

African Time Travellers: What can we learn from 500 years of written accounts?

Edward Kerby*

Alexander Moradi[†]

Hanjo Odendaal[‡]

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Abstract

In this paper we study 500 years of African economic history using traveller accounts. We systematically collected 2,464 unique documents, of which 855 pass language and rigorous data quality requirements. Our final corpus of texts contains more than 230,000 pages. Analysing such a corpus is an insurmountable task for traditional historians and would probably take a lifetime's work. Applying modern day computational linguistic techniques such as a structural topic model approach (STM) in combination with domain knowledge of African economic history, we analyse how first hand accounts (topics) evolve across space and time. Apart from obvious accounts of climate, geography and zoology, we find topics around imperialism, diplomacy, conflict, trade/commerce, health/medicine, evangelization and many more topics of interest to scholarship. We illustrate how this novel data base and text analysis can be employed in three applications: (1) What views are introduced by travellers as a result of their occupational background? (2) Did the adoption of quinine as treatment and prophylaxis against malaria facilitate European expansion into Africa? (3) When and how did the diffusion of New World crops alter the African economic landscape?

Keywords: Africa, Economic History, Explorer, Travelogue, Text Analysis, Structural Topic Modelling

JEL Codes: C55, N01, N17, N37, N57, Z10

1 Motivation and Historiography

In the recent two decades, there has been a surge in studies in the field of African Economic History.¹ Many studies focus on the colonial period when bureaucratic apparatuses became developed enough to produce government documents. The precolonial period, in contrast, has remained underrepresented due to the dearth of sources that scholars could engage with. The anthropological observations summarized in [Murdock \(1959\)](#)'s Ethnographic Atlas have remained the main data source for quantitative studies of precolonial Africa, even though observations are overwhelmingly drawn from the colonial period.²

*Department of Economics, Stellenbosch University & Laboratory for the Economics of Africa's Past (LEAP), South Africa. Corresponding author - EdKerby@sun.ac.za

[†]Department of Economics, University of Bozen-Bolzano, Italy. Previously affiliated with Nuffield College and Oxford Centre for Economic and Social History.

[‡]Department of Economics, Stellenbosch University, South Africa.

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¹For overviews see [Austin \(2016\)](#); [Moradi \(2018\)](#); [Michalopoulos and Papaioannou \(2020\)](#).

²These data were subject to criticism (e.g. [Kopytoff, 1988](#)). [Bahrami-Rad et al. \(2021\)](#) showed that there is a strong correlation between Murdock's ethnographic data and contemporary self-reports in survey data - though this finding is not very useful regarding the accuracy of Murdock's data reflecting *precolonial* institutions. Only 7.5% of Murdock's observations for Africa were made before 1900.

In this paper, we explore a source that can potentially shed new light on 500 years of Africa’s precolonial past: travel diaries. The value of this source has long been recognized (Jones, 1987; Bridges, 1987; Northrup, 2009). The historical travel literature is immense. Travellers wrote about topics ranging from land, people and places, to weather observations.³ This collective knowledge of multiple journeys and travellers can bring diverse views and observations.⁴ In spite of this, the source has never been systematically used for the whole of the African continent.⁵ This is owed to the copious volumes of travel descriptions, and richness in text. Jones (1987) speculated that it may be possible with “the help of modern technology”, to aggregate multiple sources and represent the results “in detail on a set of maps”.

In recent years, these travel diaries became accessible online through libraries and websites like archive.org. Indeed, as Jones (1987) foresaw, we now have the computing power and statistical techniques to analyse thousands of traveller accounts in order to gain some first hand insight into the economic history of Africa over the last half millennium. Figure 1 shows an indication of the potential spatio-temporal coverage.

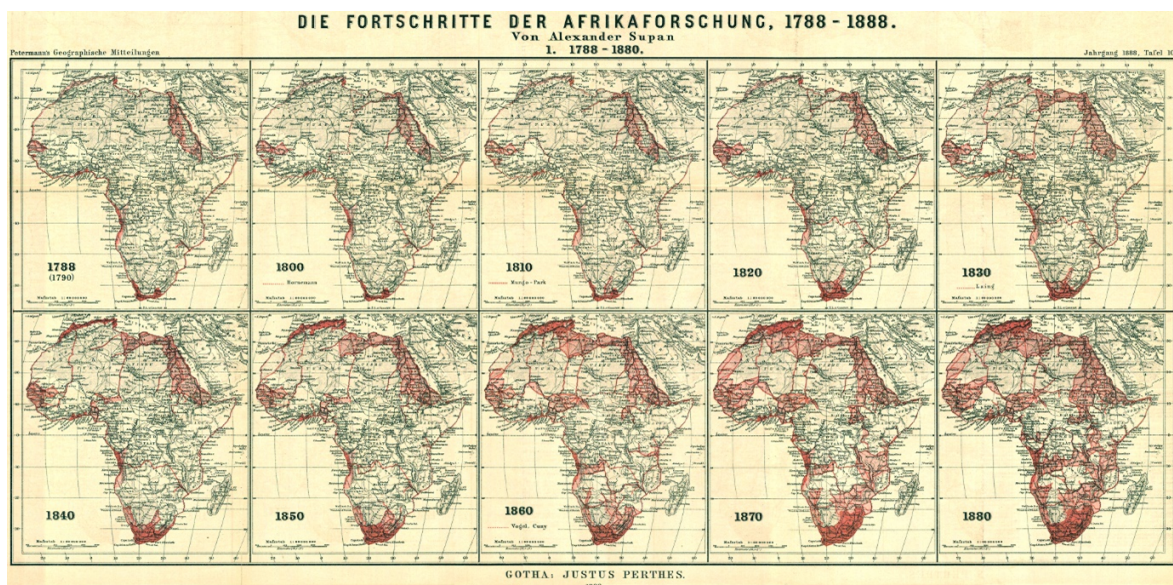


Figure 1: Supan (1888) showing the expanding knowledge of Africa in the Western world.

³We use the term “travellers“ and avoid any notion of “explorers” as it conveys the wrong image. First, Africans were not bystanders in travel. Europeans enlisted the help of Africans and relied on information Africans provided; often following established trade routes (Jones and Voigt, 2012; Rockel, 2006) with African porters and guides sometimes the veterans of multiple expeditions (Shackleton et al., 1972; Simpson, 1975; Bridges, 1982).

⁴Jones (1987, p. 65) notes that available single explorer sources can be “one-sided [...] dealing exclusively with slavery or [...] even merely with flora and fauna.”

⁵There are biographies of the more famous explorers such as Livingstone and Stanley (e.g. Ross, 2002; Driver, 1991; Blunt, 1994; Jeal, 2007; Berenson, 2011). Then there are numerous works that shed light on subsets of countries and explorers (Hibbert, 1982; Haarhoff, 1989; Rotberg, 1970). A big literature deals with the age of exploration more generally (Curtin, 1984; Fabian, 2000). Finally, philologists are interested in the travelogue as a genre (Haarhoff, 1989; Stiebel, 2002; Murray, 2016; Youngs, 1994).

Naturally, there are inherent drawbacks and potential pitfalls associated with this historical source. These diaries were not necessarily aimed for the scientific community but to entertain the curiosity of a paying readership or the traveller’s sponsor.⁶ Information comes selected and filtered through the traveller’s - predominantly European - eyes. Those observations are shaped by the authors’ own world view and the prevailing social norms of their time. Descriptions carry varying degrees of subjective elements. There are instances of intentional misrepresentation. The choice of topics may have followed fashions in Europe - something that we thoroughly analyse in this article. Hence, the journey’s dangers may be exaggerated, and facts possibly distorted to an extent that diaries resemble works of fiction more than reality (Spurr, 1993). Bassett and Porter (1991) note that similar problems are associated with explorers’ attempts at cartography.⁷ Africanist historians are generally skeptical questioning what the source can actually tell us about Africa itself. However, the very same criticism can be extended to governmental records produced by colonial regimes, such as Blue Books and Censuses, which often measured what Europeans were interested in. While we acknowledge the critique, one must be careful not to throw out the baby with the bathwater by dismissing the source and the information that it offers in its entirety (Frankema and van Waijenburg, 2023). Clearly, modern text analysis tools do not replace a critical evaluation and interpretation of the source material.

There were a number of innovative applications in the past. Nunn and Wantchekon (2011) used the routes of 25 famous “explorers” to measure precolonial contact with Europeans. Nicholson et al. (2012) used meteorological records of travellers to reconstruct rainfall patterns spanning two centuries. Furthermore, traveller accounts were employed to reconstruct the adoption, extent, and cultivation practices of rice (Linares, 2002), maize (Miracle, 1965) and cassava (Jones, 1957) in precolonial Africa. Scholars of African history relied heavily on traveller accounts for their studies on slave raids and internal slave trade (Law, 1989; Kolapo, 2000; Hubbell, 2001) and the production, distribution and exchange rates of cowrie currencies (Johnson, 1970a,b). Irwin (1975), Smith (1973) and Bridges (1963, 1973, 1982, 1987) used traveller diaries to shed light on precolonial African diplomacy; they remain seminal contributions today. These studies employed traditional methods that assessed each source in order to draw conclusions. They also limited their sources to a selection of travellers, region or time. In this article, we showcase three more applications using our new database and state-of-the art techniques in text analysis. We show how the occupational backgrounds of travellers affect their choice of topics. Furthermore, we extract new evidence on the adoption of quinine and its impact on travel distances across regions. We revisit the Columbian exchange, expanding the qualitative evidence across time and adding the context in which travellers described New World crops.

⁶Hallett (1963) notes that behind most travellers stood a sponsor, prepared to invest capital in the traveller’s enterprise. Up to the middle of the 18th century the sponsorship had come either from the State, Church or a commercial organization.

⁷The standard example for significant errors is the depiction of the Mountains of Kong by Park and Rennell (1799), which never existed but were reproduced in 19th century maps, again and again.

A database of traveller accounts may also have exceptional promise for new applications. Using traveller’s routes, one may reconstruct a more complete and detailed precolonial trade route network including modes of transport, travelling time, disruptions due to conflict or trade shocks over time. Observations on the fauna and flora may shed light on environmental changes (Pooley, 2016). Slavery and the Trans-African slave trade may be quantified at a more local level (Whatley, 2021). By extracting places that travellers visited and their descriptions, it may be possible to expand the Chandler (1987) database of cities in Africa from 1500 on.⁸ Finally, we may cross-check the Murdock (1959) Atlas and test claims about persistence of ethnic institutions (Bahrami-Rad et al., 2021) or disruptions caused by colonization (Jerven, 2011; Henderson and Whatley, 2014).⁹

The interest in travel diaries as a source declined in the 1990s. The aim of this article is to revive interest in this source and establish what we can learn from traveller accounts. Firstly, we build a database of travellers and their written accounts of Africa using rigorous data quality checks. After an extensive cleaning process, we apply a structural topic model approach (STM) to the corpus in order to gain insight into how written themes (or topics) have evolved across space, time and traveller occupation. Apart from obvious accounts of climate, geography and zoology, we find topics around imperialism, diplomacy, conflict, trade/commerce, health/medicine, evangelization and many more topics of interest to scholarship. Some of those topics are covered by multiple travel accounts and span centuries.

Unsurprisingly, we find that the background of travellers matters for the choice of topics. Military men write more about conflict and diplomacy; missionaries more about Christian values and evangelization; civil servants more about imperialism and European settlement. This diversity is a strength of the source. Fortunately, while the travellers’ background undergoes cycles over time, it appears that there is always a critical mass of the most important occupations available for temporal comparisons to be made. Overall, we argue that the large body of written accounts can be used to shed new light on Africa’s past. Ultimately, the accounts are so numerous, that they may provide for a database that can grow and be flexibly used for a wide range of enquiries. Furthermore, there may be potential to apply the analysis to other regions and times.

2 Data

A directory of travellers to Africa does not exist. Hence, our first task is to build one. We define travellers as individuals who write about their journeys. These include state and non-state actors. We restrict our study to the precolonial period and exclude journeys after 1900.¹⁰

⁸Chandler (1987)’s database lists cities larger than 20,000 inhabitants in years 800, 1000, 1200, 1300, ..., 1700, 1750, 1800, 1850.

⁹Indeed, Thornton (1983) argued that anthropology has its roots in the 19th century travelogue and missionary letters.

¹⁰European powers formalised the colonisation of Africa during the Berlin Conference 1880-1885. By then large parts of Africa were still not under effective colonial control. Hence, we chose 1900 rather than 1885 as the end of our study period.

2.1 Building a Database of “Travellers of Africa”

The process entails a meta search for items available at three large repositories for online historical books and archives, namely [Internet Archive](#)¹¹, [Gallica](#)¹², and [Google Books](#).¹³ We used the following combination of search terms:

(**voyage*** OR **exploration*** OR **expedition*** OR **travel*** OR **survey*** OR **excursion***) AND
LOCATION AND (date: **1200 TO 1900 OR NA**) AND (mediatype = **texts**)

where **LOCATION** is defined from a compiled list of historical names of African regions and territories (see Appendix A).¹⁴

We then added travellers that were not identified in the meta search, e.g. because i) the search terms were too broad ii) travellers did not leave a diary or iii) the diary has not yet been digitized. We manually searched several secondary sources.¹⁵ We cross referenced these to the meta search to exclude duplication. We ‘hand coded’ metadata variables from each document: i) Traveller’s occupation; ii) country of nationality as listed in Wikipedia or in the original source; iii) region of travel defined by the journey entry point, as interpreted from the original source and accompanying maps¹⁶; iv) publication date of the original document, v) original language as printed in the source, and if an English language translation is incorporated to the final corpus.

2.2 Building a Machine Readable Corpus of Traveller Documents

Once we formalized the method for the collection of documents, we built a machine based production pipeline through which the documents are ‘digested’ in order to be digitised and archived within a structured database. Table 1 provides an overview of the steps in building the corpus and the corresponding volume of journeys at each stage of the automated pipeline. We found 2,464 traveller accounts and uploaded the PDF’s into the analytical pipeline. Of these, 855 passed the OCR English language test representing 237,741 pages of text. To prepare the data for analysis, commonly used cleaning procedures such as removing punctuation, digits and stop-words was applied.¹⁷ Throughout the paper we also refer to words as tokens, as the concept is widely understood within the discipline of text analysis. A token

¹¹The Internet Archive is one of the world’s largest public digital libraries, with an extensive collection of human culture: 2 million books.

¹²Gallica is one of the major digital libraries available for free via the Internet.

¹³The Google Books Library Project is aimed at scanning and making searchable the collections of several major research libraries.

¹⁴Time stamp for the most recent meta search across the online archives was 17/11/2021.

¹⁵Secondary sources include; 1) Botanical Exploration Southern Africa ([Gunn and Codd, 1981](#)), 2) Political Power in Precolonial Buganda ([Reid, 2002](#)), 3) Dictionary of National Biographies ([Matthew et al., 2004](#)), 4) Pre-Colonial Africa in Colonial African Narratives ([Wehrs, 2008](#)), 5) The London Geographical Journal ([Royal Geographical Society of London, 1839](#)), 6) The Royal Geographical Society ([Royal Geographical Society, 1844](#)), 7) German men in Africa ([Weidmann, 1894](#)), 8) Mapping the History of cotton textile production in precolonial West Africa ([Kriger, 2005](#)), 9) Transactions of the Royal Society of Literature ([Royal Society of Literature, 1827](#)).

¹⁶We assigned a globally standardised region meta variable to journeys as per Appendix A.

¹⁷Stop-words constitute words like “and”, “the”, “a”, “that”, “am” that by themselves are not informative and only introduce noise into the modeling process. We used the SMART word list from [Lewis et al. \(2004\)](#) as stop-word dictionary.

can either be composed of one word, two words (i.e. “explorer accounts”) or larger terms. These are commonly known as N -gram tokens, where N represents the number of tokens. The full list of pre-processing steps are described in detail in Appendix B, and read together with Appendix C provides a visual overview of the process flow constructed to estimate the STM presented in Section 3.

Table 1: Steps in building working corpus

Building a Corpus	N^0	Travellers	Journeys
Directory of Unique Travellers		2,171	–
Library of text from meta search	1,987	–	–
Library of text from manual search	477	–	–
OCR texts in English	1,298	962	1093
Pass all data quality checks	855	605	712

Notes: The number of documents exceeds the number journeys as some travellers produced more than one volume of text per journey. The same traveller may enter with multiple journeys.

Table 2 contains summary statistics of the working corpus finally used in the topic model. The coverage naturally reflects the different timing and extent of the underlying Africa journeys. The number of pages per journal and tokens per page is similar across regions, with the global average being 278 pages and 127 tokens per page.

Table 2: Descriptive statistics of working corpus

Region	Years (Min - Max)	Years (Avg)	Documents (#)	Pages (#)	Tokens (#)	Tokens/Page
Central	1578 - 1894	1867	41	11,039	1,407,122	127
East	1327 - 1899	1843	141	39,540	4,975,164	126
North	1396 - 1899	1837	381	109,306	13,649,799	125
South	1593 - 1899	1847	153	40,639	5,457,903	134
West	1583 - 1899	1834	139	37,217	4,650,126	125
Totals			855	237,741	30,140,114	127

We can now describe the travellers’ background and how it changed over time. Their occupations were diverse. We recorded 199 unique occupational titles that we group into 10 major categories: scientist, military, missionary, civil servant, medical, explorer, writer, merchant, aristocrat, and other. Table 3 provides an overview of the number of documents and journeys by traveller’s occupation listing the three most frequent job titles in those categories. Among the most frequent occupations are scientists (16.1%), military men (14.8%), missionaries (10.6%), civil servants (8.8%) and writers (8.8%). The term “explorer”, associated with 5.7% of the documents, is a generic description of early travellers. Merchants (3.4%) and aristocrats (2.2%) are also present.

We then calculate the cumulative proportion over time. The cumulative proportion can be interpreted as the acquired journeys by a group at a specific point in time.¹⁸ Conceptually, it is closer to acquired knowledge at time t . Moreover, the measure is less noisy than occupational frequencies by half-centuries

¹⁸The cumulative proportion at time t is calculated as the cumulative frequency of journeys X by group i divided by the total frequency of journeys by time t : $Prop_{i,t} = \sum_{t=0}^{1900} \frac{X_{i,t}}{N_t}$.

Table 3: Traveller occupations in the corpus.

Occupation Cat.	Most Common Titles	Documents	Journey	Diff.
Explorer	Explorer	5.70%	6.10%	-0.40%
Military	Captain / Army Officer / Soldier	14.80%	17.51%	-2.71%
Merchant	Merchant / Slaver / Trader	3.39%	3.22%	0.17%
Missionary	Missionary / Reverend / Clergyman	10.56%	13.38%	-2.82%
Scientist	Botanist / Naturalist / Archaeologist	16.12%	17.64%	-1.52%
Civil Servants	Colonial Admin. / Diplomat / Politician	8.81%	7.99%	0.82%
Writers	Journalist / Traveller / Travel Writer	8.81%	7.99%	0.82%
Aristocrats	Duke / Aristocrat / Esquire	2.21%	1.71%	0.51%
Unknown	NA	16.65%	3.62%	-13.02%

and deviations from the norm can be conveniently spotted at the decade they occurred. Figure 2a shows that three occupational classes dominated the early journeys: military men, merchants and explorers. The prevalence of the latter two steadily declined over time. Military men, in contrast, remained prominent. Indeed most travellers to Africa had a military background; their proportion remained relatively stable from 1670 until 1840 when their frequency fell from 20% to 15%. Missionaries were frequent between 1650 and 1770, declined then only to bounce back around 1840. The date coincides with the beginnings of the intensification in evangelization efforts in Africa (Jedwab et al., 2022; Curtin, 1998). Interestingly, missionaries appear to have mostly replaced men of military background. Finally, the share of scientists increased around 1700, gained momentum around 1760, and remained high at about 15%.

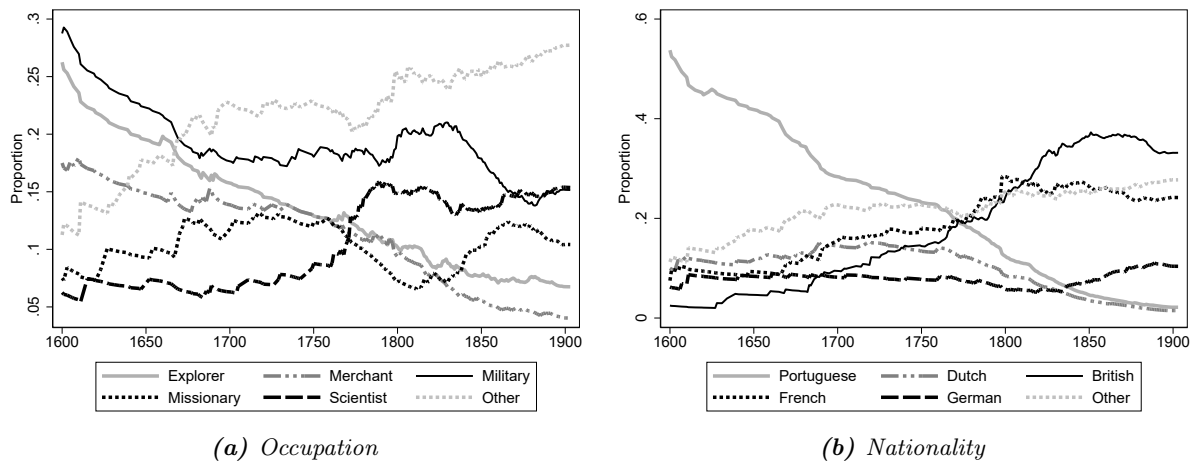


Figure 2: Traveller's Background over Time.

Figure 2b describes the travellers' nationality. Despite our English language restrictions, the nationality of travellers very much reflects the history of imperial endeavour. The Portuguese were at the vanguard of the age of exploration. The Dutch increased their involvement during the Dutch Golden Age (1588-1672), head-to-head with the British until 1730, after which their influence collapsed. The British and French influence dominates during the scramble, with the Germans as latecomers, only making up a small share.¹⁹

¹⁹We obtained 22 Arab and African travellers; of which only 4 met our STM requirements. Journeys of non-European

3 Structural Topic Modeling

Traditionally historians were burdened with reading vast amounts of historical records in order to get a quantitative synopsis of culture, technological progress or ethnographic evolution. In recent years, with the increase of computing power and availability of machine-readable text, this burden has been shifted to machines in what has evolved into a field called computational linguistics.²⁰ The application of these techniques have become especially prominent within the analysis of recorded ideas and social accounts (see e.g. [Blaydes et al. \(2018\)](#); [Lucas et al. \(2015\)](#); [Roberts et al. \(2014\)](#) and [Grajzl and Murrell \(2019\)](#)). In this paper we analyse 500 years of written accounts using topic modeling, a well known natural language processing technique within computational linguistics. The key characteristic of this technique is that it captures latent clustering of tokens, or “topics” using an unsupervised machine learning algorithm and a corpus of compiled text. The main argument for using topic models is to aggregate core ideas from a large corpus of text, which would be too labour intensive for historians wishing to better understand changing social constructs over centuries of written accounts.

