike convenient retirement
continuous house quote purge dead
infinite deep breathe remove
form whole condemn pregnant answer want
tender prodigious assign cleaning deliver maintain
away provide want pronounce admission trade leave excite permitted
porter content oppose make defended prodigious domestic
arrived neglected justify character pretend allowed husband middle
fall avenue precisely confine grief maine separation painful each campaign
wonder seek fully want landed succession like bold separate perish
half appeared damage regular hear straw victim young
stay separate attract large go confirmed fence torture legitimate sweetness
based print agreed live slide languor number flow received old
close event camping give stolen miserably daily suffer prison torry
pleasure win inseparable hat give family loir pronounce criminals use craftsmen
frequent removed sharing widow sex reach big off have us alms bed project
spared within image reach big off have us alms bed project
ruin live tripoli poverty littered destroyed leave extended lead layer
establishes return honor dragging free balance tree many will pulled use suspect
lost monastery bitten adopt their parent scare ring added renew which infinite
hungry vile deprive consecrate buried feel spread convenience spare which shop
remain preserved fear look ravaged rescued mania surprise child for abandon fruit
fright restraint harvest divide live unknown assemble really research
hidden take persuade go preventing came fell yes for old reached temperament
cluster cloth starting sixty lightning distribute close noble
throw indicate advantage finishes repugnance subject die consolation
continuous finishes die lack leave served away woman
neighbourhood capital friend taking appearance
mortality attaches



often

fatal
issued
assign
attract
bloody
causing
vein

explanation infection
proximity common
ruin missing will
wreaks havoc ask reunited
gover universal insufficient tragic
constant general spend
allowed review g real
submit suffrage dear
reduce destruction
win rent pure
unique your rigor
concern extension particular and
important

merchandise
continuous attendance
want readiness unfortunately
wearing
established obstinate according proportion
infection leaving tripoli reiterated over decrease
lead length pallet old really brute attaches
confiscation wash resist extraordinary
believe infect knew consent contaminates lasted
obligation narrow guard perfection returned
value believe living manure many
clear should subtract fence legacy fix include
viewing blind have error picked up creatures condemn
appeared break built prohibited carried fifty convenience
notwithstanding taste parent bed movable communicated carmelites recognized
determine received cloth cover insults mud potter jews roll negligence enjoy
aromatic thousand mania space pull miasms carrying live addition find transport task
prison enclosure mattress buy punished cat burn touch
double use new cloth stop equal defended consist seek soup ample worker
france new cloth stop equal defended consist seek soup ample worker
consider ordered flying bury reside corrupt purge
turkish concluded dear talk brief carrion front use powerfully eat advance
which hold dear talk brief carrion front use powerfully eat advance
compliant window other enter surrounded severe served
convinced push singular twenty-two buried say clothes change
transport nosel laundry allowed pull load exposed whole
passage cluster renew charged content prevent
abandon quote weapon hide
surprised maintain inhabitant
retirement filled horrible
otherwise twenty-four

director
hospital
sick rector

throat
sudden
carried
range
seek
frequent
sheep
imagination
live
garenne
criminal
lack
accustomed
place

infected

decrease close in merchandise
edge
maintain ascend distinction
discover purge round made
lock eleven july sailor order
come recovery live poverty meet
strength slide declare shorten
die sequester porter brute come
come infirmary off fresh
criminal brief jarre regulating
piece bury wear return bring
smuggling wait warn fall wall starting make
decide searches confine
multiply malice contain fatigue
commonly attract lead increase error
established husband keep
establishing carry arrived

leaven

important arrived
load read leave exposed
merchandise coming obligation
behind eagerness top breathe
ship slowness promote acquired hold
even exhaled hear
come interrupted discretion probably put
suspected merchant maritime provide accompanied
suspect speaker deniscertificate will will excessive
convenient proximity eastern cotton g powerfully france
come carrier g fatal left spectators say tour united
introduce g close favorable replica surprising
follow fatal look lead g waiting slow add sixteen pray
comparison assemble levant regulation mania burning
over patent evidence ladders call free come mark
certainly use positively mediterranean maintain g north midday
touches fifty convince end country lying down tripoli front clear
foreign harbor multiply covered brute ball addiction advance
held g managed reception frequently jarre assign
ballast disinfected concluded ravaged confer hear quote
famine vile brought attribute torrent climate
rarely method subject cloth delayed thirty
retained undo decision name o want
discovered prepare modern
frequente research sea
continuous

prevent
abandon convert
mediocrity
exaggerate long lifted
last abundantly
applying stop crown job
weapon exercise
volume excessive
long time
disappear back usefully
alternative food attract
dispel walk solve
managed prodigious
contract length

violence
contagious



important allow
weapon profession seized
pleasure made accompany late
describe save charles to find putting stroke
want work to enjoy remedy touches
present trial painting rate plan enir mount surprised
speaking intrepid give straw based
evident flattered milan s ep walk doctrine wait
negligence agent link s walk banish neighbor
help answer catholic disconver confine close continuous
admit take compete attaches
popular managed misfortune trace
arrived repair assuming fall directly will ravaged thousand join strike
covered make wrong touches depend lost double lack convenient
content marc landed return infinite pray
delayed complete heir depth addition examine
afflicted pretended vain educate strike convince length
genius roman delivery unique died
finishes once commendable follow have to
horror finish look wrong touch
prevent herself outside
keep