There are different approaches to topic modelling. We follow an approach first introduced by [Roberts et al. \(2014\)](#) called Structural Topic Modeling (STM). The *structural* component of the model relates to the fact that, unlike traditional topic modeling that uses Latent Dirichlet Allocation (LDA), meta information is brought into the generative process and employs correlated topic models (CTM).²¹ The addition that [Roberts et al. \(2014\)](#) made to the traditional topic modeling approach is to dictate that the topic-prevalence vector should be a function of additional information as opposed to the earlier versions where it was drawn from the same distribution for all documents. Incorporating metadata into the model allows the researcher to estimate the relationship between document characteristics (metadata) and topic prevalence. In most cases, the relationship between the metadata and the latent topics are in essence the estimand of scientific interest. To put this plainly, structural topic models not only help us to understand what is *within* the text, but also helps us leverage information *about* the text. If we think about the mechanics, a “structural” topic model aims to build topics using a probabilistic distribution over tokens and their co-occurrences with one another conditioned on various metadata associated with a given document.

Mathematically this can be represented by denoting a collection of documents as D , indexed by d , with each of the documents containing w_d words. The unit of analysis within this paper is a single digitized *page*. A topic k can then be defined by the proportion of distinct words (or tokens) V (equation 1), which is known as the topic prevalence matrix (θ). The number of topics K is a subjective choice by

travellers are generally less well-documented. Swahili travellers were particularly numerous. Unfortunately, primary sources are scattered at many locations, not systematically catalogued and scanned, let alone translated. See [Mumin and Versteegh \(2014\)](#) for a survey of Arabic script in African archival texts. We plan to explore and add the easily accessible holdings in the future.

²⁰[Fourie \(2016\)](#) summarises recent analytical advances in economic history but concludes that “in the history profession, this data revolution has gained only limited traction.”

²¹See [Blei and Lafferty \(2006\)](#) for overview of how CTMs extend LDA.

the analyst.²² Each of these topics are associated with a V -dimensional probability mass function, β_k (topic content matrix), that controls the frequency according to which tokens are generated from that topic (equation 2).

$$\theta = \begin{array}{c|cccc} & \textit{Topic1} & \textit{Topic2} & \dots & \textit{TopicK} \\ \hline \textit{Doc1} & 0.20 & 0.01 & \dots & 0.01 \\ \textit{Doc2} & 0.20 & 0.03 & \dots & 0.02 \\ \vdots & \vdots & \vdots & \ddots & \vdots \\ \textit{DocD} & 0.02 & 0.20 & \dots & 0.04 \end{array} \quad (1)$$

$$\beta^{\mathbf{T}} = \begin{array}{c|cccc} & \textit{Topic1} & \textit{Topic2} & \dots & \textit{TopicK} \\ \hline \textit{text} & 0.020 & 0.010 & \dots & 0.001 \\ \textit{data} & 0.220 & 0.030 & \dots & 0.002 \\ \vdots & \vdots & \vdots & \ddots & \vdots \\ \textit{analysis} & 0.020 & 0.204 & \dots & 0.004 \end{array} \quad (2)$$

where the $D \times K$ matrix in equation (1) defines the topic prevalence, and $V \times K$ matrix in equation (2) defines topical content. The generating process of a single document d , from K topics and observed vocabulary V with words $w_{d,n}$ of a STM model can be summarised as (Roberts et al., 2014):

1. Draw the document-level attention to each topic from a logistic-normal generalized linear model based on a vector of document covariates design matrix \mathbf{X}_d and K -dimensional hyper-parameter vector σ using the topic prevalence model:

$$\gamma_k \sim \text{LogisticNormal}_P(0, \sigma_k^2 I_p), \quad (3)$$

$$\theta_d \sim \text{LogisticNormal}_{K-1}(\Gamma' X'_d, \Sigma) \quad (4)$$

where the document covariate \mathbf{X}_d is a $1 \times p$ vector, $\Gamma = [\gamma_1 | \dots | \gamma_k]$ is a $P \times K - 1$ matrix of coefficients for topic prevalence model and Σ is a $K - 1 \times K - 1$ covariance matrix, while the core language model is constructed as:

$$z_{d,n} \sim \text{Multinomial}_{K-1}(\theta_d), \quad (5)$$

$$w_{d,n} \sim \text{Multinomial}_V(\mathbf{B}_{d,n}) \quad (6)$$

As can be seen from equation (3) to (6), the model allows for correlations in the topic proportions using the Logistic Normal distribution (Aitchison, 1982). This means that for the topic proportion

²² Although some progress has been made to computationally decide on the number of K , there is no way of estimating a *best* K (Arun et al., 2010; Grimmer and Stewart, 2013). See Appendix E for a visual illustration of where we used a data-driven approach to decide the final K . Among the test performed were held out likelihood estimation by Wallach et al. (2009), as well as Taddy (2012)'s residual analysis.

vector, θ_d , for each word within document d , a topic is sampled from a multinomial distribution $z_{d,n} \sim \text{Multinomial}(\theta_d)$ and conditional on a topic, a token is chosen from the appropriate distribution over terms $\beta_{z_{d,n}}$ represented by $\mathbf{B}_{d,n}$.

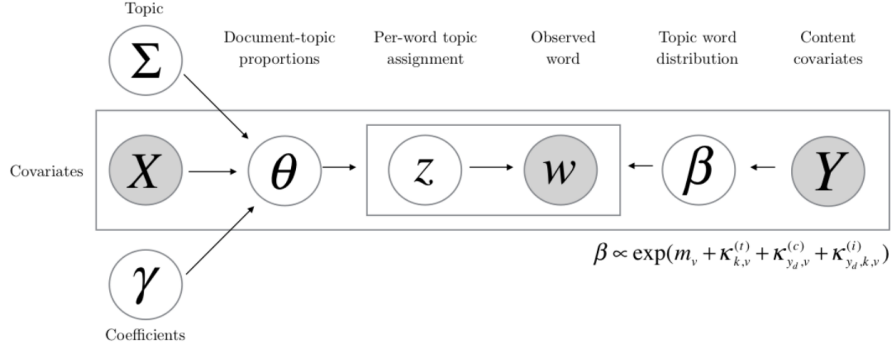


Figure 3: Plate diagram of a structural topic model, incorporating topic prevalence and topic content. Source: Roberts et al. (2014)

The difference between Blei and Lafferty (2007) and Roberts et al. (2014), is that in the latter, the μ_d (prevalence) and $\beta_{z_{d,n}}$ (topical content) are no longer global parameters shared by all documents, but are optional inputs specified as document-level covariates.

Modeling how the topics are affected by the covariates, the word occurrences are measured in terms of the log-transformed rate deviations from the corpus-wide background distribution m . In this model, the log-transformed rate deviations are denoted by a collection of parameter's, represented by κ , where the superscript indicates the set they belong to: t for topic, c for covariates or i for topic-covariate interactions.

To illustrate the spatio-temporal component of the corpus, Figure 4 highlights the cumulative collection of documents in the corpus. It closely resembles the map of knowledge of Africa in the western world drawn by Supan (1888) and displayed in Figure 1.

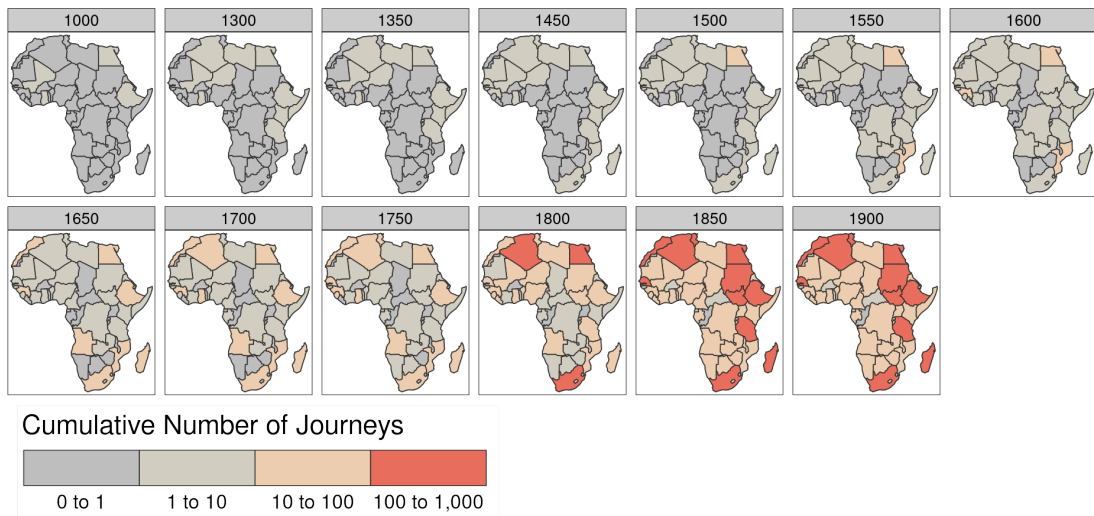


Figure 4: Cumulative journeys throughout Africa using our collected corpus (1000 AD - 1900).

3.1 Publication bias

Only a subset of journeys entered our STM model. Does this create a bias? We investigate this using a probit model.

$$Pr(Y_i = 1|X) = \Phi(X\beta + e_i) \quad (7)$$

where the dependent variable, Y_i is a dummy indicating whether document i entered our STM analysis. The vector of covariates X consists of four groups of variables measuring the journey’s date and region as well as the traveller’s nationality and occupational background. All the covariates are dummies. To facilitate interpretation we report marginal effects. Standard errors are clustered at the traveller level. First, certain travellers attracted more interest and most or all of their accounts became translated and widely available.²³ Second, certain covariates (the traveller’s nationality and occupation) do not vary across journeys and documents.

Table 4 reports chi-square tests of joint significance. The first four columns test for (1) Nationality (French, German, Other), (2) Period (1400-1500, 1501-1800, 1801-1900), (3) Region (West, East, Central, South) and (4) Occupational classifications (scientists, military, civil servants, missionary, medical, merchant and other). Considered in isolation, our STM corpus appears to deviate from our traveller database from step 1 in all of the four dimensions. However, the full model in column (5) containing all of the variables reveals that deviations are due to nationality and date that - if ignored - create distortions in the regional and occupational composition.

Table 4: Traveller Documents entering STM

	(1)	(2)	(3)	(4)	(5)
1. Nationality (French, German, Other)	62.91*** (0.000)				425.6*** (0.000)
2. Period (1400-1500, 1501-1800, 1801-1900)		36.69*** (0.000)			54.82*** (0.000)
3. Region (West, East, Central, South)			21.57*** (0.000)		1.17 (0.884)
4. Occupation (sci., mil., civ., miss., med., merch., oth.)				42.39*** (0.000)	8.01 (0.332)
Observations	2,392	2,392	2,392	2,392	2,392
Pseudo R2	0.169	0.170	0.014	0.022	0.513

Notes: This Table reports the results of a probit regression with a dummy variable indicating the inclusion of a document in the STM analysis as dependent variable. Coefficients are chi-square tests of joint significance. “Nationality“ consists of dummy variables for French, German and Other. “Period“ are dummies for the Middle Ages (1400-1500), Age of Enlightenment (1501-1800) and Age of Imperialism (1801-1900). “Region“ are West, East, Central, South. “Occupation“ are scientists, military, civil servants, missionary, medical, merchant and other. p-values in parentheses.
*** p<0.01, ** p<0.05, * p<0.1.

Figure 5 plots the marginal effects from column (5) of Table 4. Travellers of non-British origin are underrepresented. While 84.9% of the British traveller’s accounts end up in our STM, the percentage of

²³Indeed, standard errors decrease substantially after clustering.

other nationals is significantly lower (French: -44.9%, German: -39.9%, Others: -16.7%). This certainly reflects our English language requirement. It is worth noting that translations are time consuming and costly, with traveller societies such as Hakluyt often translating the most exciting, famous, patriotic or first of the explorers (Sherman, 2004; Bridges, 1987).²⁴ In addition, early accounts from before 1400 disproportionately dropped from our analysis. These were possibly in Arabic and saved in non-readable picture format. We believe that advantages of data science methods appear - as of yet - less striking for the early period because the corpus of available texts is so small that traditional approaches are well-suited for analysis. In contrast, there is no significantly different attrition for 1400-1500, 1501-1800 and 1801-1900 periods. In sum, we conclude that biases with respect to occupations, regions and even time do not appear substantial.

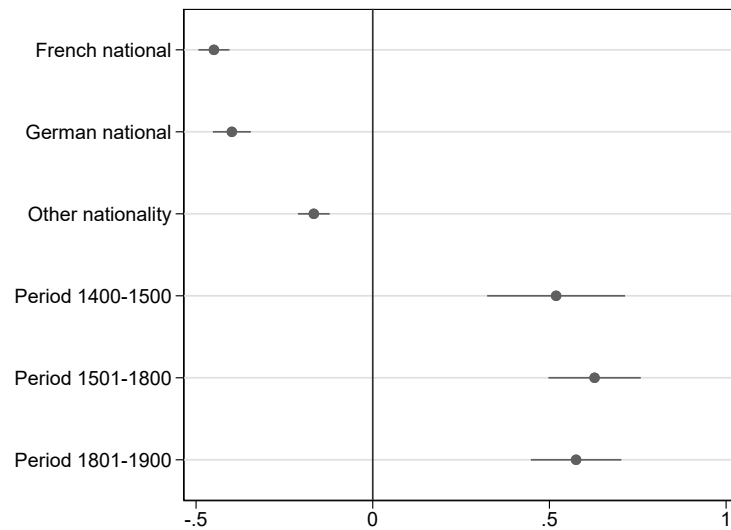


Figure 5: Average marginal effects

Notes: This Figure shows average marginal effects and 95% confidence intervals for selected variables from column (5) of Table 4. Reference category is British, Date 0-1400, North, Explorer.
 *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

3.2 The Metadata

The final step in creating our corpus is integrating the data-driven machine process of the STM described in Section 3 with the travellers’ metadata (i.e. spatial, temporal, occupational, language and nationality) described in Section 2.1. The integration of metadata covariates to each document allows for a more complete model, which in turn facilitates examining the effect that each of the covariates have on topic prevalence in the final output. More specifically, we allow the topic prevalence to be influenced by our covariates — *traveller occupation*, *time period* and *region* — and as such estimate a geographical,

²⁴The **Hakluyt Society** published scholarly editions of primary records of voyages and travels, widely prized for their standards of scholarship and book production. (Sherman, 2004, p. 199) notes the “*role played by these translations [...] is crucial to understanding the intellectual outlook of those involved in overseas venture.*”

time-variant topic model that also takes into account the occupation of the person writing the text. By introducing this structure into the generative model, we control (and test) for the observational bias first reported by Jones (1987), while also investigating how traveller accounts differed across space and time. The final output of the model will thus allow a varying prevalence of each topic (element of θ_d) for each document, dependent on the linear combination of our dummy covariates as specified in equation (3).

4 Representation of topics in the STM

STM creates the topics, but does not tell us how to label/categorise them. The analyst does it.²⁵ For this, historical domain knowledge of the underlying body of topics is needed. Moreover, there is no absolute measure of determining the correct number of unique topics for the STM. Given the results of the statistical test, we decided to provide analysis of 25 topics.²⁶

We now turn to the machine generated output from the STM. Figure 6 summarises the average proportional topic prevalence ($\bar{\theta}$) across our corpus as well as the ten words with the highest probability of being associated with our 25 uniquely assigned *topic labels*. For example, what proportion of the total text can be attributed to writing that deals with themes around imperialism? STM would suggest it was 6.06%. Appendix F shows a more detailed word list for the 25 topics using four topic word filters (Roberts et al., 2014):²⁷

- (1) *Highest Probability* words are those that are most common for a given topic, but are also nonexclusive, in the sense that they may be associated with any number of topics and might be the highest probability words in more than one topic (as is the case, for example, with ‘king’, ‘law’, ‘man’, ‘will’ in our corpus).
- (2) *Lift* weights words by dividing their frequency in other topics, giving higher weight to words that appear less frequently in other topics.
- (3) *Score* measures the top words, dividing the log frequency of the word in the topic by the log frequency of the word in other topics.
- (4) *FREX* reports words for a given topic that reflect a weighted combination of two criteria: association with that topic with a high probability (frequency) and a greater likelihood of being associated with that topic than with other topics (exclusivity).

All four of these statistical measures for topic word prevalence are useful. In our discussion, however, we mostly use Highest Probability and FREX for interpretation.

²⁵Web Appendix K provides the text of the two pages with the highest estimated topic prevalence, θ , per a page for a given topic.

²⁶To inform on the “correct” number of topics (K) to investigate, we employ commonly used statistical tests. See Appendix E for a graphical depiction, and Footnote 22 where it is described in detail.

²⁷Appendix F gives the statistical methods for the weighting schema.

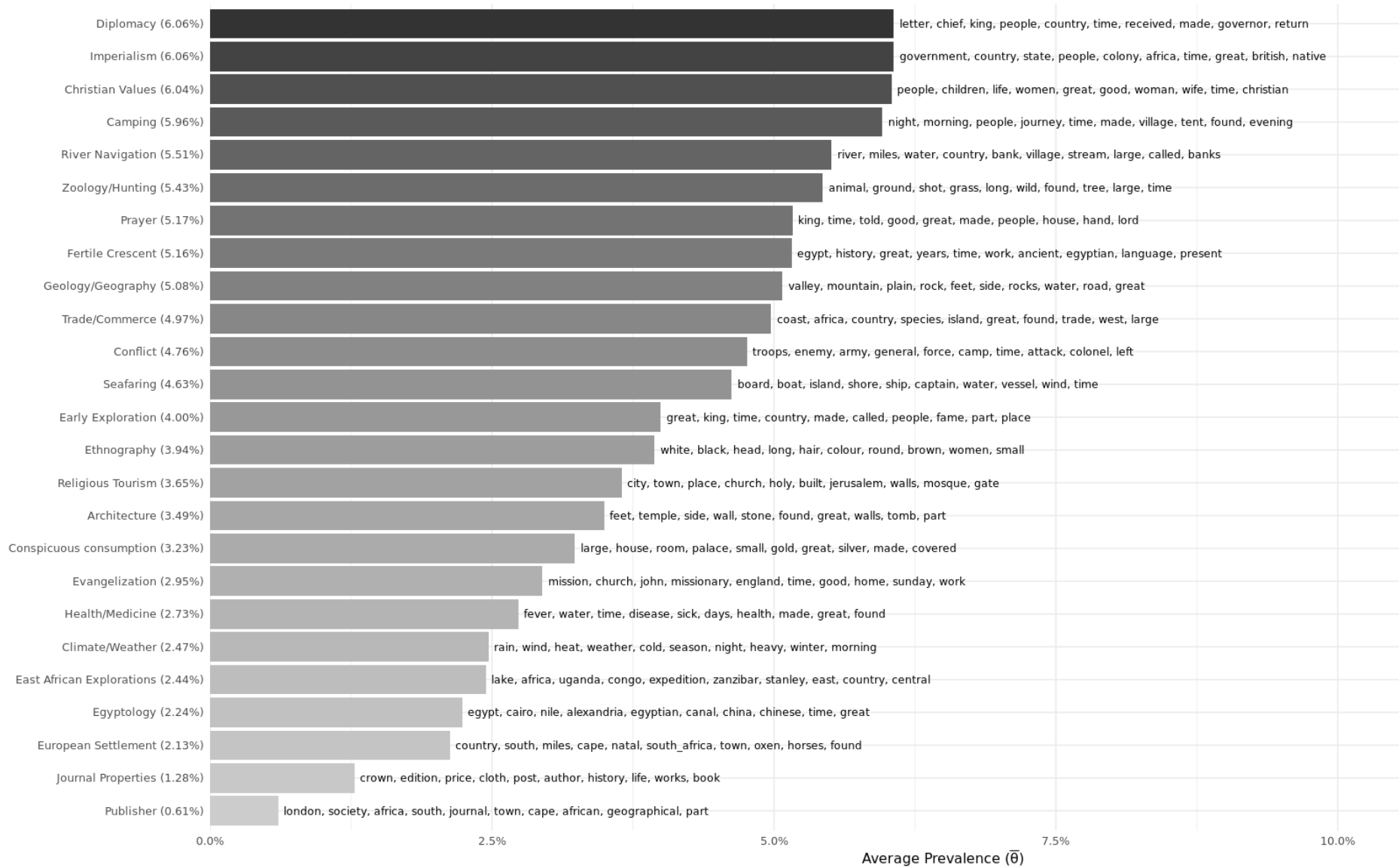


Figure 6: Average topic prevalence ($\bar{\theta}$) across the whole corpus.

4.1 What did travellers write about? When? And where?

Bringing historical knowledge to bear we now examine the topics that STM identified in the corpus of documents.

Imperialism, Diplomacy, Conflict & European Settlement: We define imperialism as a state policy or practice of extending power, by direct territorial acquisition or by gaining political and economic control over another country or territory (based on [Britannica](#)).²⁸ STM yielded a topic that fits this definition though there is a strong emphasis on politics. The topic is characterised by “*government*” and “*power*” and involves “*country*”, “*state*”, “*native*”, “*people*”, “*colony*” and “*africa*”. More words in the word cloud for imperialism in Figure (7a) further strengthens our interpretation (“*administration*”, “*interest(s)*”, “*chief*”, “*trade*”, “*military*”). *FREX* lists several words that appear to specifically relate to British imperialism in South Africa like “*annexation*”, “*president-orange*”, “*bechuanaland*”, but there are also broader terms like “*imperial-government*” and “*colonial office*” that could apply elsewhere in Africa. Interestingly, under this topic we find some modest reference to slavery (“*slave*” in *Score* and “*abolition*” in *FREX*).

Travellers frequently interacted with African rulers. In precolonial times, Afro-European relations were often maintained by soldiers, traders and missionaries. Negotiations were often about trade, safe passage and the toll that had to be paid for passing through the territory. Indeed, [Irwin \(1975, p.83\)](#) noted that the “literature of African exploration is full of the exasperated comments of travellers held up by what seemed to them unwarranted delays and exactions.” STM yielded a topic that deals with diplomacy. Words like “*letter*”, “*treaty*”, “*message*” hint at peaceful relations. Instances of sending diplomatic representatives almost always involved centralised states ([Smith, 1973](#)). STM confirms this. We find references to British “*consul-cameron*”, who was appointed to Abyssinia in 1860 and - after a diplomatic faux pas in letter writing - was held captive by Emperor Tewodros II. Similarly, “*king-ashanti*” may be related to the several European dispatches to negotiate safe trade routes to Ashanti.²⁹ There were also numerous instances, where Europeans applied military force to accomplish their political goals. STM indeed extracted a topic describing “*conflict*”. Words include military ranks (“*officer*”, “*major*”, “*colonel*”) and bases (“*camp*”, “*fort*”) and hints at the violent nature of the endeavour (“*attack*”, “*advance*”, “*battle*”, “*fire*”, “*wounded*”).

Conceptually, imperialism turns into colonialism with the presence of significant numbers of permanent settlers from the colonising power ([Horvath, 1972](#)). The African country that was colonised in this sense very early on was South Africa. The two other African countries with sizeable European settler communities by 1900 were Algeria and Rhodesia (today’s Zimbabwe).³⁰ STM returned a topic of

²⁸This definition follows the seminal work of [Horvath \(1972\)](#).

²⁹Between 1816 and 1820 alone there were seven official missions to Kumasi ([Irwin, 1975](#)).

³⁰Around 1900, South Africa had by far the largest share of Europeans (22%). In Rhodesia, European settlers made up

“*European Settlement*”. It covers the means of transport (“*oxen*”, “*horses*”, “*waggon*”, “*road*”, “*railway*”), location (“*cape*”, “*natal*”, “*south africa*”, “*transvaal*”) and economic opportunities (“*gold*”, “*cattle*”, “*farm*”).

These four topics take up considerable space in the documents: Imperialism (6.06%), Diplomacy (6.06%), Conflict (4.76%) and European settlement (2.13%). Topic prevalence over time follows an interesting pattern: Imperialism and Diplomacy see a sudden increase in 1800 and remain important until the end of our study period. In contrast, Conflict was irrelevant in 1600 but then linearly increased over time. European settlement was of little importance until 1750 and then slightly more so later. This pattern is largely consistent with the underlying historical developments. The Portuguese established trading posts in the 15th century and the Dutch East India Company (VOC) created a settlement colony at the cape in 1652. However, for a long time, European powers were unable to control significant parts of African territories (Curtin, 1998), until the second half of the 19th century culminating in the Scramble for Africa 1881. The topical appearance of European settlement after 1800 is probably owed to the British takeover of the Cape Colony in 1795/1806. Finally, Imperialism is a common topic among travellers in South and West Africa, Diplomacy was treated more often in East and West Africa, whereas European settlement is heavily skewed to Southern Africa.

Evangelization, Christian Values & Prayer: During early exploration, clergymen often accompanied voyages. They were also posted to the bigger coastal forts. In that era, their task was mainly to provide ecclesiastical services to Europeans. Evangelization efforts were negligible. The few organized attempts of evangelization were probably discouraged by the very high mortality rates due to malaria (Jedwab et al., 2022). When quinine became a relatively effective malaria prophylaxis in the 1840s, mission societies slowly started to become a significant actor seeking widespread evangelization of African peoples. Missionaries were also expected to report back to their mission societies about their progress and obstacles. Many words in the topic word cloud shown in Figure 7b are related to evangelization efforts during the later phase such as “*missionary*”, “*mission*”, “*work*”, “*station*”, “*society*”, “*sunday*”, “*school*” and “*gospel*”. We also find various Christian denominations such as “*catholic*”, “*wesleyan*” and “*church*” of “*england*”.

The colonial enterprise was often justified with a civilizing mission (Hastings, 1996). Many travellers had a Christian background. They commented on what they observed based on their own Christian value system, which they often perceived as culturally and morally superior. STM returns a topic that we best summarise with the label “*Christian Values*“. We find words that appear to emphasize the family (“*children*”, “*women*”, “*wife*”, “*father*”, “*husband*”, “*marriage*”). The FREX index unambiguously points to a Christian value system, with tokens like “*holy-spirit*” and “*jesus-christ*” and Victorian virtues and vices (“*chastity*”, “*adultery*”) and value judgements (“*righteousness*”, “*sinful*”). The tokens “*learn-read*” and

7% of the population (Easterly, 2003). In Algeria, the French numbered about 5% of the population in 1896 (Stora, 2004). Kenya developed to a settler economy only after 1900 (Jedwab et al., 2017).

“taught-read” probably refers to the bible. It is apparent that in this topic African beliefs and customs (“heathen”, “polygamy”) were likely treated as a juxtaposition to Christian values.

We also find a topic that consists of a collection of biblical English like “thee”, “thou”, “hast” and “lord”, particularly when looking at both *Score and FRET*.³¹ We can only speculate that travellers in foreign and dangerous lands resorted to prayer. Bible verses can also give a moral justification for judgements and (cruel) actions.

With 6.04% of text, the topic of Christian Values takes a lot of space in the travellers’ writings. The same is true for Prayer (5.17%). In contrast, the topic of Evangelization, which is related but much narrower, amounts to 2.95%. Prayer is highly prevalent in 1700, but then tapers off. The other topics, in contrast, become more important over time, leveling after 1850; both topics were popular among travellers of West and Southern Africa. That Christian Values is more prominent in journeys to Central Africa and Prayers in West Africa appears to us as a hitherto unexplored finding.

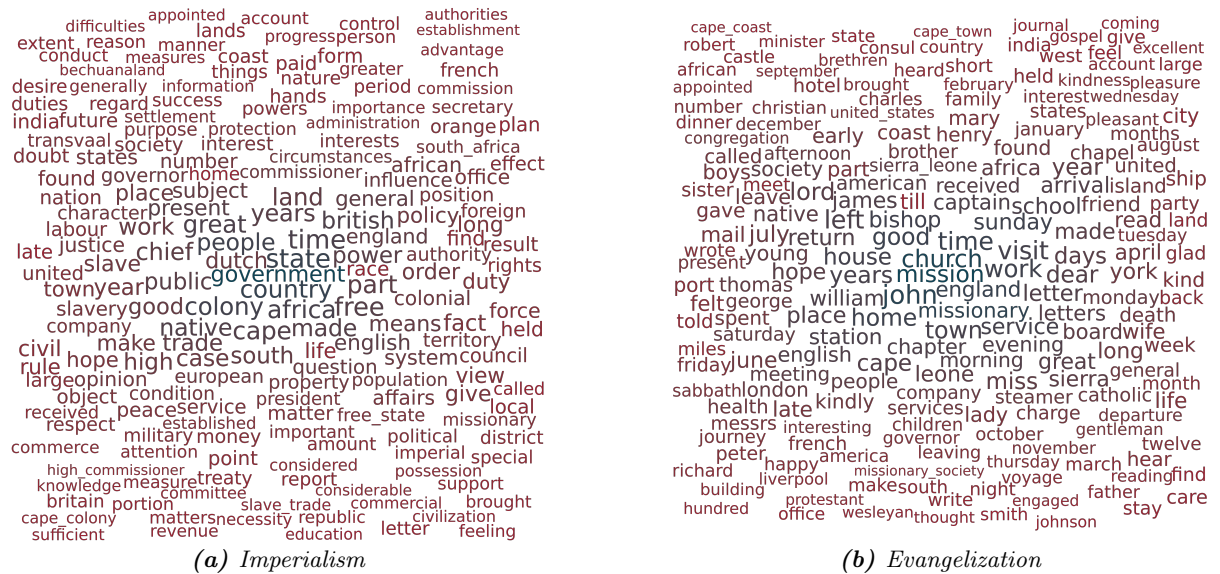


Figure 7: Word clouds encapsulating themes within different topics.

Notes: The word clouds show top 200 words with the highest word prevalence (β), also known as the *Highest Probability* measure. The size of the text is proportional to word prevalence (β). Word clouds of other topics are shown in Online Web Appendix Figures I.

Ethnography: Travellers also frequently made ethnographic observations. “Passages on savage custom, culture and dress” were considered relevant topics in the civilization-savagery debate (Haarhoff, 1989, p. 49). STM identifies these passages remarkably well. Topic words include descriptions of “body” parts like “head”, “hair”, “neck”, “skin”, “legs” as well as details about the “dress” and “wear” such as “feathers”, “cloth” and “beads”. In general, this content is problematic. The 19th century practice of description

³¹ “Thee, Thou” are common pronouns from the King James Bible translated in 1611 which travellers would be carrying. In principle, these are stop-words. However, the SMART word list did not recognize them as such and did not remove them.

of physical properties and categorisation - seemingly neutral and objective - was a precursor to non-scientific, racial anthropology. The ethnographic topic accounts for 3.94% and was indeed a common element among travellers of any region in Africa.

Climate/Weather, Seafaring & Early Exploration: Travellers were at the mercy of the elements and the dangers that came with seafaring. Hence, the weather topic is dominated by the descriptions of navigation, and the meteorological observations and climatic conditions required for safe navigation. The growth in lexicon evolved by the 16th century when it became easier to determine cardinal directions. More difficult to solve was the longitude problem. Determining how far east or west from a fixed position a ship was required accurately measuring time at sea which was not solved until the late 18th century (Weinrit and Neumann, 2017).³² Because of the navigation vulnerability imposed by inclement weather, words like “overcast”, “heavy-shower”, “lightning-rain”, “storm-rain”, “noon-cloudy” have a higher *FREX*, *Lift* and *Score* index associated with the topic of navigation. Humidity and light both affected the accuracy of the time keeping and hence the ability to locate a position east or west. Furthermore, cloudy skies obscured the stars, and therefore the position of latitude and longitude.

The topic of “*Seafaring*” is another pertinent example, with the introduction of the chronometer and the growth in written artefacts about navigation at sea. Notable *Lift* bi-grams such as “*chart-latitude*”, “*longitude-noon*”, and “*weigh-wind*” are examples that enter the lexicon after circa 1750. This is when ships no longer needed to follow the coast for navigation purposes and used new technology to safely navigate. Prior to this, climatic variables and poor time-keeping hindered east and west navigation (Miotto and Pascali, 2022). We observe a decline from 1800 as improvements in cartography, and seabound navigation became a more widely accessible skill. The introduction of steamships in 1852 further reduced seafarers’ dependency on weather observations (Lynn, 1989).

The topic of “*Early Exploration*” was also limited to the coastline of Africa, dominated by the Portuguese or Spanish and constitutes 4% of the source texts. This affects the quantum of observations in our corpus as only notable explorers had their accounts translated into English. Texts tend to lack observations about land and people as this cohort was geographically limited to the coast without much contact with the interior. The topic begins around 1450 when Prince Henry of Portugal founded a center for seamanship. Shortly thereafter we start to observe a rise in west African exploration from the Iberian peninsula with tokens such as “*king-portugal*” appearing. Early accounts of African exploration around the Cape of Good Hope coincides with the expansion of Portuguese interests to east Asia. From 1511 to 1641 Portugal controlled the strategically important Strait of Malacca, through which all seagoing trade between China and India was concentrated. This is evident in the topic lexicon with the *Lift*

³²Harrison’s chronometer was trialed in the 1750s by the British and Portuguese, and commercially adopted in 1766 by the [Board of Longitude](#).

terms “*china-malacca*” and “*great-malacca*” produced by the STM. The arrival of the Portuguese also brought about a dramatic shift in Atlantic imperialism and trade (da Silva, 2012). The flow of African gold is evident in the topic words with “*found*”, “*gold*” appearing in the STM’s *Highest Probability* and *Score* index. With the founding of North African outposts, we observe words like “*morocco*”, “*algeriers*” and “*fort*” as Portugal gained access to the trans-Saharan gold trade. Rather than going by caravan to the Italian city-states, the precious metal was shipped by sea directly to Lisbon and western Europe (Klingelhofer, 2010). As Dutch – Portuguese commercial rivalries developed in the Atlantic, we start to see increasing Dutch exploration, and in particular during the 17th century.³³ According to the STM, the topic predictably phases out around the 18th century when we also note the introduction of accurate cartography and navigation.

Health/Medicine & Climate: Once the dangers of the sea voyage were over, the next obstacle confronting travellers was the tropical African climate. Among the many diseases, malaria was the biggest killer (Curtin, 1998; Patterson, 1974). It earned West Africa the name ‘white man’s grave’ (Curtin, 1961; Rönnbäck et al., 2019). High mortality rates restricted travels off the coast. With the introduction of the quinine prophylactic, mortality rates dropped significantly opening the way to the interior.³⁴ The STM topics are dominated by the symptoms (“*delirium*”, “*vomiting*”, “*fever*”, “*disease*”, “*sick*”, “*days*”, “*diarrhoea*”) or diagnosis (“*dysentery*”, “*malarial*”, “*infection*”, “*spleen*”) and then treatment (“*opiate-night*”, “*antimonial-medicine*”, “*drink-opiate*”, “*inoculation*”) of tropical diseases.

Camping: Setting up camp was part of the travelling experience. It took a considerable time. And despite it being a routine task, the conditions of any site may have never been quite the same. The evenings may have left time for reflection (Fabian, 2001). STM identifies a topic, which describes this camping experience. We find words like “*night*”, “*morning*” and “*tent*”. The *FREX index* also points to the simple pleasures of “*evening-meal*” and “*good-supper*” even detailing the cuisine like “*couscous*”, “*fresh-milk*” and “*sour-milk*”. One may infer from words like “*caravan*”, “*camel*” and “*desert*” that the topic would point to travellers in Northern Africa. Surprisingly, however, the topic is more frequent with travellers of West, East and Central Africa, which in many parts shares the dry landscape of North Africa. Finally, this topic takes a large share of the writing (5.96%). Temporally, the prevalence largely agrees with the occurrence of land travels, slowly increasing from 1700 and peaking in 1850.

³³West Africa had been a monopoly of the Portuguese and then Spanish Crown since the mid-15th century (da Silva, 2012), with the Dutch coming into mercantile conflict from circa 1580 until the Twelve Years’ Truce (1609–21) (Enthoven, 2003).

³⁴Quinine, the bark of the Peruvian cinchona tree had been used by Europeans since the 16th century. By the 1820s Pierre Joseph Pelletier and Joseph Bienaime Caventou had isolated the active ingredient of the bark (Patterson, 1974). By 1850 soldiers and missionaries used quinine. However, widespread adoption and the proper application of quinine was a gradual process. Jedwab et al. (2022) showed that missionary expansion was related to the adoption of quinine.

Geology/Geography & Zoology/Hunting: Researching and describing Africa’s geography was a common feature in many expeditions. STM indeed returned a topic that fits ‘geography’ well, with words like “*valley*”, “*mountain*”, “*plain*”, “*rock(s)*”, “*desert*”. FREX returns geological features like “*volcanic*”, “*basaltic*”, “*gneiss*” and geological time scales like “*eocene*” and “*pliocene*”. The topic has a high prevalence (5.08%); increasing over time and is relatively more concentrated in Northern Africa. In the eyes of European travellers, Africa’s flora and fauna was exotic and so one would also expect the description of the environment to take up a large space. There was also scientific interest in zoology very much like “*Geology/Geography*”. In fact, many travellers returned with specimens for museum researchers. Especially in the 19th century, Africa’s wildlife also attracted big-game hunters from a privileged background like Frederick Selous and Samuel Teleki (Herne, 1999).³⁵ STM identified a topic that we categorised “*Zoology/Hunting*”.³⁶ In this topic, words like “*shot*” and “*bullet*” appear with a high probability emphasizing the hunting aspect. FREX then lists animals that travellers were writing most about such as “*leopard*”, “*rhino(ceros)*”, “*lioness*”, “*hyena*”, “*antelope*”, “*elephant*” and “*buffalo*”. With 5.43%, “*Zoology/Hunting*” occupies a lot of text. The prevalence increases over time, especially after 1800. Geographically, it is concentrated – with African wildlife – in East, South and Central Africa.

East African Exploration & River Navigation: Interests in East African exploration and river navigation is centred around the European obsession to be the first to find the origin of the Nile, generating a lot of text.³⁷ For example, the STM results have very strong geographic connections to East African places and geography (“*uganda*”, “*zanzibar*”, “*tanganyika*”, “*kilimanjaro*”, “*mombasa*”, “*lake*” and “*victoria*”, “*lake albert*”, “*nile*”). The next group of words emphasise expedition descriptions with linkages to famous Nile source explorations (“*expedition*”, “*caravan*”, “*loads*”, “*general grant*”, “*station*”, “*stanley*”, “*masai*”, “*livingstone*”). The importance of Africans in the European exploration of East Africa is also noteworthy. The tropical belt around the Congo and Lake Nyasa was difficult and dangerous to penetrate, therefore required more cooperation with local knowledge than other regions (Shackleton et al., 1972). The topic of “*East Africa Exploration*” with the search for the origins of the Nile is, reassuringly, limited to when it actually took place circa 1848-1876 in our STM epoch estimates (Bridges, 1973).

Trade/Commerce: This was an important topic with 5% of tokens allocated to this context. It also suggests that travelling was as much about exploration as the natural endowments linked to trade and commerce. Travellers liked to emphasise the development potential of Africa (Murray, 2016). Haarhoff (1989, p. 47) notes that “explorers were in a sense land surveyors” seeking out land appropriation suitable for trade and commerce. Terminology that describes land endowment such as “*cotton*”, “*citrus*”, “*soil*”

³⁵Our database returns 21 travellers accounts with “hunter” as occupation.

³⁶We decided against “Safari”, because it does not convey the fact that 19th century safaris were essentially hunting expeditions.

³⁷The Nile’s source was the last great mystery for European explorers in the 19th century (Bridges, 1973).

and “*climate*” are prevalent, with production and quantity adjectives like “*bushel*”, “*cultivation*”, “*large*” and “*distribution*” emphasising this attitude to precolonial exploration. In 1859, the Journal of the Royal Geographic Society noted how travellers were commercially minded and practical in their observations as they sought to explore the interior. This is highlighted in the commercial lexicon which include bi-grams and words like “*gold*”, “*article-trade*”, “*excellent-quality*” and “*produce*”. Trade was bi-directional, with merchants seeking information about African preferences (Eltis and Jennings, 1988). The growth in trade and commerce is evident in the European seaports, with commercial and geographic societies flourishing, exemplifying the need for written navigation and transaction history. Hamilton (1868) noted how the policing of transatlantic slavery amplified certain types of trade with the coast, and allowed travellers to safely penetrate further inland. The trade lexicon produced by the STM supports this with *Lift* and *FREX* bi-grams like “*central-mozambique*”, “*distribution-upper*” and “*history-distribution*”.

Fertile Crescent, Religious Tourism, Egyptology & Architecture: The Fertile Crescent was a touristic highlight early on. The region became incorporated into the Grand Tour.³⁸ Palestine, in particular, became a popular destination after the restoration of peace in 1840 (Bar and Cohen-Hattab, 2003). Thomas Cook and American Express, both founded in 1860, offered travel packages bringing thousands of travellers to the Middle East. Pilgrimage to the Holy Land flourished. STM returns indeed a topic that can be best described as “religious tourism”. *FREX* lists tokens such as “*holy-city*”, the Church of the “*holy-sepulchre*” located at “*mount-calvary*”, where the “*crucifixion*” of Jesus allegedly took place. On their journey to Jerusalem and the Near East, travellers stopped by cities like “*cairo*” and “*alexandria*”; they followed the “*nile*” visiting places like “*memphis*” and “*thebes*”. Journeys around the world with stops in Egypt became easier with the opening of the “*suez*” “*canal*”. Egypt’s ancient cities were also of scientific interest. In addition, the STM yielded a topic that describes the architecture of the cultural and ancient sites: “*building*”, “*temple*”, “*wall(s)*” “*tomb*”, “*pyramids*” and “*chamber*” and were “*great*”, “*small*”, “*high*”, “*long*”, or of “*stone*”.

The topics of “*Fertile Crescent*” and “*Religious Tourism*” were common in 1600, dropped in 1700 but remained popular 1800-1900. It may be that the two topics reflect more an old form of Christian pilgrimage with a strong spiritual dimension. In contrast, we find the topic of Egyptology and Architecture appearing later, around 1750. The timing coincides with the extension of the Grand Tour and the increased interest in Egypt after Napoleon’s invasion of 1798, which also marked the very creation of Egyptology as a branch of archaeology. The four topics refer to activities that are bound by space. This is confirmed. We find them strongly associated with travels to North Africa. The topics also take a relatively large space in our corpus of documents (5.16%, 3.65%, 2.24% and 3.49% respectively).

³⁸The Grand Tour refers to the educational and leisure trips of the 17th to the 19th century customarily undertaken by privileged, Northern European, young men; originally, Italy and Greece were key destinations.

Conspicuous Consumption: STM identified a topic where travellers apparently comment on luxuries encountered during their journey. Those are partly related to accommodation as indicated by words like “*house*”, “*room*”, “*building*” and “*hotel*” often jointly occurring with adjectives like “*large*”, “*beautiful*”, “*fine*”, “*gold*” and “*silver*”. In the *FREX* words we also find reference to indigenous rulers such as “*prince*” and “*maharaja*”. The topic prevalence is moderate (3.23%), nonexistent in 1700 but expands over time. The geographic focus is Northern Africa, probably encompassing those who travelled further to India.

Publisher & Journal: The two topics of publisher and journal properties are a reminder of what STM does. It picks up frequent co-occurrences of words on a page. Here, STM identified publisher details and journal properties as a topic. This information typically appears on the first ten pages or as header throughout the document. In principle, one can avoid this generic result by adding manually the starting/ending page of the first/last chapter and restricting STM to pages thereafter/before. However, for the time-being, we acknowledge this output, which concerns 0.61% and 1.28% of the text. In the following, we drop these topics from our discussion as they are not of interest to social scientists.

It is also noteworthy what topics did not show up. From the outset of the project, we expected to learn more about slavery. We know that travellers naturally encountered slavery in Africa. They bought and owned slaves, sometimes they commented on slave raiders and captives, e.g. most famously Livingstone.³⁹ We know that travellers came across slave caravans and markets. However, the only topic that contains reference to slavery is Imperialism. We also screened the STM output for words commonly used as synonyms to slave (bond, chattel, thrall, odalisque, escravo/escrava, helot, serf, indentured, servant, attendant, domestic, drudge, handmaid*, lackey, menial), but did not find them listed among any topic. It appears travellers weren’t abolitionists writing long, dense passages about slavery. This warrants more research in the future.

In summing up, STM generally identifies topics in a coherent and extremely meaningful way. For making use of the data source in a temporal perspective, it would be helpful if topics were covered over a large time span. We find that some topics follow notable epochs. These epochs are intuitively descriptive and therefore chronologically rise and decline with underlying relevance. However, many topics exhibit enough temporal and spatial coverage for further quantitative analysis. Some but not all topics appear interesting from an African economic history perspective.

³⁹Kolapo (2000) draws on Clapperton and Lander’s accounts to assess the history of slave raiding and warfare in 19th century Nupe.