transport
unseating
transport
gabriel pull
regulating brief
merchandise
halle purge
contain porter
smugglers come ship
patent chest
exposed package
insurance
crew
harbor
tatters
building
purge
captain
clear
levant
june

boyer have
shorten speaker
marseille
shoe relationship
smuggling aix provence
merchandise levant

surgeon
physician
montpellier
skilled
celebrate

facilitate neglect covered
rate cover returned
obstinate brigade flight your even
advance seat lifted cat dear
transport precious meet subtle lead
old load will spread confiscation
destroyed offer appearing space
doubt old seek pull striking fence punished purges touches
change cloth rag laundry preventing attaches want
finished straw divide sweetish key clothes merchandise
readiness burn attic seek take of manure infection
filled for leaving loose at haste excite order
housing insurance break weapon double
pull slow constant error rope hold
exposed concern purify effective
remove corner remain
disinfection window touch carry

income facilitate
royal spend enemy
persuade letter
loan.ve duke
mark receive ask
present am Sir painting
ensure touches your
physician^{and} servant
written professor
bertrand
celebrate compliant

design thousand
caused continuation
poverty decrease attach
assign
decrease free held stop influence general
deliver prodigious come suspended herself
arrived increasing come train corrupt
provide great consult gave esplanade slowly evident
indiscriminately ravaged
awful acted
spirit yield
pronounce annals hesitation order
sailing growing the rabbit
copy justify shore bust recognized matt
famine unanimously extension
interval uncertainty follow
obstinate lasted vivacity
cruelty effectively flattered
decrease communicated
total increase

see
believe had
will have to
is we can
have just wash

movable
perfume
discretion
burn
soft burn
live usefully
canon rosemary
warned
serve
perfume
room
grey
incense smoke
internally
test we drug
drink aromatic
before boiling
complete you will

make
charity bed should
people distinguish acted attaches
holding agreed guard fresh
seek spreading missing provide
mother hear provide slowly diverted
want confiscation miserably load
withdrew fly live charitably finish
win dear rich accuse complete
retirement charged corrupt torture see sinking require
live yes poor alms nurse
which fed ring distribute restraint
strength suffocates give fill
speed covered ruthless relieve loose
positively handle soup tree sovereign
carrier subtract race angel mediocre
feed live warn suffer revive
maintain live suffers confine
mark bread craftsman deperish
food food torrent
pregnant

horror seal scope perish beginning otherwise according to
report discovery declaration continuous healthy garden
exactly change print chosen examine foreign
establishes quarter outdoor top season horrible happiness
deserved extinguish hardness give repair good looking
deadly describe feather connect probably calm renew evacuation
mortal sweet boast decline rampart diathroea reached
egard consider parent increasing insurmountable see except think
become observed unable allowing aspect perfect force supported calamity
increase neighbor can regularly experienced oddity driver painting continuation
celebrate come around seized physical access bother lead try change lost convenient
provide inform made then starting return enjoyed cloud first suffocation distribute read contain
proportion beyond flee light dye new anthrax suspended hastenth quiet alley opening
specific become intrace laugh empire significantly term light tendered inevitable when
finished ninth despair urine end laugh ton influential total idle off felt worse prevented main
pregnant finish open will guide clear do sixth groan fix period vary warmly trace runtime said
poisonous frequent went sixth groan fix period vary warmly trace runtime said
default clean delivered escape will dispense defy fell low sic all roads here
favorable began credulity fall devote those bedsores sex low sic all roads here
opposed loneliness decreasing had clear crossroads here
hardly rash exercised wall bring revive decrease intallibly managed offer
followed freed spring wall bring revive decrease intallibly managed offer
observed utility fourth explanation reborn watched reading have follow charged
climate look for complainant third reject melt painful chaplain these
fast strongly announce quietly stripped distinguish hold iron
last saying suppurate die depth constance celebrate collar abandon
february held speed memory purify foresight returned would mine hungry prompt
skilled input include fifth auspicious declared naturally pure during
could pleasant confine stop car end low deprive annoying
exhalation sure shimmering meeting pernicious
third constantly dismay spared experienced november
twenty-four second explain temperament hard
facilitate desolation

the
plague

plague victim

fur atom
reside
pestilential
facilitate
ferment venom

physical providence
observed attentive
noise print protection
notable finish
consciousness
those
attorney read assemble
stop memorial deserted
seek got failing maintain
pretended tree defender
model royal recovery
yes
terminal speaker
consider common correspondence
hotel have us order
yield best find
protector privilege guard
concern judge
advisor criminal office
observe important
established

continuation
municipal
case
deserved
conduct good
lifted application
free
gave laugh
dean error
correspondence
order
vigilant look
usefully
exactly
butchery
important