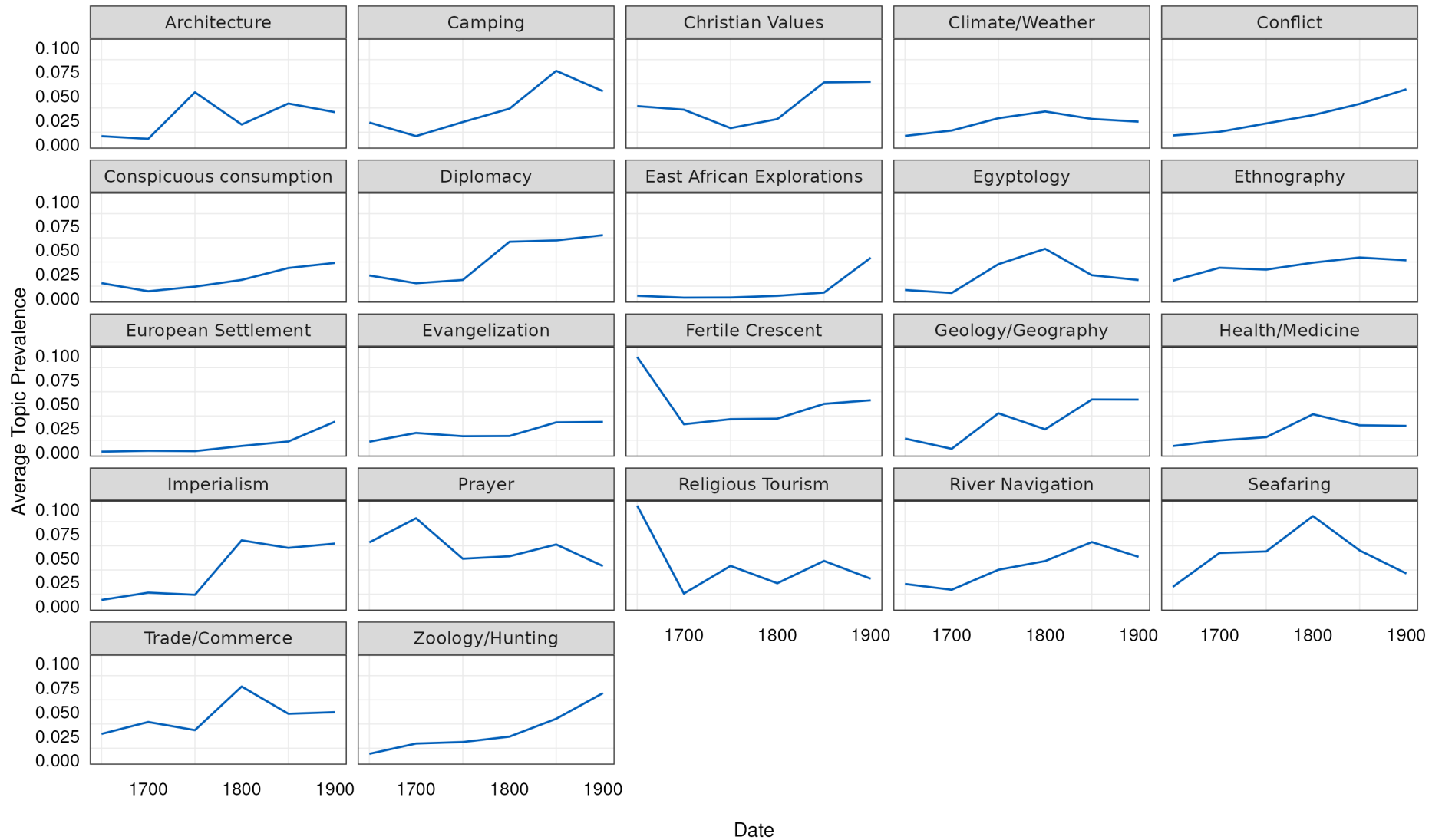


Figure 8: Average topic prevalence ($\bar{\theta}$) over time.

Notes: Parameters are reported in Figure 10 with 'Early Exploration' omitted as it dominates the 17th and 18th century with a proportional effect ranging between 4 and 9, distorting all other graphs to a flat line.

4.2 Topic correlations

One of the key advantages of STM over a traditional LDA specification is that the generative model underlying STM explicitly incorporates the possibility that topic usage is correlated within documents (see equation 6). The topic correlations in our corpus are displayed in Figure 9. Topics are indeed intertwined.

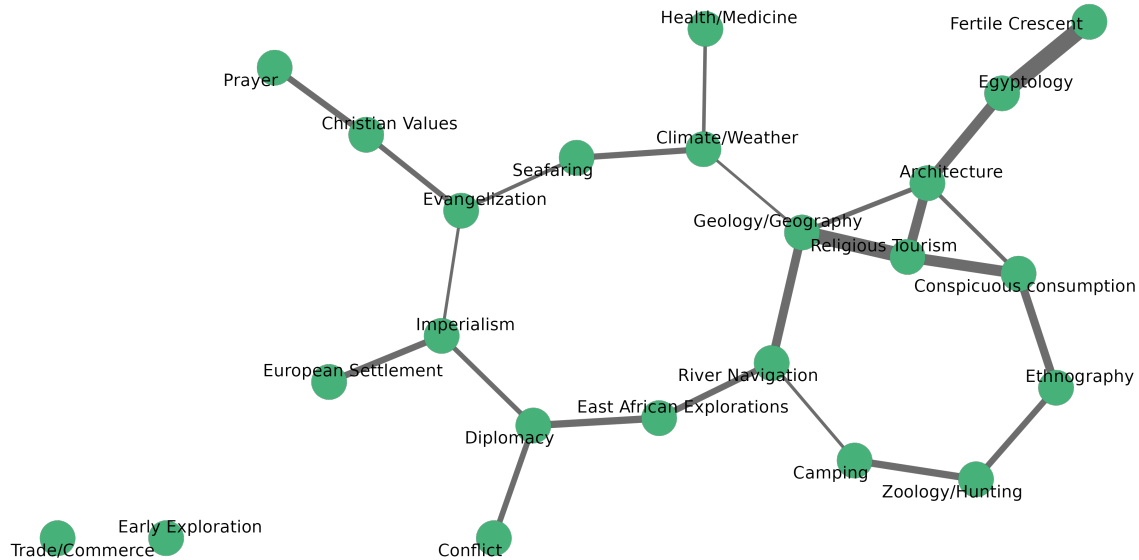


Figure 9: Spearman correlation network between the twenty-five STM topics.

Notes: To keep the network informative we removed topics of limited interest (i.e. Journal Properties and Publisher) with a correlation below 0.01. The thickness of the interconnecting line corresponds to the strength of correlation (min:0.010, max:0.062).

Documents that treat the topic of “*Imperialism*” often include the topics of “*Diplomacy*”, “*European Settlement*” and to a lesser degree “*Evangelization*” as well. Historically, it is apparent why these topics would be correlated. For pursuing European imperial interests, there had to be diplomatic contact with African rulers. Later on, this relationship was formalized with superimposing indirect rule. An approach of direct rule was more common with the presence of European settlers. There was also a symbiotic relationship between the flag and the cross (Stanley, 1990; Andrews, 2009).⁴⁰ The correlation indicates that in the eyes and documents of the travellers these topics go together (e.g. under an overarching theme of bringing civilization). Similarly, the strong correlation between “*Diplomacy*” and “*Conflict*” points to the proximity of the topics. Diplomacy often precedes and succeeds conflict.

In addition, “*Christian Values*” are correlated with “*Evangelization*” and “*Prayer*”. This correlation is what one would expect to find in writings from the feather of a missionary. Evangelization required additional motivation. It was not the case that saving the soul for the afterlife was considered reason enough. We often find passages that describe local institutions like polygamy and how Christianity would improve the life of Africans. For this, a treatment of “*Christian Values*” is necessary.

⁴⁰Which one followed is subject to debate and cannot be answered using the STM framework.

It is striking to find “*Ethnography*” correlated with “*Zoology*”. From the early 18th century on, human beings were treated as part of natural history. It became a more and more accepted view that humans were subject to variation like plants or animals, and therefore should be classified in an analogous way (Hudson, 1996). From this, there is only a small step to the “belief that Africans were at least as close to the animal world as to the human world” and a “missing link” between ape and human (Lindfors, 1999, p.8), which would warrant joint treatment.⁴¹ “*Ethnography*” is not correlated with “*Geology/Geography*”. Moreover, in our corpus several topic words in “*Ethnography*” hint at racial anthropology. All in all, the uncovered correlation confirms that travellers treated the description of African people document-wise very close to the one of animals.

In addition, we find an association between “*Climate/Weather*” on the one hand and “*Geology/ Geography*”, “*Health/Medicine*” and “*Seafaring*” on the other. Climate and geography both define a country, which is why the two topics are often treated together. Next, travellers indeed made the tropical climate responsible for health conditions (e.g. malaria), therefore they tend to co-occur in a document. Fortune and misfortune in seafaring depends on the weather. It was important information. Hence, the joint treatment in documents.

The very strong correlation between “*Religious Tourism*”, “*Architecture*”, “*Geography/Geology*” and “*Conspicuous Consumption*” strengthens our interpretation of the type of travel, particularly to the Holy Land and Egypt. The fact that these topics accompany each other points to modern day tourism that was not primarily engaged in religious pilgrimage, but sought historical and scenic dimensions and attached great importance on luxuries while traveling (Bar and Cohen-Hattab, 2003). This tourism appears very distinct from travels in the rest of Africa. “*East African Exploration*”, “*Diplomacy*” and “*River Navigation*” are connected through the search for the Nile. European travellers had to traverse through territories around the great lakes controlled by African rulers.⁴² Moreover, the distances, dangers, and frequently changing security situations required local African knowledge (Shackleton et al., 1972). Hence, the increased diplomatic interactions with African rulers. Naturally, the travellers often followed rivers and lakes, hence, the topic of “*River Navigation*”.

Certain topics are thematically isolated, which is interesting in its own right. The topic of “*Early Exploration*”, for example, is set apart by its temporal and spatial dynamics. First, it was dominated by Portuguese travellers during the age of exploration, which impacts the linguistic makeup of the corpus from 1450 until 1700. Second, the topic is influenced by nautical and cartographic observations of the coastal area with limited linkages to land and people of Africa. In addition, “*Trade/Commerce*” appears as a standalone topic. Here, the missing correlation may be owed to the topic’s omnipresence in all the documents.

⁴¹At glimpse, we frequently found drawings of animals and Africans in the same document.

⁴²The precolonial state of Ganda was preoccupied with controlling the trade routes (e.g. in ivory) and the supply of firearms (Unomah and Webster, 1977).

5 Applications

In this section, we illustrate how this novel data base and text analysis can be employed to assist in answering long-standing debates in economic history: (1) What views are introduced by travellers as a result of their vocational training? (2) did the adoption of quinine as treatment and prophylaxis against malaria facilitate European penetration into Africa? (3) How did New World crops change the African economic landscape?

5.1 Occupational background and topic choice

Can information about the travellers' background suggest how their travel descriptions shaped world views (i.e. narratives)?⁴³ In fact, [Shiller \(2017, p. 46\)](#) states that “narratives may be regarded often as causative innovations.” Starting from the incorporation of probabilistic correlation, our STM construct allows us to not only leverage the information contained in the text, but also the information about the text. In this section we showcase the application of metadata integration into the STM within the field of economic history. Specifically the generation of document specific topic prevalence (θ), to question whether occupation affects the breadth of reporting. In addition, we can investigate how topics change over time and space in an econometric framework and whether any statistically significant relationships exist.

One of the narratives often discussed within economic history, is the effect of nationality and primary occupation of colonisers on economic growth and the institutions within a country ([Hynes, 1976](#); [Johnson, 2002](#)). It is often said that the British approach to colonisation was to expand trade and commerce, whose travellers were mostly made up of merchants and traders. In contrast, the French approach was to build an empire, where military men and conquest were the main drivers of expansion ([Lugard, 1922](#); [Whittlesey, 1937](#)).⁴⁴ To test the hypothesis that background and vocation matter when it comes to such narratives, we estimate whether a traveller's occupation is a statistically significant factor in modelling the expected proportional amount for a given topic (*Military*, *Missionary* or *Medical*), θ_d , within a document. The topics resulting from the topic modelling exercise may be representative of the occupational composition of the travellers.

This begs the question about the breadth of traveller accounts. Did traveller's with an explicit occupational title write about implicit occupational topics, i.e. did missionaries write about evangelization? Did military men write about conflict, conquest, and politics? Do travel writers conscientiously disregard their vocational training and aim to provide a holistic view of their accounts to their curious readership?

The common approach to estimate the statistical significance of such a hypothesis would be to use

⁴³[Said \(1978\)](#) argued that those who collected information (travelled), shaped public perception of imperial lands, and ultimately provided imperialists with arguments to support the extension of European empires.

⁴⁴See [Nettels \(1952\)](#), and [O'Brien \(1988\)](#) and [Gallois \(2013\)](#) for additional contributions.

an ordinary least square (OLS) regression.⁴⁵ The problem with this specification is that the variable of interest, θ_d is bounded, $\theta_d \in (0, 1)$, and this violates OLS assumptions. To overcome this, practitioners often transform the variable of interest by applying a *logit* transformation, $\bar{\theta}_d = \log(\frac{\theta_d}{1-\theta_d})$. The disadvantage of using this transformation is two-fold: (1) the model estimates the mean of the transformation ($\bar{\theta}_d$) which makes interpretation difficult (Jensen’s inequality) and (2) data is typically heteroskedastic. To address these issues [Ferrari and Cribari-Neto \(2004\)](#) proposed an estimation methodology where the proportion is modeled directly using a suitable parametric distribution, a characteristic which the beta distribution is well suited towards.⁴⁶ This model specification is aptly named *beta* regression. The key advantage of this method is that the regression parameters are interpretable in terms of the mean of the original dependent variable θ_d .⁴⁷

The general model is specified as:

$$\begin{aligned} \text{logit}(\mu_{d,k}) = x_i^T \beta &\Rightarrow \mu_{d,k} = \frac{e^{\beta_0 + \sum_{i=1}^p \beta_i}}{1 + e^{\beta_0 + \sum_{i=1}^p \beta_i}} \\ \log(\phi_i) &= z_i^T \eta \end{aligned} \tag{8}$$

where $\theta_{d,k} \sim \mathbf{Beta}(\mu_{d,k}, \phi_k)$. In addition, equation (8) represents the formulation of the variance parameter, known as precision (ϕ). This parameter controls for the dispersion of the data in the model ([Ferrari and Cribari-Neto, 2004](#)). Using the general specification, $\mu_{d,k}$ represents the mean proportion of a topic (k) within a document (d) conditional on the occupation of the traveller who wrote the account, the region and the epoch (referenced against all other categories)⁴⁸ as specified by:

$$\theta_{d,k} \sim \mathbf{Beta}(\mu_{d,k}, \phi_k) \tag{9}$$

$$\mu_{d,k} = g(\beta_0 + \beta_k I(\text{Occupation}_d)) \tag{10}$$

$$\mu_{d,k} = g(\beta_0 + \beta_k I(\text{Epoch})) \tag{11}$$

$$\mu_{d,k} = g(\beta_0 + \beta_k I(\text{Region})) \tag{12}$$

where $k = 1, \dots, K$, $g(\cdot)$ is the logit link function described in equation 8.

The results of the beta regression returns two parameters: (1) mean and (2) precision denoted by μ and ϕ . In order to obtain the marginal effect, we piece together the coefficient and the intercept:

⁴⁵Generalizes to an ANOVA estimation given a single dummy variable as the explanatory variable.

⁴⁶[Schulze et al. \(2021\)](#) also looks to improve on the estimation of the topic-metadata relationship by replacing OLS with Beta Regression, as well as incorporating a full Bayesian methodology.

⁴⁷Estimation of the model was conducted using the *betareg* package developed by [Cribari-Neto and Zeileis \(2010\)](#).

⁴⁸This requires coding the covariate variable as a binary dummy variables.

$$\text{Marginal Effect} = \frac{\exp(\beta_0 + \beta_1)}{(1 + \exp(\beta_0 + \beta_1))} - \frac{\exp(\beta_0)}{(1 + \exp(\beta_0))} \quad (13)$$

$$\text{Baseline Effect} = \frac{\exp(\beta_0)}{(1 + \exp(\beta_0))} \quad (14)$$

$$\text{Proportional Effect} = \frac{\text{Marginal Effect}}{\text{Baseline Effect}} \quad (15)$$

In order to examine the large amount of coefficients estimated from multiple regressions, we visually present the results in Figure 10.⁴⁹ The Figure reports the *proportional effect* of statistically significant coefficients at a 10% level, as per equation (15). If there was no significant difference in the comparison of the variable of interest with its peers, the proportion would be reported as equal to 1.

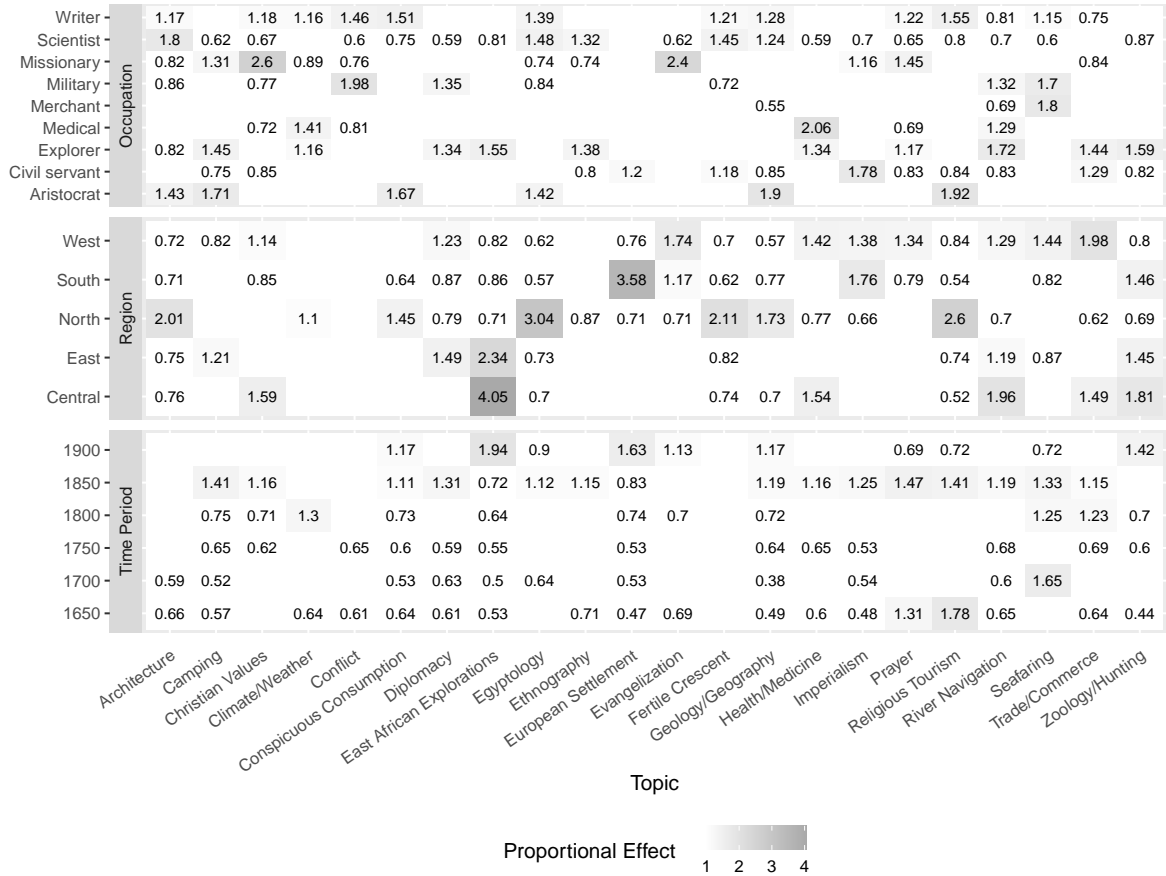


Figure 10: Relationship between topics and time, region and occupation categories.

Notes: This Figure reports the results of the beta regression where proportion of topic, θ_d is modeled as a function of traveller occupation, region and epoch. Results are displayed as the estimated coefficient as a proportion of the baseline estimate. For example, the topic “European Settlement” is 3.58 more prevalent in the southern region of Africa than other regions, while aristocrats discuss camping 1.71 times more often than travellers with other occupational backgrounds. For sake of visual interpretation, we omitted the ‘Early Exploration’ topic as it dominates the 17th and 18th century.

⁴⁹In total 500 regressions were estimated using 25 topics and 20 unique meta variables.

The regression results reveal that in the case where the occupation of the traveller is recorded as being a missionary, their propensity to write about themes that relate to the gospel (as expressed by “*Christian Values*” and “*Evangelization*”) within their traveller accounts (expressed as θ_d) is 2.60 and 2.40 times higher when compared to all other occupations respectively. Scientists, in contrast, rarely cover these topics - we find a 38% and 33% lower prevalence than in other occupations. A similar relationship is observed between the travellers with a “*Medical*” background. They are inclined to discuss topics relating to “*Climate/Weather*” (possible causes of illness) and cure “*Health/Medicine*”, while “*Military*” occupations have a 1.98 times higher propensity to write about themes around conflict in comparison to their fellow travellers with non-military backgrounds. Civil servants focused their writing on “*Imperialism*” and “*European Settlement*”. These findings corroborate the correlation structure found in Figure 9.

The results also reveal that travellers tend to write about a wide array of topics which challenges the hypothesis put forth by Jones (1987) that travel accounts are “one-sided”. The informal contract between travellers, and the consumers of their writings, provide an interesting perspective on how they viewed their obligation to report on fashionable interests back home - offering first hand accounts of what they experienced. By incorporating a large number of narratives from travellers with different backgrounds, we can identify significant changes in attitudes/consciousness towards key topics which deal with the constructive narrative around economic history. Topics that include - but that aren’t limited to - social thought, perceptions, and attitudes, act as crucial predecessors to the formation and thinking of culture, institution and economic development over long spans of time (Said, 1978; Shiller, 2017).

5.2 Quinine

It is widely believed that malaria prevented European control over Africa by exerting a possibly prohibitively high death toll on any attempt. Did quinine and its expanded application open up Africa’s interior? Quantitative evidence remains scant. Previous works studied survival rates of European soldiers (Curtin, 1990), employees of the Royal African Company (Rönnbäck et al., 2019) and missionaries (Jedwab et al., 2022).⁵⁰ We can use the database to contribute answers to some of the questions in the debate.

First of all, when did malaria remedies spread? We created a dictionary containing words associated with malaria treatments based on the bark of the quina-quina tree. Figure 11a illustrates the prevalence of quinine-related words in the texts. As early as 1501, the term “wormwood” was mentioned in travel journals.⁵¹ “Quinine” and its “sulphate” form dissolved in water and wine, were frequently referenced.

⁵⁰Our database may not be suited to inform about malarial mortality. After all, most of the travellers brought their story home alive. Nevertheless, their diaries tell the stories of more unfortunate fellow travellers, which can be subject of a future study.