attentionconduct report merit
maybe easy burn
reachedensure committedyoung
carryaway compose frequente prompt
deliberation coming known transport
perished notwithstanding reached piece
patent communicated experienced fence
alarm unloadremove lazaretto
containing fell opening pernicious
complainant unseating prison
tradesparkle will perish carried provide
work swearfallmaneuver count carry
dye down take a bow turn these wanting
contain confused milk enteredstart cloth died o marcso while
store crew boat enteredstart bring arrived seized
tatters however equivocal dragfield spread cotton downdied name will serve
wearing colleague sailor short porter at ball ordered continued no
more thigh occurred diepickerswelling on fall castle loan soft
wear entercome seide bruthen opened comebad condemn show seven
table july input pull ge try jarre waiting boat sudden leave
come read clean gabriel purgethirtyupper noise place
sign successively fall crossing incredulite locklong line
surgeon fault will bear encourage assemble however wool june declare
use edge worker removed mark buildingthose truly
your expose corpse confirmed brief third
scourge smuggling enough start close ship victim taken
increase ship unhappy burn merchandise continue
appearance cloth infirmay hour arrival master open harbor
twelve opening fourth putting
established perish movable
difference usually

taken
close neglect
take opinion
vain sensible
precaution
vigilance
neglected pure
exact use
useless



extended
facilitate torrent
show intimidate
france chancellor
notoriety print
happy copy public diverted
library place
castle feather
consume miserably
pronounce tree
passing

keep merchandise
taking wrong new
exact coming
finish leave clear perfume
come starting concluded use lazzarotto
burn repair transport yield continue
edge porter win added reception season
lead infirmary lost insurance thrust sailor help
captain for regulating unseating remove
perfume for travel start iron start annoying
purge assignee go spread suspect
place judgment round ordered gabelle bring do contain suspect
skilled june order suffer and start brief cover
will bear extension gabelle cabins cross
held pull dubious save exposed
many jarre quarantine kill add remain
forty over will suffrage spare
close complete lady reduce
smuggling brute building attract
observed observed

wrong
compose separate
proportion close incessantly
finished infection deserted arrive
establishes slightly pledge rotten captain
obstacle charged round contribute
mark continuing print
prayer convenient major out containing gave discover craftsmen
continue stop laughing role published going contain
operation learn searches all late carmelites facilitate
those warned declare screaming suffocates established
examine delivery insufficient wall tour starting pretext
carry warn wish soup dean parish
fatigue fully located top district wise probity preceded
each jean lacking good hide visit remedy
appoint will win narrow tight active hamlet publish
frequent name enough evidence to painting alms filled
continuous cover live cell trace mania happy
remove strength win subtract hold car work
proximity require have paul should
thousand lively gravity remove corner
number took parent remove take
excite could open want based
accompany hope
street come

link
wreaks havoc
what
blindness

covered reign
profession negligence
died examine neglected
pretended ruin returned intrepid infinitely
remove patience reunited read furious error
stroke vigilance ensure maintain done decide
character full managed suffocates walk
mainly war destroyed fatal damage
spread imaginary backwards face
main constant tripoli and padua commit
show plague die securely attach live
Oriental famous ravaged see lead began
slow injection take fury awful wash
finish scourge win sobriety sowers redouble method terrible
penetrate convert capital indiscriminately want tour force birth
sensible fill pronounce vine tragic heap seat
violence boldly torrent slowly apparently obstinate known
certainly will described lifted speed caused
confusion hamlet sure cruel work
tomb print acted vile exact
strike seek loan neighbourhood
accustomed reigned finished
reputation

application open
otherwise attached misery
which observed rope deliver paris elsewhere
husband arrival herself hungry separate
word seized arrived distinguish prohibited enemy old goodness
provision package will serve decided show negligence finish certainly
mainly wash active seek throw pretended merit embarrassment
serve start active cover have to renew silence accompanied whole governor
march reduced victim deserved excessive shimmering fatal mercy marked certain
despair made supported painting chest proposed command illustrates
exactly utility war remarkable fall torrent acquired contain fed wanting more
want pushes order end you deployed yes use hand milan beady fortunately
get aix protection fast strike look wish eat rigorous pull eighth answer desolation
determine drag colleague sovereign intrepid kill ask afflicted delivered breathe except appoint
horror suffice delay spend handle burst intelligence terrible vase alley fatal commit formidable caution
change sailor newly range peace fright fly offer human lightning volume
spread according devotion fall agent read dilige terrible fright fly offer human lightning volume
afflicts doctrine saint terminal find terrible fright fly offer human lightning volume
continue dark exact ravaged ravaged terrible fright fly offer human lightning volume
continuous relieve help neglect allow will wipe admiration to considering deliver job enjoy TRUE
treat become fearing cleaning assign diverted vary so feared widow jesuit punish pregnant happy
mercy removed imperceptibly late repentance reduce housing represent awful infinite
worried compose want trade try round addition have temerary spot attend vigorous
uncomfortable wide language delivery find feel acted concert threat multitude
your rigour famine commonly offer your contempt of bed god represent rome mis
object behind pension lost advance successively exact said wait furious cons respect wrong divine
consideration expire exact said wait furious cons respect wrong divine
porter miserable exact prepare birth indicate january continue
previous known caused excite design dead
main neighbourhood usually farm
come research abandon decrease
immediately infinite fury lead
extraordinary a few
understand good looking

all

could infection keep conservation
word provide spread sheet passage
giving change decrease abundantly deliberation
continue could exact increase necessarily
infirmary butcher perfume hungry deliver assembly neighbor
come sun loan provide contribute clear foodstuffs continuous
seized the seal burn third resolved cloth river spare prodigious advance
suspect finch company were examination ensure turkish distinguish housing keep
canvases vigilance cause save provide device carrier win start established
occupy chosen college oshame jean invalid ourselves close do leave field call
become destiny utility confiscation this assemble die site excite ugly allow filled
permission remaining it bernard pose arrived delivered come on otherwise
remove prison prohibited away could midnight reasonably escape spared boil voluntary boy suspect
usually lived solve clean tripoli poverty mud forced convince next drug
examine order suffered aix closing land consume kill defend convenience
cruel pretext pledged will try leu remain to carry out narrow live hide known
enter february close publish cat asked levant about picker spectators rolnet old limits reduced vile impossible healthy
similarly feed man judge shore previously approve deliver old town reduce stink purge arrived
easy finished like wide fearing contribute manufacture used sick interrupted sale worker game can place
established patent charged chair purification buy fully charitably sale worker game can place
convenient consider located prevent bring require shoe expedition stay january
transport twenty-five require content with apparently deliberate free say avenue
touch prepare newspaper value dismay jointly jarre building except dry spared
continue newspaper value dismay jointly jarre building except dry spared
happy discovered prodigious bury redouble examine
unseemly maintain wait experienced had to purify frequently
application pray will serve name received unfortunately terror firmly bed
tower flour designated receive convenience vice prevent high currently before
decrease these visit facilitate distinction burn form caution
double wash production believe quarter pure operation
strike marked crowd spread noise
forty thirty important

active
venom
unknown_{act}



city
afflicted

wrong prepare lifted perfume
sheet touch
deserved spreading flour usefully
around clear insurance nose
white sufficient rosemary neglect gentian horn
reduced pile wash dry excellent menu
hand soft nostrils soak dip shreds chosen
water pose rub sponge pint eat fine name morning
arrived young will vinegar old got breathe
paid handkerchief melted purple each taking
water limitation soak play with mark
comparison wet sour garlic perfume
warm round failure
laugh tormentille pure incontinent best
pulled pure will canon
compose promised addiction form
extinguish burn
internally weigh

stop fellows dotte
charge chancellor valley start
come back gio day vigilantes ordinary hard
district origin entering immediately chapter
night justinian taken safe offended authority holy
work difficult executioner accommodation arm behind
year abundant giacinto ingredients incontinent conducted
infirmity rotten member filippo paris prosperous lower put antonio
seeing practice left wheel leone order drink note
source republic waited aureliomadame entireschool
ministry ask van kept treasurer are routesmarie
released vicinity adorned no other cloacae straight pity
earnings face being ottavio baccio pompeo enter year
good wing hole exercised andrea fiorentini send where open
france flour medical alley called master saint send
priest october domain mario currently of die old met death
carlo vitalright laic coast dalrie populated guidebrother
prudence returned e say pine both donated wife martino saint
breasts lorenzo salt agostino tomas daleazzo roundsman bridge
conducted trinity daughter crema order put palermo pius
poison dominico canton hammer barrel form perfume come most
francesco tower wolves free date alberto giulio procure
markets shoulders bernardino bernardo crosses
otherwise great eastern were short smell
offered kin girolamo believe place clear religion
general grain read higher hundred alessandro palace
carbuncle

plague victim

punishment
destination admitted
leave whip audacity more
ready five hundred five
starting up water
sequestration penalty
could omnium doubt keep
were will stay to return previous
shield mile butcher fury hips real
no one sequester also excesses
forward imposed fruit
able twenty-two pecuniary
seeing each other taxes benefit
quorum open
traits described rope
hundred

ban

main coming
offered rigors quiet
five hundred oppressed
lombardy accomplice
stench jail qu traitor
river particularly twenty four traffic
finally april put bellinzona to
five very big dog bandit
pestiferous prize promised prison
wanted published proposed none
order go suspended declared mountain
wing clear around came dying occasion
black judge walk read wagons
respect giving power will trip
border
wanting down

special
worse will see
barber
mora medium
medicine
keep square physician

continue
keep giacomio diligent
gio promptly contrary andrea
white guide michele carlo well
god appointed benign size water quiet
dying reduced strong
march act friars mature expire talking about
bad matteo born want bed
employee cemeteries tomaso talk alessandro
destination pact end decoration o lai antonio
happy and offered lose blessed mile g authority day
minimum giuliano written th separate
opposite paternal dedicated rocco solemn
bernardo best separately rare able sea
flower necessary rite returned rooster
giulio bernardino sparse cooked ready
clear equipment gregorio
determined juniper judge truth
procure believe came
chapter order certain
september

need

trinity
village

paper
quarter terror
opentrying tumor
pestiferous anthrax carbuncle
bubo
lunguento
determined
pull leg
proper
administer
fever
body