⁵¹Wormwood or Artemisia was used in China for more than 2,000 years (Tu, 2011). Forgotten to history, its active ingredient artemisinin (ARS) was only synthesised in 1979 and is now central to the World Health Organisation’s two-stage anti-malarial treatment protocol. Examples of wormwood include Stanley’s 1879 diary when he discovered Burton: “*The wormwood and fever tone of Capt. Burton’s book I regarded as the result of African disease.*” Quinine, sourced in South America from Cinchona bark was exported to Europe (1632) by Jesuit priests. Francesco Torti (1712) on the therapeutic

Figure 11b then shows word prevalence over time and space. We find quinine and related words appear always more frequently in travel diaries to high-malaria-risk areas of Africa (Central/West/East) than in lower-risk areas (North/South). Notably, even before 1820, 20% of travellers to Central/West/East Africa mentioned potentially effective treatments in their texts. The use of quinine increased significantly from 1820-1840 in both regions, but more steeply in Central/West/East, reaching around 80% by the 1870s. Around 1890, word prevalence declined. This may reflect an actual decrease in the use of quinine, after an intense public debate emerged during the 1890s raising doubts about the safety of quinine and its potential connection to the occurrence of blackwater fever (Crosse, 1899; Wells, 2018).⁵²

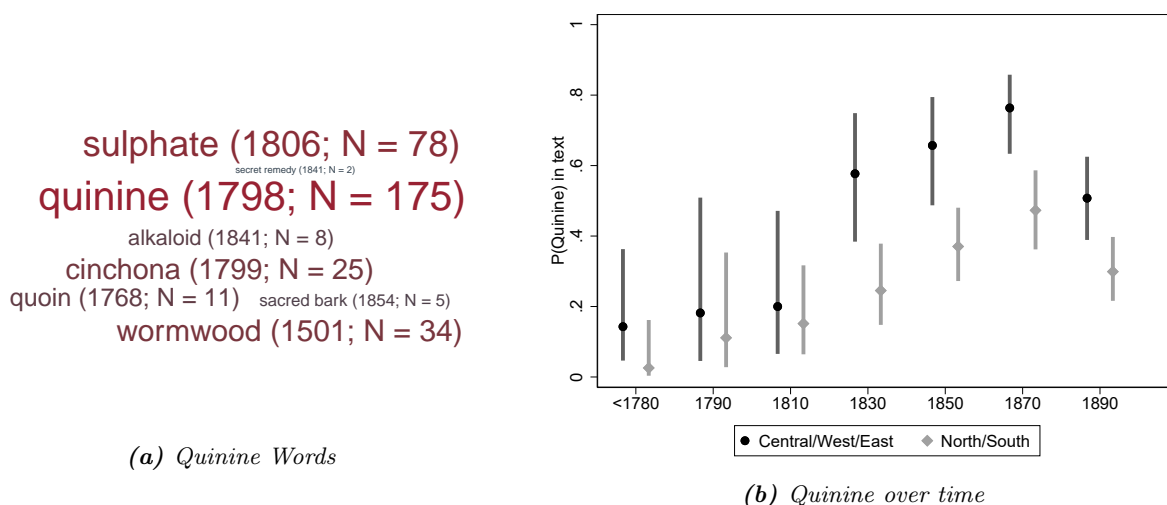


Figure 11: Prevalence of quinine words in the texts

Notes: Figure 11a presents a word cloud depicting quinine and quinine synonyms, indicating the year of first appearance and the total number of mentions across all journeys. Among the 625 unique journeys in the sample, 238 of them included some form of word related to a prophylactic malaria remedy. Figure 11b shows word prevalence, and the 95% confidence interval, over time in high and lower malaria-risk regions of Africa (Central/West/East and North/South respectively).

Second, did quinine facilitate European expansion into Africa? Malaria disabled travellers, and forced them to return early (Jedwab et al., 2022). To examine this, we use the number of tokens in the documents as a proxy for the length of the journey. The positive correlation between the number of tokens and i) the number of African countries travelled (corr: 0.15***) and ii) the distance from the coast to the farthest country travelled (corr: 0.13***) provides support for this interpretation. We estimate variations of the following model:

$$\ln Tokens_{i,t} = \beta_0 + \beta_1 Quinine_i + \beta_2 HighRiskRegion_{i,t} + \beta_3 \bar{\theta}_{Medical} + Occupation_i \gamma_i + Vicennium_t \delta_t \quad (16)$$

We regress the logged number of tokens per journey i published in vicennium t on *Quinine*, a dummy

properties of the bark helped to popularise the treatment (Jarcho, 1993).

⁵²In our corpus, 16 journals, or approx. 12% of the journals published 1884-1899, discuss blackwater fever.

variable indicating the prevalence of the word “quinine” or related terms in the journey’s diary.⁵³ We include occupation fixed effects, as the previous section demonstrated that occupational backgrounds can influence topic choice. We include vicennium fixed effects to account for trends in diary lengths. It then may be plausible that travellers who report on health, including quinine, write longer reports in general. To address this, we include our measure of mean topic prevalence, $\bar{\theta}_{Medical}$, as a control variable.

Table 5, col. 1 indicates a significant 47% increase in document length on average when the word “quinine” is prevalent in the document. Col. 2, Table 5, then reveals that writers who focus on the health topic tend to write *less* rather than more. At the same time, accounting for the preference of health topics does hardly change the quinine coefficient. Col. 3 then points to heterogeneity across travel destinations. Lacking references to quinine, documents of journeys to high-malaria risk regions (Central/West/East Africa) are 17% shorter compared to those to lower-risk malaria regions (North/South). With reference to quinine, the number of tokens increases by 38% and 65% ($0.38 + 0.265$) in lower-risk and high-risk regions, respectively. The latter effect amounts to one standard deviation in the logged number of tokens, indicating a very large effect.

Table 5: Document lengths (tokens) and quinine

	(1)	(2)	(3)	(4)
Quinine	0.466*** (0.054)	0.486*** (0.053)	0.380*** (0.063)	0.342*** (0.085)
High-malaria-risk region	-0.063 (0.052)	-0.052 (0.052)	-0.168** (0.073)	-0.166** (0.073)
Quinine x High-malaria-risk region			0.265*** (0.102)	0.262** (0.102)
$\bar{\theta}_{Medical}$		-1.317*** (0.461)	-1.366*** (0.464)	-1.392*** (0.472)
Occupation FE (p-value)	0.087	0.113	0.086	0.087
Vicennium FE (p-value)	0.000	0.000	0.000	0.000
Quinine x Post-1840 Vicennium FE				0.941
Journeys	625	625	625	625
Adjusted R-sq	0.173	0.182	0.190	0.186

Notes: This Table reports the results of an OLS regression. The dependent variable is $\ln(\text{number of tokens})$. Quinine is a dummy variable indicating the prevalence of quinine or related terms in the text. High-malaria-risk region is defined as travel destinations in Central/West/East Africa. $\bar{\theta}_{Medical}$ is topic prevalence for “Health/Medicine & Climate”. Occupation fixed effects include dummies for aristocrat, civil servant, medical personnel, merchant, military, missionary, scientist, writer and explorer. Vicennium fixed effects are a set of dummy variables for diaries published <1780, 1780-1800, 1820-1840, ..., 1880-1900. Mean of $\ln\text{Tokens}$: 10.88 (sd: 0.66). Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Third, [Jedwab et al. \(2022\)](#) hypothesised that quinine became effective only after 1840 when travellers started to apply the right dosage. We test this in col. 4, Table 5. We include interaction terms between quinine and vicennium dummies for the period after 1840. The additional interaction terms are jointly insignificant (p-value: 0.94; coefficients not shown). Thus, we cannot confirm the effective dosage in

⁵³We excluded journeys with fewer than 10,000 tokens from the analysis. In addition, in cases where a journey consisted of multiple volumes, they were merged into a single corpus for the purpose of analysis. In total, 625 journeys were analysed.

the diaries. Conclusions must remain tentative due to the possibility of survivorship bias in the diaries. Nevertheless, we note that the increased incidence of “blackwater fever”, an autoimmune reaction likely caused by the interaction of the malaria parasite and the use of quinine, apparent in the text, may have cancelled out any potential right dosage effect.

5.3 Columbian Exchange

In the final application we turn our attention to how the ecological balance shifted through the Columbian exchange.⁵⁴ Maize was a New World crop that offered several advantages over traditional African grains. Maize adapts well to diverse climatic conditions and could be grown on soils that, prior to 1492, were marginal because of sandiness, altitude and aridity (Crosby, 1972). Maize boasted higher yields compared to sorghum and millet and it was easier to harvest and process into flour and porridge. Knowledge about the points of entry and patterns of diffusion is limited (McCann, 2009; Vietmeyer, 1996).

There are several hypotheses regarding the impact of maize. Naturally, one would expect significant improvements in food production to spur population growth and urbanization (Frankema, 2019). However, Curtin (1972) and Crosby (2003) posited that the introduction of new world crops rather facilitated an upsurge in the exportation of enslaved individuals from Africa. Cherniwchan and Moreno-Cruz (2019) found supporting evidence using a dif-in-dif setup with a time-invariant soil suitability index interacted with a post-1600 Columbian exchange dummy as the variable of interest.

Can our corpus shed light on the rise of maize? We searched for the word maize and the two most common native grains - sorghum and millet - in our corpus. Maize goes by many names in different parts of Africa. Our diaries are mostly written by Europeans who called maize by many names too. We therefore compiled a dictionary for maize by ethnic group and language.⁵⁵ The search yielded 11,039 page hits, of which 9,496 were unique pages (distinct terms can be mentioned on the same page). From all the maize synonyms in our dictionary, ‘corn’ was the most prevalent (82%). Interestingly, almost all of the journeys in our corpus contained some reference to maize (N = 623 out of 712). Maize AND native grains were mentioned together in 191 journeys.

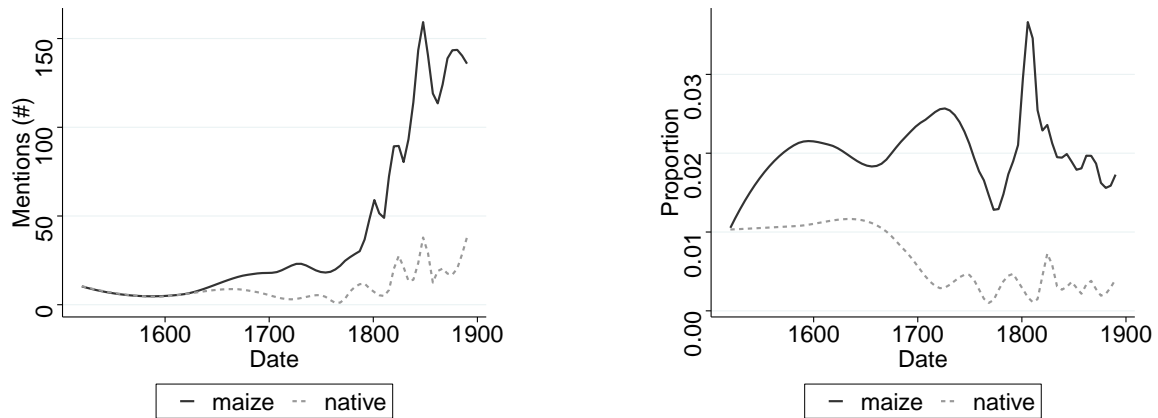
Qualitatively, historians have documented the changes in African food systems from native grains to one dominated by new world crops (Huss-Ashmore and Katz, 1989). However this research could not observe the specific dates it was adopted due to the incomplete historical record nor quantify the transition. Some notable attempts are cassava (Jones, 1957), maize (Miracle, 1965) and rice (Linares, 2002). These studies make use of traveller accounts as a source, but the studies are dated and focus on the early origins.

Quantitatively, we can now make some estimates. Figure 12a shows that maize was mentioned as

⁵⁴A term coined by Crosby (1972) to summarise the global diffusion of crops, seeds, and plants between the New World and the Old, which radically transformed agriculture in both regions.

⁵⁵See Web Appendix J for a dictionary of maize terms and ethnic African synonyms. McCann (2005) notes that the names African peoples gave to the new food plant suggest it was named by farmers and not the senders.

early as 1520.⁵⁶ By 1650 the number of mentions of maize exceeded those of the native grains. The sheer number of observations of maize in the corpus suggests that the crop was rapidly adopted and came to dominate the diets of many African societies by 1700. Naturally, we would expect to see mentions of maize and native grain tokens to increase over time as the corpus expands with greater travel. However, Figure 12b indicates that maize mentions per tokens increased much faster than native crops, which decline in proportion and become almost inconsequential in the latter parts of the 19th century.



(a) Number of pages that mention maize or native crops in text.

(b) Relative page mentions maize and native crops in text.

Figure 12: Maize and native crop text analysis

Notes: Figure 12a and 12b illustrates the parabolic growth of new world crops in Africa and the replacement of the native crops by the end of the 17th century. The figures were smoothed using basic LOESS regression $y \sim x$ with span of 0.2 to remove noise from signal.

Our STM output helps to gain a better understanding of the context in which maize was embedded. We calculated the mean prevalence ($\bar{\theta}$) of topics across the pages in which we find maize and its synonyms. The most dominant topic was ‘Trade and Commerce’ accounting for 16%, followed by ‘Camping’ (11%) and ‘River Navigation’ (10%).⁵⁷ Maize was never a significant product of Africa’s external trade before the 20th century. However, maize may have been part of a surplus agriculture which coincided with trade and commerce more broadly. Reading selected pages with a high prevalence of trade and maize co-occurring in a journey confirms this interpretation. The Dutch William Bosman (1688), for example, notes on a voyage to Guinea “that this land is so populous, it is very rich in gold, slaves, and all sorts of necessities of life; but more especially corn, which they fell in large quantities to the English ships.” Finally, the embeddedness of maize in the camping topic reminds us that travellers relied on locally available resources and supplies and likely encountered maize in local markets or through interactions with local communities making observations of maize very much reflective of conditions on the ground at a very local level.

⁵⁶In our corpus, the Portuguese traveller Alvarez (1520) turned up 19 mentions of native crops and 8 mentions of maize.

⁵⁷The next five topics ‘Zoology/Hunting’, ‘Geology/Geography’, ‘Early Exploration’, ‘Diplomacy’, ‘Christian Values’ accounted for 25%; ‘Fertile Crescent’ and ‘Evangelization’ had the lowest prevalence in these filtered texts.

6 Conclusion

Using structural topic modelling on a corpus of over 230,000 pages of text we examined 25 key topics in traveller’s documents. Apart from obvious accounts of geography and zoology, we find topics around imperialism, diplomacy, conflict, trade/commerce, health/medicine, evangelization and many more topics of interest to scholarship. We integrated metadata into the model’s generative process to give us greater insight into the spatial, temporal and demographic attributes of the texts. In the first application of the tool we found that the traveller’s vocational background influenced the choice of topics. Consequently, the composition of travellers determines topic coverage. We provided quantitative evidence of the composition. We found a large variation in backgrounds. We also expect this variety to bring different perspective to a topic.

Our work advances the literature in two major respects. First, the literature is selective based on traveller, geography, nationality and topic. We compiled a new exhaustive database of more than 2,171 travellers. Second, the existing literature is qualitative. The findings of this paper showcase how the amalgamation of quantitative methods, state-of-the-art machine learning and domain knowledge could be employed in new applications. In the second historiographic application of the technique we quantitatively estimate the effect quinine had on opening up the interior of Africa. We found that for accounts that contained the word “quinine”, travellers wrote longer texts, thus likely visited more regions and stayed longer, particularly in high-malaria risk areas of the continent. Quinine affected the health of Europeans, which in turn shaped Africa’s history. In the third application, we put the corpus to work by exploring the ecological shift after the Columbian exchange. We found a rapid increase in the mention of maize, and conversely, the decline in the prevalence of native crops after 1700. Interestingly, travellers viewed the adoption of maize in connection with the STM topic of *‘Trade and Commerce’*.

So how useful are traveller accounts as a source? The accounts can provide valuable insights into the travellers themselves and the prevailing zeitgeist of their era. In addition, they can inform us about the territories they visited. In both cases, descriptions contain subjective elements; accepting them at face value would be simplistic. A critical assessment of the source and careful interpretation of the results are an imperative. Although STM cannot provide the semantic analysis needed for deeper contextual analysis, we think that certain words convey factual information and can be interpreted beyond traveller’s subjective value judgements. It is for this reason that we believe travel diaries are a rich source of information. New advances in text analysis hold great promise for illuminating the last 500 years of Africa’s precolonial history. In addition, the database can be utilised by employing a mixture of methods, i.e. STM, historical linguistics, oral history. One can search traveller texts in the aggregate. They provide linguistic and cultural variation (i.e. Portuguese, English, French etc), with travellers documenting first-hand African oral history and useful facts about resources. STM then allows us to narrow down journeys with a high prevalence of topics of interest. Information that would be lost

to time if it was not for the first hand-accounts of travellers.

Future work will need to create accurate spatial markers to better pin down observations to the place they refer to. The current limitation of mostly one language may be solved using automated translation software. Finally, we need to add more African travellers to the database. These exist but are scattered across archives and difficult to access. African perspectives help to further diversify and qualify European perspectives.

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A Historical Country and Geographic Name Database

Table 6: Historical names of African regions and territories

Country	Region	Hist Name 1	Hist Name 2	Hist Name 3	Hist Name 4	Hist Name 5
Nigeria	West	Biafra	Hausaland			
Ethiopia	East	Abyssinia	Axum	Eritrea	Ethiopia	Italian East Africa
Egypt	North	Nubia				
DR Congo	Central	Belgian Congo	Congo Free State	Zaire		
Tanzania	East	Tanganyika	German East Africa	British East Africa	Zanzibar	Deutsch-Ostafrika
South Africa	South	Monomotapa	Cape Colony	Batavian Republic		
Kenya	East	British East Africa	Kenya Colony	East Africa Protectorate		
Uganda	East	Equatoria	British East Africa	East Africa Protectorate		
Algeria	North	Barbary Coast	Numidia			
Sudan	North	Nubia	Equatoria			
Morocco	North	Mauritania Tingitana-Morocco	Ifni	Spanish West Africa		
Angola	Central	Reino de Angola	Kingdom of Angola	Ndongo		
Mozambique	East	Monomotapa	Portuguese East Africa			
Ghana	West	Gold Coast				
Madagascar	East	Malagasy Republic				
Cameroon	Central	Kamerun				
Côte d'Ivoire	West	French West Africa				
Niger	West	French West Africa	Hausaland	Sahel		
Burkina Faso	West	Upper Volta	French Upper Volta	Republic of Upper Volta	French West Africa	Sahel
Mali	West	French Sudan	French West Africa	Songhay	Songhai	Sudanese Republic
Malawi	East	Nyasaland				
Zambia	East	Northern Rhodesia				
Senegal	West	French West Africa	Senegambia			
Chad	Central	French Equatorial Africa	Sahel			
Somalia	East	Somaliland	Benadir	British East Africa	Italian East Africa	East Africa Protectorate
Zimbabwe	East	Southern Rhodesia	Monomotapa			
Guinea	West	Guinea				
Rwanda	East	Rwanda-Urundi	German East Africa	Deutsch-Ostafrika	Rwanda and Burundi	
Benin	West	Dahomey	French West Africa	The Slave Coast	Dan Ho Me	
Burundi	East	German East Africa	Deutsch-Ostafrika			
Tunisia	North	Carthage	Numidia			
South Sudan	East	Nubia				
Togo	West	Togoland	Ewe			
Sierra Leone	West					
Libya	North	Western Pentapolis	Numidia			
Congo	Central	Middle Congo	French Congo - Gabo	French Equatorial Africa		
Liberia	West	Grain Coast or Pepper Coast				
Central African Republic	Central	Central African Empire	Ubangi-Shari	Oubangui-Chari		
Mauritania	West	Mauritania Tingitana-Morocco	French West Africa	Sahel		
Eritrea	East	Mdre Bahri				
Namibia	South	German South-West Africa	Monomotapa	Damara Land	Angra Pequena	
Gambia	West	Senegambia	Sahel			
Botswana	South	Bechuanaland	Monomotapa	British Bechuanaland		
Gabon	Central	French Congo - Gabon	French Equatorial Africa			
Lesotho	South	Basutoland	Monomotapa			
Guinea-Bissau	West	Portuguese Guinea				
Equatorial Guinea	Central	Spanish Guinea				
Mauritius	East					
Eswatini	South	Swaziland	Monomotapa			
Djibouti	East	French Somaliland				
Comoros	East					
Cabo Verde	West					
Sao Tome & Principe	Central					
Seychelles	East					
Western Sahara	North	Spanish Sahara				

Table 7: Historical geographic names linked to region keywords and territories

Country	Geo keyword 1	Geo keyword 2	Geo keyword 3	Geo keyword 4	Geo keyword 5	Geo keyword 6	Geo keyword 7	Geo keyword 8
Nigeria	Sokoto	Kano	Lagos	Benue	Yoruba	Niger River	Akassa	Calabar
Ethiopia	Massawa	Harar	Lake Tana	Berbera	Galla Country	Shewa	Danakil	
Egypt	Cairo	Alexandria	Nile	Suez	Memphis	Thebes	Aswan	
DR Congo	Congo	Leopoldville	Katanga	Matadi	Boma	Sangha	Bankana	Stanley Pool
Tanzania	Bagamoyo	Usambara	Kilimandjaro	Zanzibar	Sansibar	Kilwa	Karema	Lake Nyasa
South Africa	Transvaal	Kaffir	Kalahari	Zulu	Natal	Namaqualand	Pondoland	Limpopo
Kenya	Witu	Tana	Kifili	Lake Victoria	Mombasa	Pangani	Baringo	Kikuyu
Uganda	Buganda	Lado	Lake Albert	Busoga				
Algeria	Algier	Sahara	Algiers	Philippeville	Biskra	Bona	Ouargla	Kandouri
Sudan	Darfour	Kordofan	Khartoum	Suakim	Fashoda	Sennaar	El-Obeid	Omdurman
Morocco	Atlas	Fez	Mogador	Tangier	Maroc	Tafilet	Cape Spartel	Marrakesh
Angola	Loango	Benguela	Mossamedes	Malange	Ambrizete	Cabinda	Cassange	
Mozambique	Zambesi	Quilimane	Lorenzo Marquez	Sofala	Chinde	Beira	Kilwa	Maputo
Ghana	Cape Coast	Elmina	Kumasi	Ashanti	Accra	Salaga		
Madagascar	Malagasy	Dauphine	Tamatave	Antananarivo	Fort Dauphin	Amboanio	Morondava	
Cameroon	Doualla	Bipindi	Sangha	Yaoundé	Doume			
Côte d'Ivoire	Grand Bassam	Goree						
Niger								
Burkina Faso	Volta	Ouagadougou						
Mali	Timbuktu	Kayes	Sahara	Segou	Bandiagara	Djenne	Bambouk	Sikasso
Malawi	Lake Nyasa	Livingstonia						
Zambia	Zambezi	Zambezia	Cazembe	Kazembe				
Senegal	Dakar	Saint Louis	Bakel	Carabane	Bambouk			
Chad	Tchad	Lake Chad	Kouno	Chari River	N'Djamena	Logone	Bagirmi	
Somalia	Berbera	Sahel	Zayla	Darror	Mogadishu			
Zimbabwe	Matabele	Rhodesia	Bulawayo	Victoria Falls	Zambezi	Limpopo	Matabeleland	Sabi
Guinea	Conarky	Boke	Gulf of Guinea	Foutah Djallon	Beyla			
Rwanda	Lake Kivu							
Benin	Ouidah	Whydah	Dahome	N'Dali	Bight of Benin	Dahomey	Carnotville	
Burundi	Urundi	Bukeya	Gitega	Bujumbura				
Tunisia	Tunis	Carthage						
South Sudan	Gondokoro	Kotto River	Lado	Bahr-El-Ghazal				
Togo	Lome							
Sierra Leone	Freetown	Falaba	Mayolo	Cape Blanco	Bance Island			
Libya	Tripolis	Tripolitania	Benghazi	Ghadames	Sirte	Ghat	Kufra	
Congo	Brazzaville							
Liberia	Monrovia	Cape Palmas	Musardu	Robertsport				
Central African Republic	Bangui	Obangui	Sangha	Kotto River	Mpoko	Chari River		
Mauritania	Trarza							
Eritrea	Beilul	Asmara	Danakil					
Namibia	Walfishbay	Windhoek	Hereroland	Namaqualand	Swakopmund			
Gambia	Pisania							
Botswana	Okavango	Kalahari	Lake Ngami	Tati River				
Gabon	Libreville	Ashango	Gabon River	Donguila	Batanga			
Lesotho	Basutoland	Morija						
Guinea-Bissau								
Equatorial Guinea	Fernando Po							
Mauritius	Bourbon Island	Port Louis	l'Isle de France					
Eswatini	Pondoland							
Djibouti	Obock	Tadjura	Tadjourah	Danakil				
Comoros	Moroni							
Cabo Verde	Praia							

B Preprocessing of text

For the methods used in this paper, the text of traveler accounts need to be cleaned and transformed into machine readable numbers, also known as *tokenization*. No handwritten text were OCRed at this stage of the project. We hope to include handwritten texts as the technological frontier evolves.