calamity
celebrated
storax
figure
misery
rescue
season
fasting
many
citadel
take
current
none
size
wanting
october
nearby
continuous
take
grain
pull
put
laurel
smoke
read
snell
say
leaving
trying
cremona
look
tribute
paternal
take
sheet
theft
apple
make
unripe
read
occasioned
frequent
cold
keep
appointed
previous
infinite
thrown
ordinary
leave
ble

meadows
hut
able

black
puke
tumor
five spot
study
turned on
root
husband
say
flour
pull
administer
bubo
authority
perfume
carbuncle

cardinal

lombardy
funds
famine
abandoned_{year}

charity

francesco
conducted out fasting bless
declared body cesare scalzi goodness
gregorio right joy son taste angio
marie prize member mild
emperor piacenza mined
described andrea patronage talk
brother white arc grandson laic
army monferrato emperor old sebastiano
around title hoping carlo straight keep
paul mere legitimate credit fear perpetual
captain barnaba infirm myths kingdom
upcoming duce leg vincenzo ardent
nearby dr skills waste donated liked minor
take hunting on parma free filippo released
businesses extraordinary expensive friars
battista pulled rating giulio
earnings presence quiet
giving brought

home



restricted
tuscanymarble
mutual
wantgivecorrupt
purgateastrologers
vital
excessesfishairgratinggod
infected
clearlymarspsalmsbrought
daymildrealTRUE
admirablesolemnfilippo

church
benches
rating

malignant negligence
other maintenance
clear barber accompany
dying manie hay mean
wanted fiefs persuade worse
hordes salary timbers lord
funds surgeon right
leave illicit pay
physician also end shame
intimated sequester administer
paternal adriano recognized
medical rhymes
justinian deliberate

city

citizen

clergy

trade
air

common

cease kept example
people barrel
occult moaning
quiet famous
people contest day
frequency plant
sweat
extraordinary lower
passion

countryside

contagion

have to
contagion

lead ordinary
ancient day giving medicine enter
pestiferous withdrawn real affriche
righteous say place ecclesiastical october
wing obtained trumpet seem visited
happy palm trees manufactured bringing
suffering death begio self crazy take armed
saying giacinto van do adrian long audacity
water well milk cost raw allow fall extinct
perpetual earl sea offer touch take
diligent malefic giuliano stay scattered down giulio
any beggar dying giuliano right appearance separate declared october
vigilance sea tuscany supreme mile answered medical
do described upcoming appear
medium various head hordes
most holy bed sheet experience filippo important

district

destination
penalty
punishment
degree
border none renegades
plenary sorted
vigor
sunday
place
bodily
crime pecuniary next
reformed fall
worst allowing
frequented theft
work

silver
infected
hordes fodder
current
boiling ugly
water

cared for
perfume

study
decree
quarrel
excellent
minimum
senate

confessor
guilty throw
forks prison held dilated
bringing crime occult
huge love
capital sight
condemned
excesses

deputy

after

monferrato
duchy
thousand

authority rating
evening perpetual came
send want year abandonment
smoke water well suffering
anger paternal fifty
liberality light strive bell rocco
finished company cathedral promptly
down open attacked voice pestiferous
ordinary thistle insult p
brought accompanied armed
re beginning benches
happen psalms
procession canon
related morning

doing license suffering
keep medium september
nevertheless meeting behind
want come proud anger entered
thousand battista come back vicinity october dear
free pulled herd vigilantes
order nothing farmer funeral armed
faculty sore grateful remote feet medicament
day taking lovesend other continue
frequency prevented accompanied
giving march wool race being fury anger kept released
other sell g hips pray moon bringing put
want column dame strive sheet full it seizure virtue
happy supreme battle give come the april regards
chapter runsoul effort vain return on the plan gift value
antecedents celebrate caution omile vigilance
brought printed tuscanly face love leave
weapon declared pact event marked
penalty degree calamitous germany hordes light
send controlled order river
thread understand finished german few earl
did want zeal wing come
destination pestiferous antonio

were

destination penalty
ready locked
garden assist time
august seller benign benefit
some taking worst deliberate sun so that
beggar mature abandoned send free
nothing concert other give wanted
determined right fall stay knew pecuniary
prescribed did limits send other
able transgression magna master
giving take pull enjoy monday proper box
salt know tuscan understand
piece appearance safe
remained distance
declaring nearby medicine
separate left hordes
at least

charge
medium defense
penalty keep enough
allowing recapites
decoration net would send
wall did proposed
visit armed feast similarly
testimony aiming housing vigilance
crafts introduced
passing diligent side suffering

real
entire
family

federico
borromeo

scourge
god
believe
want
paper
live
clear
chapter
giving
goodness
destination
certain
october
war
continuing
traits
event
worse
antecedents
fasting
poet
paternal
great
clearly
arc
effort
myths
theft
right
rite
last
secretary
escape
real
appointed
send
read
rhymes
sin
sin
fair
mature
sinner
like
take
free
determined
know
barbarian
used
keep
sermon
ardent
free
do
unripe
fall
piece
make
gift
give
keep
understand
rite
outrages
moved
continuous
error
gregorio
iron
entered
p.o.

perhaps

were

were

giacomo
donated
giorgio
antonio
francesco
gio
alessandro

every
day
forty
eight

solemn
prize
your
feast
sebastian
make
glorious
exposed
christmas
waxes
captain

giving
turned on
happy
mutual
flower
smoke
great
black
lower
ask

infirm

giving able pestiferous
domain suspected
entering ask greek mile
take corrupt prepare minimum
take butcher infirm net
other dying do root less put
sea in infected rite make reckles
intentica enter michale
kept come
center pitch bring
and air bringing
tocche make

infected

smoke medium
air
covered feather cloth
bed husband
sheet low
suffer
mere
slow quiet

want giulio
faculty
christmas
expressed
license
grant rope higher obtained
slice indifferently
military traits
punishment

mother
open
wanting
full value
wanted
intercession
channel
want
past litany motions
proud of gift parma open vigilance
temple river
kept perpetual ready
confession
miracle
madonna
armed seem wall joy clear will operate
eternal distant went black
rocco freed
famous blankets paid
mountain pine
want march rating source down
pious
equal

majesty

flour extinct
determined
mandate
sufficient will
jail
conducted

earnings vigilance
order day third
march immediately
water well except leave conducted
song michele executioner
stop lower eve adorned sea
relative five deceived write all back chapel
noise barrel increase size product believe
returned walk coadjutor if door bring
will hatedie lucia a
paul hole fled martino michel
river grandson tomaso keep september
october come ox put deca vital cease saint
against gregorio missing excesses bandit
andrea born send giacinto place
want valley donated do able so
coming necessary sparse higher
wagons drink practice filippo vicar
afflicted water diligent
spiritual
forty certain

appropriate
virtue
high
price
come
monk stop their
malignant medium
anger
mile
tumor
bread moaning rare
can sufficient
seem palm trees ready
fruit speak perfect escape
ninth om take purge
medicine policy how food fasting
desire pull apply entire family
afflicted latin lose spezial put simple
strong endable bigmean providing
natural come
teeth lends
righteous see placido virgilio go infect
missed compounds fifth flower use food
commandments apply benign cured third paid
distance milk happily ben masses light noticed
goodness medical march secluded late day
excesses maintenance frequency want
michele extraordinary worth soon
great benigne ecclesiastical pestiferous
stone bringing real thousand
medicine galeno arm
carbuncle perfume
nature property

physician
barber

open
waxes celebrate
solemn famous
mass
capella
altar
confession finished

being able to
price
rule
most
against
believe
river
four
medicament
abandonment
equal
quarter
practice
medicine
truth
other
see
plant
procure
closed
fresh
five
degree
damage
many
frequent
build
decoration
air
routes
star
could
purge
infinite
notari
returned
burial
fortune
any
old
entire
expression
do
officials
power
unripe
away
other
pay
copy
pestilence
generate
hope
m
stay
fire
angry
keep
distance
lends
hundred
appear
carrier
sheet
statue
fell
trust
sending
dist
collected
water
well
perfect
loan
fire
matter
want
salt
previous
created
thousand
have
fury
low
sickle
known
at last
sign
creatures
eight
shelter
relevant
art
pull
die
die
smell
fury
believed
your
talking
about
add
silver
not
knew
be
forget
get
up
roman
prudence
nothing
give
increased
voluntary
procure
special
soul
meeting
edict
very
big
espurgatori
food
domain
trip
escape
many
TRUE
lost
amazement
fodder
continue
slice
soon
shield
voice
punished
full
supply
may
come
joint
scourge
opposite
less
extraordinary
land
food
fabricate
room
cruelty
friars
ancient
open
infirm
great
pounds
straw
water
thought
song
cared for
goodness
shortage
rating
came
thousand
at least
though
pestiferous

antecedents
milanese
bergamasco

milan

minister

on husband
destination
minor opinion medicine fault
saettes vigor
feeling
commandments knowing
art walk die face giving
punctually notify flour year
showing open place
strange anger
being able to member
expensive alemanni
nothing august

gregorio
anger
clear wait
minor
virgin
mercy
say give study
sermon
penance
extraordinary
hordes
gift
plant
will
goodness
forgive

misery

father cloth
ecclesiastical touch
out thread
religious scalzi
monastery
monks left
religion were
friars
keep

disease

died

date proud devil captain
sword minor tragedies being able to
april heart god tuscan year
october dart stable suffered face
fellows stay breath late
anger malignant reader
fruit cause however beg clearly
continue farmer sh oxen run
escape hot paternal daily
more heat light withdrawn june
animal twelve water
occasioned worse

dead

september vicar chapter
relative suffering medicament
committed
wanting river costumes compounds
reason want prepared continuous giving
TRUE growing
memory judge possession wanted licence did
good prize layer anger taxes comfort until
poster de fall lightning required blessed come
hundred do teeth legitimate frequency can stuffed
sword their leave offense water loan concern schoolchildren at least
crown rice slow rite help guided watch benign glory
error rescue like moved love are stamp example
broken maintenance importance own award herd
ready reader copy suspend funds suffered come
box allowing altered closely none turned twenty
higher kingdom change lasting add hordes lead
friend pope created wishing tell lower around
respect delivered so in connected
infinite will feather joint in apology
minimum sea october rare
visited processes oppressed most
important difficulty authority
comfortable somewhat