We developed a software package using [R Core Team \(2021\)](#) as our primary statistical tool. We use two libraries to extract text from the PDFs: [PDFtools \(Ooms, 2021\)](#) and [Tesseract \(Ooms, 2022\)](#). Where a text is digitized at the repository source i.e by the donor library, the embedded text can be extracted using [PDFtools](#). When the text is stored as an image within the PDF file (i.e. no embedded text), the PDF is transformed into a PNG and adjusted for OCR using [Tesseract](#). Other commonly used text processing packages include [tidytext \(Silge and Robinson, 2016\)](#), [quanteda \(Benoit et al., 2018\)](#) and the *R* Package for Structural Topic Models ([Roberts et al., 2019](#)). After digitization and tokenization, the text was filtered using a two-step process only analyze high quality text inputs: (1) if [PDFtools](#) did not return a result the OCR result from [Tesseract](#) was chose, and (2) if a page contained less than 100 tokens (incl. of bigrams), it was dropped.⁵⁸ The final percentage PDFTools vs OCR pages that made it into the corpus was 68% and 32% respectively. We then attempted to find alternative scans for error prone documents, and reprocess the texts.

Step 1: Develop software package to OCR pdf files

- All pdf's are filename standardised and content-hashed to create a unique identifier per pdf, irrespective of filename.
- Exclude files larger than 100 mb as these contain lots of images and limited useful text.
- Build database structure to house information.
- Extract PDF contents using [PDFtools \(Ooms, 2021\)](#) and [Tesseract \(Ooms, 2022\)](#).
- Upload text, meta data and other metrics to AWS cloud database. The full database *Entity Relationship Diagram* can be viewed in [Appendix D](#).

Step 2: Tokenization Before tokenization, we have a corpus consisting of 454,557 (pages) that successfully analysed and uploaded to the database. At this stage the analyzed page itself can even be empty text (either blank pages or bad OCR).

- convert each OCR word to a machine readable “token”

Step 2.1: Pre-processing corpus using traditional data science methods

⁵⁸The authors did attempt to improve the OCR errors using BERT ([Devlin et al., 2018](#)), but small sample test revealed that the model often changed the context of text and as such this transformation was dropped in favour of using a basic 'English word list' from ([Atkinson, 2008](#)).

- Remove punctuation, symbols, numbers and separators etc.
- Only keep English discernible words (66,434 word list).
- Remove stopwords using SMART list.

Step 2.2: Extend Corpus to create bigrams from tokens

- A factor of three for any two words, *i.e.* token 1: long, token 2: journey, token 3 bigram: long journey

Step 2.3: Quality Control

- Filter minimum tokens on single page must be greater than 100.

Step 3: Convert Tokens to Document Frequency Matrix. In the final step we create the document frequency matrix (DFM). A DFM can be thought of as a summary table of “how many times a word appears on a page”. In our analysis, a document is specified as a single page out of a journal. It is important to note that increasing the number of features has diminishing returns on clustering accuracy. With this in mind we trim the DFM before analysis. Before trimming, the DFM consisted of 237,741 pages; 8,383,715 features (>99.99% sparse) and 3 docvar that describe the region in Africa, the epoch in time and the occupation of the traveller.

- trim DFM to only include the top quantile with minimum term frequency has to be in the top 95 %.
- A large number of tokens have diminishing return. Don’t want infrequent words to be overly noisy

Once the all the preprocessing and trimming steps have been completed the final corpus was reduced to 237,741 pages, 479,647 features and 3 docvars already mentioned.

Step 4: Run the topic model

C Analytical Pipeline

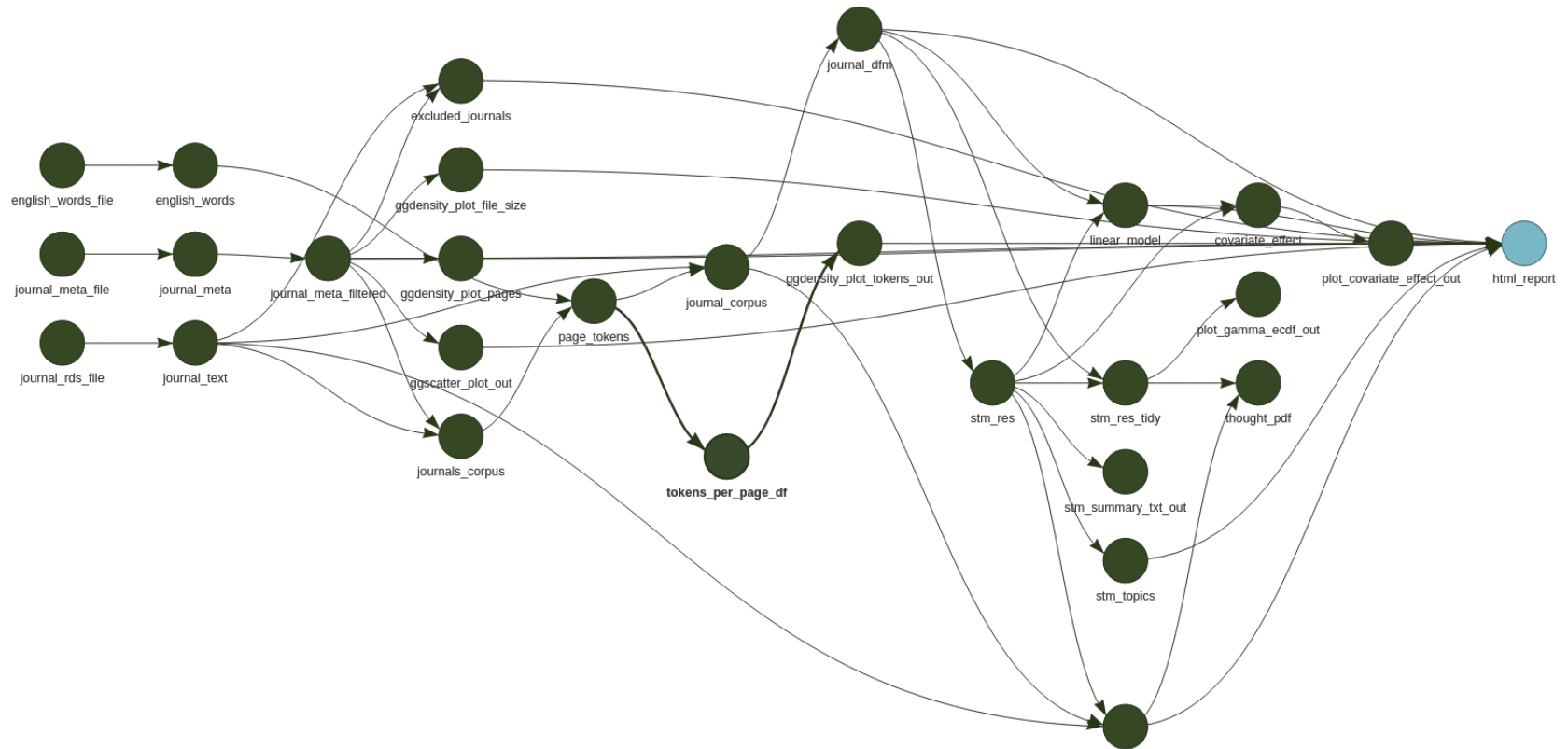


Figure 13: Graph network representation of steps applied before and after the estimation of the STM.

D Entity Relationship Diagram

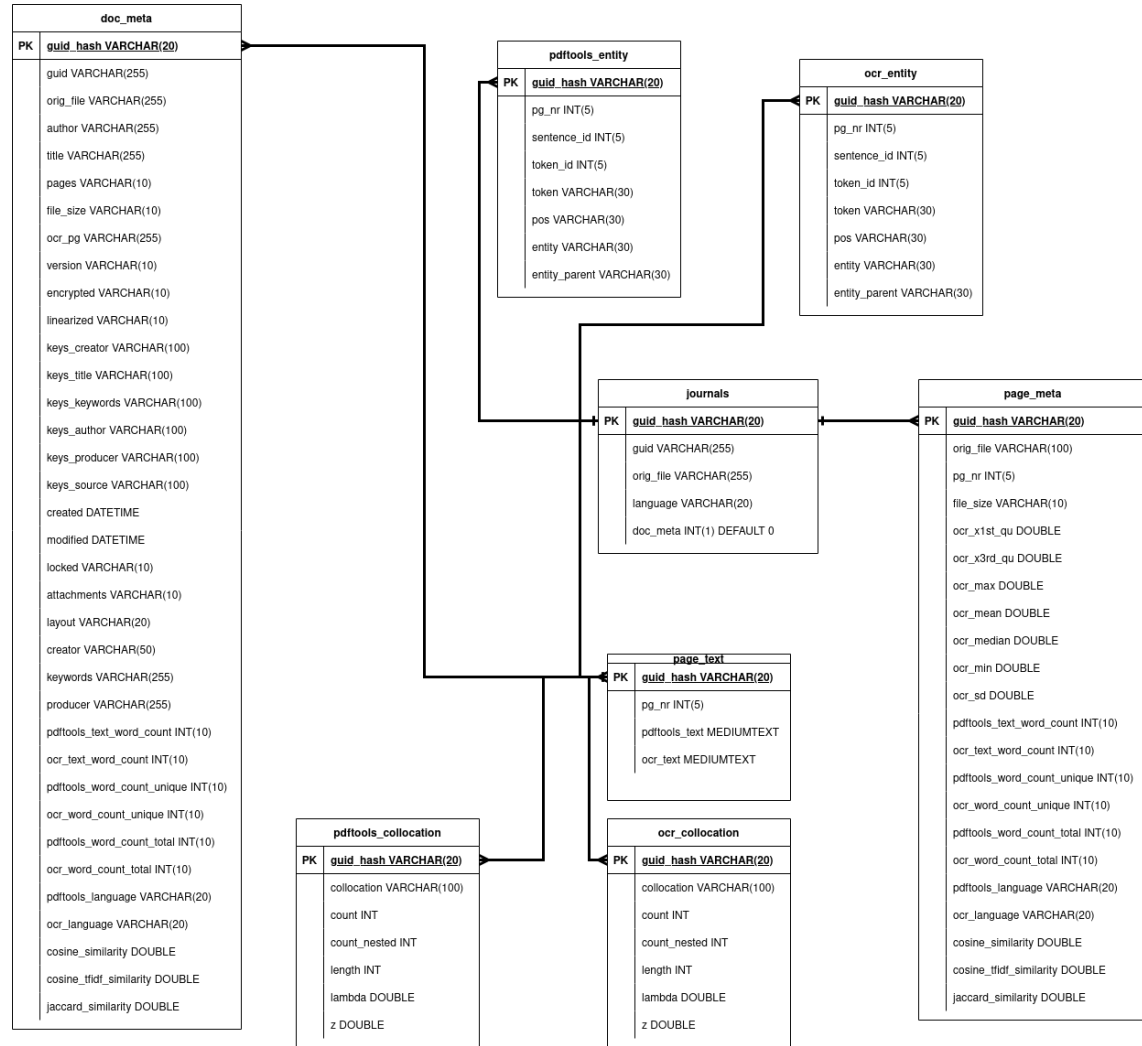


Figure 14: Database structure to support analytical pipeline.

E Topic Selection

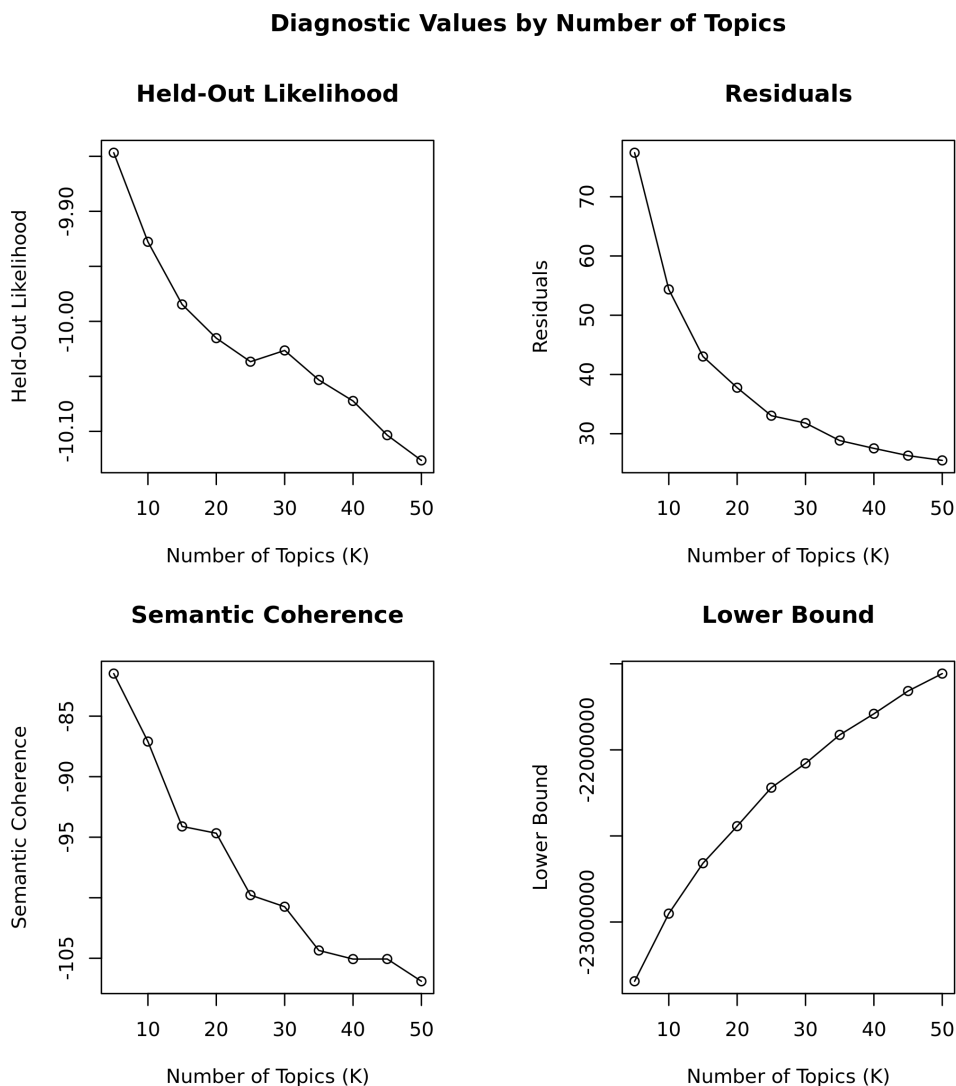


Figure 15: Statistical determination of the number of topics (k) in the estimation process.

F Weighting Schemes in Topic Models

Highest Prob: - are the words within each topic with the highest probability (inferred directly from topic-word distribution parameter β).

FREX: - attempts to find words which are both frequent in and exclusive to a topic of interest. Balancing these two traits is important as frequent words are often by themselves simply functional words necessary to discuss any topic. While completely exclusive words can be so rare as to not be informative. The formula is $FREX = ((w/F) + ((1-w)/E))^{-1}$ where F is the frequency score given by the empirical CDF of the word (w) in it's topic distribution. FREX weights words by their overall frequency and how exclusive they are to the topic

Score: - $\beta_{v,k}(\log \beta_{w,k} - 1/K \sum_{k'} \log \beta_{v,k'})$ where \log probabilities of seeing word v conditional on topic k . Score divides the log frequency of the word in the topic by the log frequency of the word in other topic

Lift: - Lift is calculated by dividing the topic-word distribution by the empirical word count probability distribution. In other words the Lift for word v in topic k can be calculated as: $Lift = \beta_{k,v}/(w_v/\sum_v w_v)$. Lift weights words by dividing by their frequency in other topics, therefore giving higher weight to words that appear less frequently in other topics.

G Topic Words (#30) for the estimated 25-topic STM

1. Climate/Weather (2.47%)

Highest Prob: rain, wind, heat, weather, cold, season, night, heavy, winter, morning, days, storm, time, rains, calm, thermometer, light, winds, months, clear, year, temperature, summer, climate, atmosphere, rainy, thunder, great, evening, lightning

FREX: calm-calm, thunder-lightning, thunder, sere, rain-fell, heavy-rain, slight-surf, wind-rain, epee, pete, rain-thunder, shower-rain, rain-night, fahrenheit, cloudy, lightning, rain, calm-slight, rain-rain, rain-falls, thermometer, surf-calm, drops-rain, overcast, heavy-shower, lightning-rain, storm-rain, eerie, thunder-rain, rain-wind

Lift: calm-medium, calm-slight, cloudy-calm, echt, heat-lightning, medium-calm, noon-dull, overcast-afternoon, pipet, sere-epee, slight-calm, slight-surf, surf-medium, surf-slight, therm-hour, winds-cloudy, calm-calm, medium-slight, paneer, noon-cloudy, reagan, tornado-high, calm-cloudy, surf-calm, lightning-tornado, respiration-evening, tornado-half, lasting-rain, forenoon-clear, amount-ozone

Score: rain, wind, weather, heat, thermometer, calm, thunder, cold, temperature, season, storm, lightning, winds, rains, rainy, calm calm, cloudy, atmosphere, night, winter, heavy, heavy rain, rainy season, slight surf, summer, breeze, thunder lightning, climate, rain fell, noon

2. Journal Properties (1.28%)

Highest Prob: crown, edition, price, cloth, post, author, history, life, works, book, illustrated, english, john, professor, portrait, volume, notes, crown cloth, edition crown, books, extra, series, story, college, numerous, royal, charles, paper, list, gilt

FREX: cloth-price, crown-price, cambric-price, crown-cloth, cloth-extra, illustrated-boards, cloth-limp, post-cloth, edition-cloth, edition-crown, cheap-edition, cloth-boards, alcott, classics-english, limp-cloth, edition-price, square-crown, cloth-gilt, illustrated-cloth, crown-edition, edition-small, extra-gilt, edition-enlarged, illustrated-crown, post-price, library-edition, price-cloth, university-crown, fourth-edition, boards-cloth

Lift: alcott-cloth, american-notes, atlas-history, bacon-part, balfour-philosophical, bleak-house, bound-psalms, bourgeois-type, calf-vellum, cambric-price, carleton-farm, clerical-life, critical-introduction, crown-douglas, crown-gerard, crown-wilson, dictionary-paper, doubles-quits, doyle-leech, dramatic-poem, edition-advanced, edition-cheap, editor-sepoy, eliot-cabinet, gilt-alcott, gilt-cheap, goethe-professor, grant-bart, highland-agricultural, illustrated-boards

Score: edition, crown, price, edition crown, crown cloth, cloth, cloth price, illustrated, cloth extra, post, author, edition post, portrait, crown price, cloth gilt, edition cloth, professor, history, post cloth, gilt, fourth edition, edition enlarged, cheap edition, works, university, college, book, john, large crown, price cloth

3. East African Explorations (2.44%)

Highest Prob: lake, africa, uganda, congo, expedition, zanzibar, stanley, east, country, central, livingstone, coast, station, camp, african, march, people, Nile, ivory, central africa, great, caravan, native, grant, victoria, work, time, masai, chapter, days

FREX: ruwenzori, uganda, lake-albert, albert-edward, tanganyika, kampala, mombasa, lake-victoria, dark-africa, albert-lake, uganda-protectorate, stanley-falls, uganda-egyptian, british-east, king-uganda, mission-uganda, masai, grant-grant, victoria-nile, victoria-lake, swahili, imperial-british, zanzibar, upper-congo, uganda-wilson, bantu, tanganyika-lake, east-africa, nyasa, stanley

Lift: baker-uganda, botany-continued, forest-grant, grant-ruwenzori, plateau-grant, rich-grant, ruwenzori-grant, wilson-baker, wilson-ruwenzori, ruwenzori-uganda, forest-kilimanjaro, grant-uganda, uganda-wilson, wilson-grant, bantu-uganda, ruwenzori-lake, masai-photograph, Nile-masai, ruwenzori-valley, uganda-grant, lake-grant, masai-group, original-bantu, ruwenzori, victoria-grant, speak-bantu, uganda-party, uganda-kingdom, baker-grant, ruwenzori-plateau

Score: uganda, lake, zanzibar, stanley, congo, masai, livingstone, africa, east africa, ruwenzori, tanganyika, central africa, expedition, albert, victoria, grant, bantu, kampala, central, ivory, camp, caravan, lake albert, loads, general grant, Nile, station, kilimanjaro, mombasa, protectorate

4. Conflict (4.76%)

Highest Prob: troops, enemy, army, general, force, camp, time, attack, colonel, left, fire, made, march, wounded, officer, battle, hundred, captain, fort, regiment, command, major, cavalry, position, french, advance, party, front, great, military

FREX: rank-file, mounted-infantry, fire-enemy, native-infantry, heavy-fire, camel-corps, cavalry, file-wounded, infantry, battalion, mounted-troops, attack-enemy, battalion-regiment, regiment, transport-train, detachment, body-enemy, egyptian-cavalry, general-hutchinson, brigadier, commanding-general, khartoum-campaign, left-flank, horse-artillery, advanced-guard, bengal-cavalry, cavalry-artillery, colonel-wood, naval-brigade, cavalry-infantry

Lift: battalion-rank, bivouac-wells, file-rank, file-wounded, square-rear, wounded-rank, baggage-brigade, brigade-line, flank-command, position-battalion, wounded-battalion, brigade-brigadier, file-officer, army-deprived, brigade-advanced, wing-naval, brigade-enemy, major-burn, burn-murdoch, moved-column, russian-works, reserve-command, fourth-brigade, file-missing, drummer-rank, line-brigade, artillery-foot, camp-burns, advance-infantry, foot-battalion

Score: enemy, troops, army, regiment, cavalry, camp, wounded, colonel, infantry, attack, force, brigade, artillery, battalion, battle, officer, major, corps, fire, general, fort, column, garrison, detachment, firing, ammunition, march, captain, shot, fight