our

our^{sin}

destination diligent
return filippo
deputy anger andrea
take visit medical
error will worth happily
dwelling timbers
make fair white stay hate
free wayfarers do soap give guide ready
keep hectar wool
race smell note low noticed
term member distinct straight ninth
fruit aurelio fountain jail
relative proper distance gregorio kick act
happen kingdom teeth
net distinct send send
diligently real malignant
motions mere neighborhoods

number
greater

make
fifty clarity
occurred
mill
hips
introduced

order

pontificate
zealous
shepherd
hoping

homeland

forgive
sin
scourge

will nectar
bodily
penalty
pecuniary

equipment
sounds lends
waterlike abandoned
wallcruelgrandson
fatalstithought
meadowsmanifestlyunder
ritewhim:giving
turnedonwaitbenefit
prisonleg
headagostino

upcoming
danger

plague
galeno

minor
pestiferous
previous giving
terror

pestilent

pestilence

suffering zeal
free christmas
integrity penance
milk sounds mere anger
abundant open procure
effect pity skills
costumes revenge run
verses say keep tree
minor myths blessed husband
employee mountain
goodness andrea
operate destination

leg earnings
sea keep
concert
mob high
bring example
plebs
cease gregorio
plant

contest
people

grateful september
captain take milk smoke
carlo open famous ordinary
fasting infected pull
palace freely fear eat sight anyone
relic myths net poles
filippo say mere pleasure
brought bring
nearby head
clear strong give defense
kingdom joy gift family pestiferous
finished psalms try trying
high old benjiacinto earnings
river wood buried theft
every meadows faithful
believed

could
take

could

present

senator
senate
battista
president

thirst italian lira
plenty medium
fodder
markets able water hundred
seller price wednesday
mile bringing
procure price grain
best do shop
beggar fund theft leave
bread say

procession

finished
solemn
sermon
rating
exposed

starting out
body
do
best
feast
come

beggar
free run
virgin
contest give relic
chapter fasting have hope
arc
most holy

public

quarantine

finished
general

religious
monastery
confessor
regular

rector

stuff

stuff

about religious
religion day affriche
moved leave prize slow window vigilance
angel
less
medium finished show october regular
giulio third air open fellows own authority
battista hole coadjutor confessor canon
holy silver talk deserved hair entered
crown lose faculty preacher waxes fault
bell soul intrepid began reader
voice take liked diad celebrate priest show call zeal roman
went audacity killed dady blessed therefore relative
higher priest were anger sea end live rite mild want paul
work faculty procure fifty famous fourth advice rating
brother employee psalms could laic itany theft best food
language procure fifty famous fourth advice rating
prudence mass confession sacrament
twenty free giorgio removed crosses
net giving send cared for
caution judged
september operate

righteous
saint
arc
exposed get penance
sacrament
figure priest
most holy
confession
administer

language
ecclesiastical
brother
ordinary white
leave
june solemn & sweet somewhat
procession keep & read
saint germany illustrious introduced
clear really none granted punished certain
chapter silver stone wait reduced flower
salt ferdinand rare pleasure next withdrawn
keep profit appoint accompany benches
returned fulfilment
come afflicted guided dignity
take^{so} heardⁱⁿ **sacred** source
sunday processionally would craftsman
third old missing offer born to color
faculty barbarian relic robust can worst
understand return expressed required vile
valued modesty infinite kind innocent
poster ceremony barnaba religion
exposed prescribed bronzes shelter
five hundred fasting iron rating
anyone water well burial
finished
happy medium

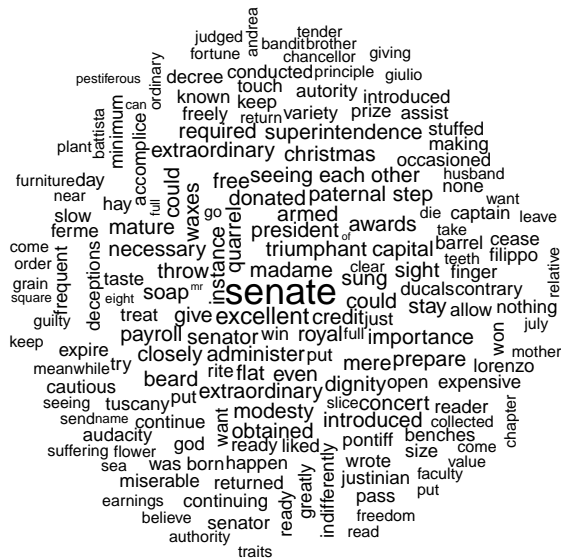
health

healthcare

rocco
holy
feast
virgin

place contest
vain high procession
mercy going eve finished
confession bring distinct
dose figure printed coin
forks arc testify
religious silver soul christmas vital face
waxes rare sacrament really
remained frequency sagresing quiet company solemn
mouth effect most holy read
solicitude bell laic accompaniment
clearly confessed testament
born white cloistered required
nicolo adorned march
october stable getexcite wait
verses confession amazement
prepared negligence study body
beforeexposed fastingassist thirst at least
virgin usual