5. Health/Medicine (2.73%)

Highest Prob: fever, water, time, disease, sick, days, health, made, great, found, medicine, case, doctor, good, death, patient, medical, pain, food, drink, night, poor, state, suffering, people, lift, left, body, sickness, attack

FREX: lift, quinine, added-lift, infection, dose, attack-fever, calomel, bilious, disease, malady, remittent, delirium, inflammation, fever, intermittent, vomiting, intermittent-fever, dysentery, malarial, severe-attack, spleen, urine, patient, ague, alteration-lift, opiate, sick-list, inoculation, diarrhoea, cough

Lift: demulcent-drink, marine-aged, opiate-night, ordered-bark, repeated-opiate, antimonial-medicine, drink-opiate, flux-continued, gave-copious, lift-marine, ordered-antimonial, ordered-mixture, wine-diet, wine-opiate, lift-varied, antimonial-draught, days-thirtieth, lift-fever, continued-medicine, ounce-bark, list-latitude, lift-complaint, lift-cape, wine-bark, lift-alteration, added-lift, flux-added, fever-lift, complaint-lift, alteration-lift

Score: fever, disease, lift, sick, medicine, medical, patient, health, quinine, complaint, pain, water, added lift, doctor, dysentery, sickness, cure, drink, suffering, illness, poison, tick, attack fever, recovered, attack, malarial, dose, days, stomach, food

6. Zoology/Hunting (5.43%)

Highest Prob: animal, ground, shot, grass, long, wild, found, tree, large, time, feet, water, made, great, round, lion, forest, elephant, small, game, bush, fire, head, back, night, heard, young, make, side, dogs

FREX: leopard, rhinoceros, lioness, carcass, hazel, hyaena, growl, herd, rhino, snake, wild-boar, boar, iris-hazel, stalking, antelope, elephant, buffalo, hyena, carcass, bullet, trigger, wounded-animal, lion, black-rhinoceros, bough, game-central, proboscis, snort, rustling, tiger

Lift: whiff-whiff, calf-lion, charged-bush, warbler-sylvia, wounded-lioness, warbler-warbler, buffalo-alarmed, middle-herd, animal-hard, centre-shoulder, raising-trunk, shot-spine, buffalo-rushed, herd-standing, zebra-meat, thirty-rifle, long-proboscis, herd-roan, found-leopard, life-elephant, directly-shoulder, animal-herd, nervous-force, hazel-river, moment-lion, bird-snipe, blood-spoor, indian-tiger, shot-fourth, count-animal

Score: shot, grass, animal, elephant, tree, lion, bush, rhinoceros, forest, game, feet, wild, herd, rifle, ground, buffalo, bird, antelope, species, leopard, water, fire, dogs, bullet, wounded, legs, beast, jungle, camp, thick

7. Trade/Commerce (4.97%)

Highest Prob: coast, africa, country, species, island, great, found, trade, west, large, fruit, small, tree, soil, part, plant, common, produce, african, parts, interior, land, cape, made, gold, called, portuguese, cotton, leaves, year

FREX: upper-guinea, forestry-west, distribution-upper, forestry, bushels, citrus, lower-guinea, export, wild-common, article-commerce, herbarium, aphis, plant, coast-gold, mozambique-district, guinea-nile, wanderings-west, west-africa, indigenous, superior-quality, article-trade, important-article, soil-climate, flora-tropical, parts-coast, coast-guinea, guinea-mozambique, thrive, mealy, excellent-quality

Lift: africa-oliver, edible-flora, gamble-distribution, guinea-shrub, indian-gamble, island-europe, manual-indian, monograph-distribution, cape-shrub, central-mozambique, commercial-distribution, congo-herbarium, encyclopaedia-industrial, equinoctial-proportion, history-distribution, moore-distribution, oliver-distribution, africa-mann, common-barley, equinoctial-america, plant-recently, common-barren, equinoctial-africa, museum-distribution, uncultivated-gardens, herbarium-congo, botany-distribution, flora-distribution, botany-moore, helena-wild

Score: coast, species, africa, island, plant, trade, fruit, soil, tree, west africa, cape, gold coast, distribution upper, leone, west, sierra leone, sierra, produce, upper guinea, cotton, forestry west, forestry, cultivation, portuguese, guinea, gold, cultivated, country, madagascar, commerce

8. Evangelization (2.95%)

Highest Prob: mission, church, john, missionary, england, time, good, home, sunday, work, bishop, house, service, visit, years, town, station, left, school, william, captain, chapter, james, evening, place, letter, english, arrival, return, cape

FREX: william-cotton, libreville, presbytery, bishop-letters, presbyterian, james-marshall, mission-house, dear-james, sabbath-school, vicariate, church-mission, furlough, honolulu, calypso-july, morning-service, catechist, divine-service, mission-sierra, john-adams, mission-premises, philadelphia, missionary-meeting, saturday-evening, episcopal-church, nassau, american-mission, george-town, wesleyan, methodist, presbyterian-church

Lift: calypso-july, dublin-kelly, james-dublin, barracks-dublin, barracks-lower, brewery-dublin, dublin-james, dublin-john, dublin-joseph, dublin-michael, dublin-miss, dublin-patrick, dublin-thomas, great-dublin, guinness-brewery, hull-england, january-request, john-dublin, john-police, lakewood, miss-richmond, north-dublin, richmond-lunatic, thomas-dublin, william-dublin, dublin-william, miss-dublin, miss-foster, station-dublin, board-goth

Score: church, mission, john, missionary, bishop, william, james, sunday, leone, sierra leone, school, sierra, dublin, miss, chapel, thomas, england, cape, dear, catholic, station, missionary society, society, service, monday, letter, congregation, york, captain, saturday

9. European Settlement (2.13%)

Highest Prob: country, south, miles, cape, natal, south africa, town, oxen, horses, found, road, gold, time, waggon, africa, railway, cattle, good, made, dutch, work, farm, years, great, cape town, colony, wagon, zulu, transvaal, kafir

FREX: pretoria, durban, bulawayo, fort-salisbury, veld, trek, boer, veldt, zulu, pretoria-pretoria, zulu-country, kafir, cart, waggon, port-natal, wagon, natal, team, vehicle, transport-road, land-misfortune, pietermaritzburg, zululand, limpopo, rhodesia, spruit, fort-victoria, trekking, karroo, driver

Lift: perch-pretoria, pretoria-gory, pretoria-found, journey-pretoria, newcastle-pretoria, golden-quarry, days-bulawayo, miles-durban, series-dolomite, gold-commissioner, pretoria-johannesburg, journey-johannesburg, road-durban, robinson-gold, pretoria-great, high-veld, post-boys, johannesburg-pretoria, quartz-reef, country-pretoria, plough-hotel, north-johannesburg, bechuanaland-exploration, durban-miles, journey-durban, johannesburg-town, fields-chapter, trading-stuff, emigration-matabeleland, miles-pretoria

Score: pretoria, natal, south africa, transvaal, waggon, wagon, boer, cape, railway, oxen, zulu, kafir, cape town, kraal, miles, farm, horses, south, durban, dutch, johannesburg, gold, diamond, veldt, port elizabeth, colony, mining, pretoria pretoria, cattle, road

10. Imperialism (6.06%)

Highest Prob: government, country, state, people, colony, africa, time, great, british, native, cape, made, free, years, present, power, public, part, english, chief, general, trade, england, land, south, subject, means, good, work, dutch

FREX: charles-warren, imperial-government, president-orange, austral-africa, austral, executive, colonial-office, colonial-government, captain-bower, legislative, special-commissioner, convention, abolition, bechuanaland, secretary-state, letter-president, high-commissioner, legislative-council, annexation, commissioner-north, legislature, transvaal-government, george-grey, government-cape, government-colony, emancipation, public-opinion, hart-river, governor-cape, commissioner

Lift: agreement-september, annexation-bechuanaland, commissioner-telegram, september-deposition, speedy-annexation, annexation-colony, bower-rhodes, council-treasury, declare-pleasure, instructions-charles, permanent-administration, presence-bechuanaland, prospect-annexation, bechuanaland-high, commissioner-imperial, approval-high, messrs-bower, warren-capetown, warren-hercules, capetown-charles, rhodes-hart, transvaal-flag, bechuanaland-charles, capetown-bechuanaland, imperial-factor, special-commissionership, colony-annexation, cape-opposition, commissioner-hercules, hart-party

Score: government, colony, high commissioner, transvaal, commissioner, free state, bechuanaland, british, cape, state, colonial, orange free, president, policy, cape colony, basutoland, africa, public, south africa, dutch, country, charles warren, trade, free, interests, slavery, imperial government, protectorate, british government, slave trade

11. Camping (5.96%)

Highest Prob: night, morning, people, journey, time, made, village, tent, found, evening, water, hours, left, hour, good, great, brought, party, till, rest, road, gave, camp, long, place, food, back, desert, told, days

FREX: dromedary, sunrise-sunset, tent-pitched, tent, pitch-tent, camel, sour-milk, good-supper, slept-soundly, pitched-tent, door-tent, tent-night, tent-found, evening-meal, tent-door, retired-rest, fresh-milk, ghat, supper, brought-milk, couscous, soundly, hours-rest, bread-milk, night-tent, pass-night, pitching-tent, meal, back-camel, mounted-camel

Lift: sunrise-village, fowl-curry, camel-stolen, minutes-delay, desert-thirst, weary-tree, pretended-asleep, losing-path, sleep-arose, village-wandering, milk-village, saddle-mule, sight-camel, supper-couscous, cold-supper, chicken-dinner, steadily-hours, coffee-tent, time-milking, tent-sheik, chief-meal, sunrise-usual, camel-make, search-oxen, tent-smoke, taking-tent, tent-sand, stood-horse, sunrise-sunset, tent-camel

Score: night, morning, tent, journey, village, caravan, camel, camp, evening, milk, hour, sleep, hours, sunset, people, meal, water, food, party, road, desert, baggage, horses, supper, horse, sunrise, slept, rest, guide, breakfast

12. Early Exploration (4.00%)

Highest Prob: great, king, time, country, made, called, people, fame, part, place, good, make, hundred, land, manner, fort, long, found, water, till, gold, kingdom, account, number, travels, town, large, hath, miles, brought

FREX: thole, reft, fame-time, inhere, whereof, moll, molt, fend, fame, weft, confider, muff, loft, moil, fet-tle, betwixt, fame-manner, boater, caff, travels-discover, king-portugal, mull, foil, part-vincent, thereof, tour-morocco, memoirs-travels, description-algiers, hath, mutt

Lift: great-inhere, muff-pour, thereof-point, ample-relation, bane-great, boater-great, bold-pour, caff-great, caff-miles, caff-point, caff-pour, cape-caff, cape-pour, china-malacca, good-haven, great-banger, great-boater, great-lucre, great-malacca, hall-pour, hath-bane, hath-harbour, hath-point, hold-pour, india-muff, inhere-land, inhere-miles, lading-pepper, land-ball, land-inhere

Score: fame, king, hath, reft, great, weft, thole, fame time, whereof, fort, kingdom, fend, called, gold, thereof, ethiopia, country, moll, inhere, people, molt, loft, cape, cafe, emperor, city, voyage, trade, make, kings

13. Seafaring (4.63%)

Highest Prob: board, boat, island, shore, ship, captain, water, vessel, wind, time, voyage, land, coast, made, morning, night, crew, anchor, port, found, sail, deck, miles, cape, harbour, days, point, long, passage, good

FREX: made-sail, deck, astern, overboard, cast-anchor, dropped-anchor, boat-shore, rigging, captain-weber, starboard, anchorage, pilot-board, anchor, bowsprit, boat-alongside, mainsail, boat-board, shore-boat, thrown-overboard, shoal, obliged-anchor, sail, main-deck, wind-current, deck-found, lying-anchor, boat-boat, offing, amidships, skipper

Lift: isle-bore, search-seal, stood-southward, bower-cable, gale-increasing, wind-starboard, anchor-astern, sail-schooner, clear-wreck, starboard-tack, bring-wind, close-deck, perceived-land, breeze-fell, long-therm, starboard-anchor, fish-vessel, stern-rocks, chart-latitude, port-beam, main-boom, minutes-deck, island-majorca, weigh-wind, deck-heard, rope-board, longitude-noon, light-shore, enormous-shark, anchor-tide

Score: ship, boat, board, shore, vessel, wind, anchor, island, deck, captain, crew, sail, voyage, harbour, water, coast, port, cape, breeze, steamer, ashore, beach, cargo, cabin, canoe, morning, weather, night, brig, anchorage

14. Ethnography (3.94%)

Highest Prob: white, black, head, long, hair, colour, round, brown, women, small, blue, large, yellow, neck, tail, body, wear, dress, length, back, feathers, dark, feet, skin, upper, legs, cloth, made, beads, face

FREX: quill-feathers, quill, yellowish-brown, mandible, tarsi, secondary-quill, anteriorly, upper-tail, primary-quill, blackish-brown, rufous, upper-mandible, dimensions-expanse, length-bill, expanse-wings, brown-feathers, stripe, posteriorly, blackish, rusty-white, brownish, chin-throat, pale-rufous, reddish-orange, round-waist, feathers-white, tail-slightly, reddish-brown, belly-vent, smith-plate

Lift: basin-colour, belly-rusty, belly-surface, bill-compressed, bill-horn, bill-moderately, blackish-purple, brown-base, brown-brownish, cape-adult, centre-feathers, coated-small, dimensions-expanse, edged-reddish, faintly-edged, feather-marked, feathers-base, feathers-blackish, feathers-greenish, feathers-nape, feathers-tawny, figure-moderately, finely-freckled, fourth-quill, frontal-plate, grey-edged, half-collar, intermediate-broccoli, intermediate-reddish, june-colour

Score: air, white, black, tail, brown, feathers, colour, neck, head, yellow, cloth, wear, skin, legs, blue, quill feathers, beads, dress, women, mandible, round, quill, wings, rufous, tarsi, waist, yellowish, long, species, nose

15. Geology/Geography (5.08%)

Highest Prob: valley, mountain, plain, rock, feet, side, rocks, water, road, great, hill, view, miles, desert, mount, south, north, distance, land, part, east, high, place, summit, range, called, lake, level, found, west

FREX: rift-valley, lava, volcanic-rocks, chasm, metamorphic, basaltic, summit-mountain, jordan-valley, volcanic, side-valley, precipitous, side-mountain, eocene, part-valley, crater, metamorphic-rocks, thousand-feet, volcanic-action, scarp, valley-valley, valley-jordan, stratified, pliocene, gneiss, broad-valley, great-valley, deep-valley, narrow-valley, steeply, head-valley

Lift: chasm-ridge, fountain-angle, limestone-series, steam-vent, somali-plateau, cathedral-bastion, fault-scarp, josephus-fountain, northwards-plain, comp-bearings, beautiful-jordan, cretaceous-limestone, angle-terrace, crater-edge, scarp-western, aden-series, border-mountain, volcanic-neck, giant-caldron, zion-west, declivity-ridge, alabaster-basalt, upper-desert, formation-rift, columnar-lava, eastern-view, deccan-traps, north-lebanon, ridge-castle, valley-southwest

Score: valley, mountain, plain, rock, rocks, summit, feet, steep, lake, ridge, hill, mount, road, rift valley, volcanic, sinai, sandstone, rocky, range, level, jordan, water, desert, side, miles, ascent, limestone, ravine, plateau, ruins

16. Conspicuous Consumption (3.23%)

Highest Prob: large, house, room, palace, small, gold, great, silver, made, covered, building, walls, open, round, rooms, english, built, fine, side, floor, beautiful, square, prince, door, court, garden, place, hotel, roof, table

FREX: wales-tour, tour-chap, rooms, prince-wales, verandah, ground-floor, thatched, maharaja, jewellery, large-room, inlaid, furniture, european-style, sherbet, windows, thatched-roof, house-large, electric-light, latticed, mikado, tray, raja, arabesque, floor-covered, bedstead, glass-windows, grand-hotel, stalls, patio, restaurant

Lift: opening-courtyard, drawing-paul, scarab-scarab, palace-lined, gold-lacquer, corner-rooms, canopy-covered, maharaja-prince, gilt-arabesque, cuisine-choice, lacquer-work, advertiser-hotel, hotel-electric, verandah-side, handsome-gilt, good-cuisine, hotel-finest, gilt-frames, windows-coloured, proprietor-manager, scarlet-umbrella, modern-comfort, pretensions-architectural, ejector, garden-handsome, walls-cool, japanese-ladies, beautifully-paved, rooms-twenty, drawing-gates

Score: house, palace, room, rooms, hotel, floor, large, windows, silver, gold, walls, roof, marble, covered, building, silk, wooden, square, door, court, street, prince, built, garden, cloth, gilt, apartment, furniture, glass, dinner

17. Egyptology (2.24%)

Highest Prob: egypt, cairo, Nile, alexandria, egyptian, canal, china, chinese, time, great, nubia, suz, city, thebes, upper, made, desert, embassy, country, found, ancient, part, upper egypt, year, arab, place, delta, present, viceroy, pasha

FREX: embassy-china, upper-egypt, rosetta, chinese, barrage, alexandria-cairo, canal, cairo-alexandria, voyage-nile, lower-egypt, embassy, visit-egypt, cairo, Nile-cairo, egypt-nubia, travels-upper, nubia, canton, suz-canal, cairo-suez, drachmae, nome, banks-nile, return-cairo, miles-cairo, egypt-cairo, canal-nile, alexandria, egypt-nile, noun

Lift: department-scene, scene-superintendent, father-scribe, nome-biography, astronomical-london, direction-lords, auxiliary-method, clearing-lunar, royal-lunar, transit-circle, astronomical-results, stars-description, lucius-greeting, plate-folio, lunar-royal, greenwich-compared, chinese-interpreter, egypt-lotus, drachmae-total, years-scar, centre-astronomical, embassy-chinese, folio-volume, folio-nautical, folio-sexagesimal, jupiter-compared, nautical-table, reduction-astronomical, sexagesimal-table, stars-folio

Score: egypt, cairo, Nile, canal, alexandria, chinese, thebes, china, egyptian, embassy china, embassy, nubia, upper egypt, suz, lower egypt, canton, viceroy, rosetta, memphis, delta, nome, city, egypt nubia, ancient, pasha, upper, temple, suz canal, inundation, antiquities

18. Religious Tourism (3.65%)

Highest Prob: city, town, place, church, holy, built, jerusalem, walls, mosque, gate, called, great, ancient, ruins, convent, house, large, time, greek, stone, wall, small, visit, hundred, mount, christian, sultan, spot, building, side

FREX: item, holy-sepulchre, calvary, holy-city, mosque, church-holy, monastery, bethlehem, sepulchre, minaret, crucifixion, item-town, jaffa, convent, visit-holy, latin-convent, great-mosque, city-gate, jerusalem, mount-calvary, hospice, mosque-built, high-altar, city-walls, greek-church, walls-city, empress-helena, annunciation, golden-horn, mount-sion

Lift: guilt-item, indulgence-years, item-possess, years-item, item-chapel, place-absolution, item-temple, part-forgiveness, absolution-item, item-league, hundred-indulgence, forgiveness-item, absolution-forgiveness, franchise-item, item-castle, item-villa, item-monastery, item-continued, sing-village, altar-person, item-head, item-close, palace-item, league-item, mountain-item, item-mountain, item-village, town-item, spot-virgin, item-franchise

Score: city, jerusalem, mosque, town, church, holy, convent, item, walls, gate, built, sepulchre, ruins, holy sepulchre, chapel, greek, holy land, damascus, tomb, monastery, ancient, bethlehem, altar, wall, place, marble, temple, jaffa, tower, gates

19. River Navigation (5.51%)

Highest Prob: river, miles, water, country, bank, village, stream, large, called, banks, place, small, distance, great, town, side, left, north, feet, journey, people, found, south, road, days, half, mile, high, march, deep

FREX: river-river, bank-river, banks-river, river-miles, left-bank, miles-river, north-bank, small-river, river-wide, main-stream, river-banks, south-bank, side-river, river-found, part-river, river-running, branch-river, river-large, river-hundred, river-point, river-opposite, close-river, river-time, distance-river, cross-river, main-river, river-stream, large-river, river-broad, river-water

Lift: mayo-place, bank-mayo, river-faro, informant-forgotten, lodging-farm, beginning-rocky, village-mountainous, girt-fine, group-shallow, confluence-quango, affluent-affluent, island-kora, inhabited-conjointly, flowing-rate, unknown-march, short-itinerary, feathery-bristle, volume-cubic, middle-flowing, rain-front, current-dashed, march-farm, ninth-hours, considerable-creek, keeping-sandy, fissure-made, tenth-hours, grassy-island, gray-slate, residence-rebel

Score: river, miles, water, bank, stream, banks, village, country, distance, mile, feet, lake, bank river, river river, left bank, niger, north, town, Nile, side river, canoe, road, rapids, called, banks river, district, journey, grass, side, sandy

20. Fertile Crescent (5.16%)

Highest Prob: egypt, history, great, years, time, work, ancient, egyptian, language, present, century, world, country, period, made, french, empire, book, account, year, written, part, greek, life, character, general, subject, found, knowledge, king

FREX: history-egypt, assyria, semitic, egyptology, babylonian, ottoman-empire, revue, mesopotamia, line-read, prussia, manuscript, roman-africa, roman-empire, present-work, chronology, phoenicia, shepherd-kings, monarchy, austria, archaeology, orthography, historian, isthmus-suez, euphrates, progress-egyptology, lists, hebrews, assyrian, punic, present-volume

Lift: automated, google-book, knapsack-guide, post-knapsack, copyright-holder, domain-book, domain-books, domain-materials, domain-united, environs-post, lines-certificate, vesuvius-post, coptic-literature, permission-copyright, provence-pyrenees, pius-complete, leon-asturias, madrid-basque, project-license, terms-project, berlin-publication, project-works, vocalization, uncial-hand, ptolemy-born, imperfect-lines, coptic-studies, hebrew-accounts, reverend-birth, exodus-building

Score: egypt, history, dynasty, century, ancient, egyptian, empire, greek, reign, rome, hebrew, modern, language, roman, historical, book, kings, papyri, years, literature, france, written, period, religion, spain, syria, text, french, asia, conquest

21. Architecture (3.49%)

Highest Prob: feet, temple, side, wall, stone, found, great, walls, tomb, part, small, high, long, large, remains, building, figures, height, chamber, pyramid, length, entrance, built, form, made, granite, rock, square, time, egyptian

FREX: pylon, architrave, cornice, entablature, chamber-feet, main-chamber, lines-hieroglyphics, peristyle, covered-hieroglyphics, portico, chamber-tomb, pedestal, winged-globe, front-temple, side-chambers, crude-brick, great-temple, false-door, casing, pyramid, high-thebes, granite-sarcophagus, abacus, small-temple, pyramid-built, cartouche, lateral-chambers, monolith, temple-small, south-wall

Lift: figure-porcelain, finely-high, hall-measures, memphis-porcelain, obelisk-plan, osiris-underneath, passage-horizontal, porcelain-memphis, portico-figures, statue-calcareous, stone-female, tablet-osiris, unfinished-small, walls-ylon, doorway-ylon, height-umbilicus, lateral-wall, tomb-shaft, hall-closed, pavement-ylon, goddess-side, figure-calcareous, underneath-figures, chambers-dimensions, colossi-size, ylon-feet, portico-ylon, statue-plan, form-facade, grand-passage