license traits
punishment rope
hundred fifty
shield
three hundred
thousand



army
rooster
benignite
gregorio
upcoming
fanquarrel
want
bologna
operate
gift
october
introduced
hordes
mere
pestiferous
written
endless
paul
born
rotten
vital
rays
kept
vigor
copy
come
husband
october
prudence
entered
son
connected
punished
say
paternal
medium
ordinary
aurelio
other
procure
battista
degree
leave
priest
mature
turned on
member
down
free
eminent
gio
near
able
vigilance
michele
day
flower
land
michela
senator
sandro
hunting
credit
beg
talk
eternal
ordering
medium
paternal
punished
say
connected
son
entered
prudence

perfum
relative
no one separate
dead cease step giving
gift happen turned on
ordinary source gravedigger take
voice day keep nextbring prison
able day prevent did knew god iron
fated box happen porch
land joint **burial** grave born
nectar open cemeteries month remained
buried deepplant appeal order
order other renegades sea
exposed delivery none form
simple happen scattered
committed stench
so that
expressed

sequestered

practiced

start

giving

right

medium
want fifty
say pitiful faculty
modesty
gender minor
one
gregorio paternal order
compounds text every
leaving forks previous
known size simple
pestiferous protest

remedy
brought operate miserable eight
breasts power religious effect
work most holy promptly black vicar
wanted host usual holy intercession point
night exposed time march rose october fault courses
established send forgive bringing children
glory right permit made amazement confession
holy copy pull queen underground finished each
so expose grating saturday equipment affriche
same book capella mr vital intrepid relic saint pass contest
follow during blessed waxes lord bell soul suffered square
regular determined sing elected raw leave god feast respect
chapter august entering white solemn narrated seventh hope
nobility joint did door give purify trip ceremony cloth
comfortable occasion bring a be left music pump stop doing
license forty dog printed celebrate taste decent making relative
glorious coadjutor do expression called alessandro
each sacred recognized august poster usual
may gave expenditure air leg most holy well deserve
doubt caution full prize fasting went title dose church stay
september rite resort nicolo lodi june water marie
day canon procession salt shop rating you
mass barnaba proposed virgin happened
decursions appropriate main should they
crosses about pestiferous

vigilance
crosses whole excesses
occurred
quiet famous except
medium were frequency
sounds are enough powerful degree
touch usual run grain
accommodation finger
continue get best susa order
exposed voluntarily iron
don't lodi mere near
leave take sword
o
miserable

suspect

expense

perfume

open safe army
forks high parma
separately anyone
abandoned gate silver
spiritual
time praying
parati admit
moaning drink
cemeteries

room

massacre
many

happy
happened

lecco
territory

presence rare
season taking
happy putrefaction
great marked funds
described hope blessed
delegates jar calculation old passion
wet old leave high
food seizure
value change say born expire
dose none a tomaso suitable
quiet essendoning allowing
medium fury die
making capital

law court

captain
previous
perfume
entered
face
bring
come
paper
considering
effect
perished
want
read
myths
impetus
lose
policy
confess
less
milk
act
art
mutual
penetrate
talk
lethargy
i
deadbolt
occult
give
terror
remember
family
hot
lose
poison
loose
unripe
experience
hunting
look
love
motions
could
pull
take
prepared
death
remedy
character
cease
sun
mora
reduced
text
minor
destination
pestiferous
vein
discovered
generate
pestiferous

continuous important
goodness ordinary anger
confessor by give eminent
although reader expire allowing
canon won free center clemency she
other forgive average act send
going put required go clearly
speak less trumpet facing
usual ready rite soul let old
happy paid dignity occasion vigilance best revenue armed
judge sun vicar zeal punctual cellar could providing italy read
take cruel practiced madame confusion vain circle skills
come medium banning formidable pride make gladly quarter
difficult make rice procured have to second diligent
faithful content sending show bed sheet prudence
best perfect theft returned march
stay member start ordinary earl
wednesday able promptly
neighborhoods senator



study physician
contagious soul
informed waxes
form visit
speak visited
make barber
suspected
simple

debt
ancient
rule flower prepared necessary
perfume drink practice clothes
remote expensive giving
jail barrel flour previous
dose beg operation medicament
skeleton fourteen writer left antecedents
gift see food were misses
cure enough fall capital high
abandoned food locked fruit
put must old met give extinct
markets crafts kingdom
nutrients
determined army minor
difficult monk
meeting small

perfume follow
wool fellows usual
abundant audacity
fireplace prepared
shame appear effect
free mutual outline do
tommaso infirm admit
presence kept huge arc
safe seat wanted best
hoping give get wide contain
rice your celebrate immediate
leaving born hold dignity axe
strict secluded impediments
believe calamitous resist leave
excesses finished weight
minor order
commissioner