Score: temple, feet, pyramid, wall, tomb, hieroglyphics, thebes, stone, walls, chamber, granite, inscription, statue, osiris, chambers, side, dynasty, figures, portico, rameses, ylon, feet high, ruins, height, rock, building, sculptured, horus, feet long, sarcophagus

22. Diplomacy (6.06%)

Highest Prob: letter, chief, king, people, country, time, received, made, governor, return, government, british, arrival, send, present, great, place, english, order, told, make, give, expedition, abyssinia, peace, french, letters, orders, consul, pasha

FREX: british-resident, letter-british, consul-cameron, major-warden, mahdi, resident-secretary, warden, resident-chief, debra-tabor, captain-cameron, letter-king, king-theodore, received-letter, king-abyssinia, answer-letter, letter-assistant, british-abyssinia, resident-high, emperor-theodore, letter-governor, letter-majesty, commissioner-bloemfontein, british-consul, king-ashanti, chief-british, warden-letter, secretary-high, letter-queen, receipt-letter, royal-camp

Lift: resident-june, majesty-honourable, russell-letter, boyd-governor, majesty-abyssinia, dyke-british, friendship-abyssinia, relative-mahdi, resident-february, resident-december, letter-theodore, samuel-steward, consul-despatch, blanc-cameron, cameron-party, cross-seal, abyssinia-august, cameron-emperor, release-consul, letter-matter, residency-february, interview-theodore, letter-comte, lesseps-letter, resident-july, rebellion-chap, restitution-made, warden-extract, theodore-reaches, letter-surrender

Score: letter, king, mahdi, chief, british resident, governor, government, british, consul, pasha, received, treaty, send, letter british, gordon, people, abyssinia, sultan, arrival, theodore, return, sheikh, mohammed, excellency, message, peace, majesty, news, country, orders

23. Prayer (5.17%)

Highest Prob: king, time, told, good, great, made, people, house, hand, lord, gave, give, thou, friend, thought, heard, make, hands, death, long, father, poor, life, brother, present, young, found, thee, word, words

FREX: pepys, thou, thou-hast, hast, thee, shalt, thou-shalt, thee-thou, thou-thou, thine, didst, hast-thou, thou-wilt, thyself, dost, shook-hands, creek-town, wilt, lady-hester, thou-didst, hewer, hester, clinton, thee-thee, give-thee, rupert, braw, shalt-thou, duke-town, lord-thou

Lift: pleased-beseech, pedro-fear, waters-thee, pepys-duke, cantor-account, weep-cantor, servant-pepys, king-yard, lord-rochester, pepys-march, thee-listen, kill-thee, pepys-hewer, listen-thee, pepys-pepys, hewer-pepys, pepys-september, hill-pepys, miss-lyle, picnic-cape, subject-pepys, water-frog, pepys-honoured, maria-thou, ambassador-word, frog-water, pepys-colonel, page-pepys, pepys-vincent, message-ambassador

Score: thou, king, thee, pepys, lord, told, house, friend, father, gave, brother, thou hast, heard, hand, prince, conversation, spoke, death, lady, thought, knew, give, heart, hast, wife, words, good, poor, voice, hear

24. Christian Values (6.04%)

Highest Prob: people, children, life, women, great, good, woman, wife, time, christian, young, things, world, death, love, work, made, make, religion, father, years, spirit, child, read, faith, christ, poor, heart, wives, family

FREX: polygamy, divorce, bridegroom, husband-wife, holy-spirit, jesus-christ, righteousness, sinful, bride, marry, taught-read, divorced, marriage, evil-spirits, holy-ghost, christ-jesus, sinner, salvation, believer, child-born, chastity, love-christ, future-state, heathen, adultery, love-love, children-children, rabbi-mendel, learn-read, mendel

Lift: positive-holiness, humanity-christ, means-belief, pagan-lands, precept-precept, heart-changed, girl-husband, bridegroom-father, saviour-chapter, matter-woman, evening-bunyan, faith-baptism, leave-husband, advanced-thinker, faith-heard, human-held, married-divorced, heart-live, attend-sundays, plenty-dash, christianity-resolved, father-girls, give-expensive, worship-nature, gospel-taught, marriage-purchase, koran-wives, bind-bind, days-consummation, consent-marriage

Score: christ, jesus, children, gospel, people, religion, women, christian, woman, love, faith, wife, child, life, church, holy, wives, worship, jesus christ, father, husband, spirit, marriage, religious, mother, soul, prayer, heathen, read, christianity

25. Publisher (0.61%)

Highest Prob: london, society, africa, south, journal, town, cape, african, geographical, part, royal, great, country, made, magazine, time, south africa, notes, missionary, found, geological, years, report, good, paris, geographical society, visit, journey, cape town, transactions

FREX: society-london, geographical-society, geological-society, royal-geographical, magazine, journal-geological, decade, zoological-society, geological, quarterly-journal, london-missionary, transactions, london-london, royal-society, london, professor-owen, british-association, london-paris, medal, geological-magazine, monthly-magazine, part-london, crania, society, geographical, quart, zoological, cape-monthly, falconer, journal-royal

Lift: colliery-guardian, decade-london, magazine-decade, science-report, dublin-philosophical, geologist-london, london-geological, province-monthly, transactions-geological, journal-geological, africa-quarterly, african-philosophical, transactions-south, london-proceedings, cape-monthly, arts-london, geological-society, geological-magazine, london-notes, africa-transactions, province-magazine, series-cape, association-advancement, philosophical-magazine, philosophical-society, london-coal, african-geology, journal-london, society-london, guardian-london

Score: london, society, africa, geographical, geographical society, geological, society london, journal, cape, south, south africa, royal geographical, magazine, african, geological society, cape town, geology, london missionary, missionary society, missionary, transactions, journal geological, town, royal, association, quarterly journal, south african, paris, london london, notes

H Web Appendix - not for publication

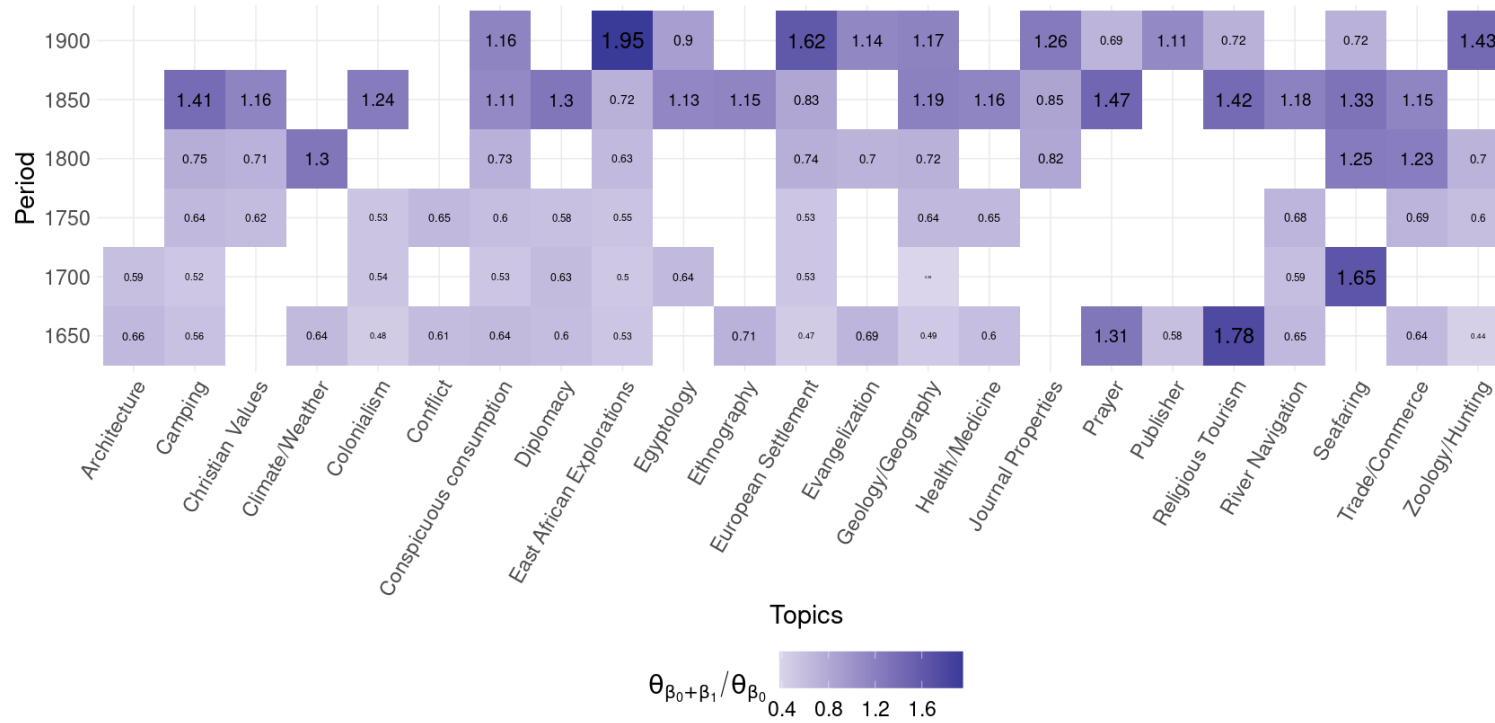


Figure 16: Results of the beta regression where proportion of topic, θ_d is modeled as a function of epoch in time. Excluded topic “Early Exploration” due to very large proportions of between 4.0 and 9.0 between 1650 and 1800.

I Word Clouds

means beautiful goddess gateway entire modern remarkable finished
 feet length thirty stand intended dimensions feet height hard hundred feet
 interesting block distance lines sculptured twenty times remain
 columns sacred distance bottom depth osiris court date nile
 twelve dynasty interior sand face north diameter similar foot king
 water arch head place thebes hundred chamber west point
 inside broken work time ancient granite roof opposite leading
 plateraised statue entrance length building in plan level
 position space remains walls east long front tumbleright marble
 rubbish style half king high walls side chamber round body usual
 year called square found feet treat round body present
 group back over figures temple small rock size deep pottery
 thick greek door ruins tomb part stone made hall open opening
 edifice colossa parts upper height pyramid large built entress solid pillar
 of degypt figure covered form egyptian base find wood
 limestone handle hieroglyphics feet long steps close
 dead portic wide stood stands south kings standing middle laid
 floor original period outer area earth breadth perfect broad
 sarcophagus beneath construction principal masonry fallen he was supposed
 dedicated apparently single enclosure structure fine doorway
 evidently

(a) Architecture

clothes fatigue paid exhausted travels waiting midnight asleep noise
 heat tribe continue felt servant late foot sunrise difficulty sitting work
 spot forward children provisions making leaving drink visit stay
 load arrival breakfast baggage evening felt sunset chap fear
 wills thirst large began sheep arab country thing glad
 sheil cattlemilk makdesert back caravan thing dark route
 reach pass afternoon road hour till good small slept life
 dinner carry gave evening found days find half
 stoptown thought place made night village old distance lost
 meetyoung bread made night village old distance lost
 things order chierest morning time left came usual mule
 cold fast rode upper fire camp ten water hour half ready full
 bring head ground brought party long food early coffee received
 load sand short horses sleep women return heard travel tired
 close start guide pool sleep women return heard travel tired
 manne meal house food marc obliged part cormoon
 friend called number travelling meat knew hands present finding
 moments heikh mounted supply hand appearance prepared
 immediately fresh wanted minutes saddle scarcely side encampment care
 half hour Path crowd miles departur search hiding trouble escort
 expected anxious crowd miles departur search hiding trouble escort

(b) Camping

education peace receive self property respect jesus christ
 sacrifice desire frequently subject small reading daughter
 manner reason practice fact common person times
 hold light number knowledge fact hearts female feel knew
 happy case chief generally nature money dead hand moral
 rest white boys slave thing called holy words find held daily
 backsold body yesu family christ called holy wivethrough books
 born girbospel make death love religion soul kind eam
 form days space poor woman good dread present belief voice
 free spirits girls power made children work house round understand
 head living vif faith wife people christian care book fear
 strange call long heart time life women word truth master paid
 bride land custom true young things world country divine feeling
 orde brought old father years spirit child mind bibleature
 state heaven home full native husband dive prayer priest left
 face lives marriage missionary heard married earth hands class
 show language sacred character school prayers part christianity
 story teach prophet koran customs influence bring
 ceremony grave spiritual hope matter considered village grace
 africa superstition blessed savage hope teaching marry english

(c) Christian Values

influence moderate extreme season year higher find hazy
 covered extremely fallen are under lightning stars water found
 sunshin burning faller are under lightning stars water found
 ground heavens dark scarcely sudden intens horizon effect breath
 dul country shelter life times heavy rain fresh fall spring gradually
 greater felt october rainy season warm february january bright state
 round mist rest high lightning hundred atmosphere later bega force
 feet and earth year calm light months sand south hail
 usual violent year calm light months sand south hail
 general fall high month winter night days cool continued
 oper blew guly till heavy rain season fell august pleasant
 exposed place guly till heavy rain season fell august pleasant
 half gale east winds heat weather rainy part state full vivid
 good fire hours morning storm time limited dust thick west
 moisture cloudy thermomet temperature summer north effect
 thing rise noon november cloud breeze snow december rain fell
 degree power afternoon pas generally nights slightature quarter
 sere violence early sunset sunrise damp oppressive experience sleep
 beginning appearance period frequent drops seldom frequently
 flood tropical moment scene deep tempest height week
 average experience

(d) Climate/Weather

sceneready rest village retired determined hartoum making
 occasion strength arrival driven whilst flank advancing twenty
 news courage point occupied direction round short
 movesiege distance fall point occupied direction round short
 fled on action open campaign work retreat native move
 post guard till horses horse british mounted battery
 brave head fight arms line military artillery staff
 heard large fell cavalry hundred position fighting fifty join
 good side front fire colonel office order found fifty join
 maim miles ear captain force enemy french soldier fought
 lines firing back left troops battle ground began
 division field major army time great ground victory
 gallan strong night camp generabarty corps stores
 effect road orders made march wounded ordered chief
 make column regiment fort command shot close geturr
 defence down body place numbers escape advances small hands
 bush hill lieutenant advanced garrison infantry country
 face forces commanding ammunition brigade loss service rode
 death numbers heavy duty full guard hand gave company
 commander english cattle word engaged cannon transport
 considerable leaving success royals square lord hours resistance
 coming alarm gordon rank report movement

(e) Conflict

beautifully stands band oriental carriage chap lined kitchen gallery
 shop finest wide procession king elegant fashion black
 dishes blue variety verandah gold silver hatched coloured
 opposite narrow chief ornaments brass comfortable
 half music beauty apartment family women occupied seat
 present queen french grand rich gardens taste market
 general light found town wood good dinners space curious
 splendid native windows hotel place high city make
 inside entre english gilt floor rooms sadies green walk
 pipes time long side small house built glass coffeesize
 yard piece beautiful gold large covered front filled close
 capital visit wooded room made prince kind form cool
 view full round door great walls made prince kind form cool
 residence rich feet table open square round white clean
 brought bar garden street number foot marble port left
 wall half style handsome people silk royal clay corner
 india dressed appearance public called furniture heat broad
 pretty excellent laid water principal magnificence
 interior country chair numerous entrance private furnished
 spacious moorish lofty stood bamboo usua thing japanese
 carpet paper courtyard manufacture dress thing crowded
 picturesque held business twenty order picture scarlet
 scenesituated

(f) Conspicuous Consumption

respecting fact september command communication august hundred january demand british resident safety high doubt district reason position april inform taking appointed territory affairs interview expected instructions effect possession purpose writ occasion fear remain protection matter permission declared person reply gordon messenger hands brother request friendly heard intended subject terms mohammed death majesty departure friends sudan bring good day letters visit power cattle peace presents major cambridge great give order arrival hawsem write meet agreed force pasha country received orders march object attack found french case king make back head honour capital gave place people british leave number delay till paid long consul made governor account thought stay arms coast sultan mad send old return left treaty friendship white conduct english expedition byssinia resident chap authority ordered brought part hope party informed large immediately message missiortroops sheikh report called information excellency intention knew money months years determined abysinnian assistance province late proceed obtain ready coming anxious theodore opportunity manner army reported october february considered stated presence attempt goods month desire june native things making grade prince principal interpreter

(g) Diplomacy

informed language mahomet belonging receive months governor piece principal fifty opinion heard betwix continued inhabited chief forty league prince general received commonly black lifewood making head general twelve return generally boma dark brought equatorial bantu continent general southern lines small german tanganyika annava province place goods food return white south visit forest company burtor number star left days great ivory station west sultan leaving position life falls people great ivory station west sultan leaving european port caravan centra stanley chief british kampala mount road pasha grant congo african ile mission point give north upper arab coast uganda march tribe king heard baripresent arab coast uganda march tribe king heard etter view good time expedition africa north told count apribanana load living stone zanzibar work large home june leave make years central africa victoria chapter made easterr teach egyptian here east africa journey long back river district round feet stairs miles found regions news captain baker village round wilson months soma transport region party land exploration english language carry swahili index territory general grant ammunition relief kilimanjaro dark continent stanley pool called stanley fall wenzori british east coast question columbus basin story slave free cattle salt

(h) Early Exploration

making jake albert kikuyu island friendly received hunting travel geographical bananas lieutenant major east african eastern africa stores means sudanese death difficulties plateau thombasa equator bring deal state heads protectorate steamer general anterior lines small german tanganyika annava province place goods food return white south visit forest company burtor number star left days great ivory station west sultan leaving position life falls people great ivory station west sultan leaving european port caravan centra stanley chief british kampala mount road pasha grant congo african ile mission point give north upper arab coast uganda march tribe king heard baripresent arab coast uganda march tribe king heard etter view good time expedition africa north told count apribanana load living stone zanzibar work large home june leave make years central africa victoria chapter made easterr teach egyptian here east africa journey long back river district round feet stairs miles found regions news captain baker village round wilson months soma transport region party land exploration english language carry swahili index territory general grant ammunition relief kilimanjaro dark continent stanley pool called stanley fall wenzori british east coast question columbus basin story slave free cattle salt

(i) East African Explorations

celebrate east meaning required subject inscription usual kings stance festival lines ethiopia appearance sufficiency plural passage turkish consider sacred expense population government grand frequently case banks money mode modern nubian object labour hundred give times thousand dragoman emperor boat verb purpose ossettian european capital description king attention public large english lower means slower egypt account fact arrival foreign french days part ancient life found line route doubt sale similar hedive place hebes made upper paid home interest custom greater make place canal egyptian traveller chapter chief remain person order china cairo nubia built europe part river royal common arab suez egypt time present brought antiquity principal word alexandria Nile time present brought antiquity thing emphasis called chinese greatness delta atarac water works power period general desert embassy ver country visit tomb coptic date generally years viceroy anton upper egypt arabic scarcely cost palace temple embassy china number form long scene word voyage journey egypt nubia character antiquities numerous view inundation making return inductor ruins people kind state bank idea respect manner returned sues canal herodotus good curious singular eastern month extraordinary small interesting degree family banks Nile presents construction island language arabian intended situation amount manners construction island language arabian intended

(j) Egyptology

distinct brought interior horn curved hindler rounded closely good clothing trousers garment beauty black white ornament surface centre hanging peculiar arab flat handsome close complexion beautiful line shirt strings specimen quill coloured beard called brass baseth male common negro throat features bird leather from arms male female found edge time bright nose species heads covered appearance plate pointed make pair iron skin feet feather length hand kind dirty loosh high half cloth large blue womer worm silk number pretty hands wore yellow long head dark pieces shape hung strong parts beads small white row part young foot coat copper thick light back half black body middle outer wing figure colour round naked chin bare figure teeth dress neck wear tail side haked country ring deep broad upper made face legs form size wide gold traigh scarlet urban generally green shoulders lower ale pointing string band wings bill grey cotton dressed ears pale mouth silver lightly waist narrow ornaments people costume sort race belly slender tied shoulder scales marked general africa covering wood ground fashion soft yellow fest reddish woman drawn frequently round neck yellow purple feather orange coarsedies dance distinguished

(k) Ethnography

neighbourhood store night zulu land open englishman excellent years south living goods kind drawn amount heavy vehicle black ground return taking team difficulty karro bought quartz generally north ride leaving hundred miles knew wheels hill elizabeth capital port elizabeth diamonds free thing money drive british hard stock transport travelling gate things hundred distance left brought fottentot five drift visit carriage kraal pretoria district land port high give twenty life fields dutch great transvaal land made work kaffir eatape tow cape town kaffir called table system car place found south africa days cost drive young sheep back long road miles oxen boer part making means make south africa natal years native present horse wagon time cattle mine house iron african mining wagon side arm zulu good veid fine large journey diamond english fort coal john farmer fold small roads chapter company travel doubt months england south african station working train game number cape colony victoria station thousand route party business trip australia trek zambesi durban rough orange bush fest carry round week labour matter spent hours salisbury start round people stores heard thought white fest carry round week labour matter spent hours salisbury start round people stores spot required johannesburg paid experience thirty future

(l) European Settlement

eastern quarters moslem ride patriarch syrian interior early famous mohammed women ewish jaffa governor david priest miles distance principal prophet chapter door occupied john prier miles distance principal prophet chapter door occupied john hand country appearance arab garden modern citadel walk world residence sepulchre left sacred made item mason virgimathedral bridge half palace and village spot hundred east stands standing jesu quarter years mount ruins ancient stands standing ruined saint house jerusalem and christ mass situated arg holy place sultan remains covered plain space aid ord street time vivaldi city built christian temple tunisizion algeria round french high greek town church walls site foot horses public marble side mosque gate called tomb altar tradition dome scene tower convent small stone visit one enter cave latin good building turkish gates chapel road step mary centre population beautiful fine hill gardens found view grand held romoly land days full present cross view grand constantinople number water morocco cairo narrow quimile strong bethelem fortress times entrance moorish fine pilgrim age rock dead make magnificent pass holy sepulchre passing handsome century egypt holy city nazareth poor description journey received grotto beneath mountain

(s) Religious Tourism

upper times westward wooded half mile shallow neighbourhood wood find rainy season party residence difficult beautiful extensive lyeing side river station hill higher leaving difficulty banks river salt quarter level present chap distant branch cattle twenty full bridge rise falls wide people journey found in the numerous rapids fifteen passing fine time great distance small part shore middle steep obligerous short south bank soil village half broad eastward height depth closed deep stream water place made open lower zambesi forest covered called large bank east cross passage afternoon ground down left north feet road grass line view main pass tracing marching long district point hill land rocky forty rising western mouth tiger hundred hours crossing rainy range night cano hill morning sandy number farther travels narrow channel white thirty spot appearance creek foot breadth flowing account cultivated atarac native year order ford southern northern wells cultivated atarac native year order ford southern great river expedition supply congo strong generally settlement

(t) River Navigation

gibraltar waters wreck board ship mouth spanish bombay sailor number direction heard situation hands french frigate cast harbor coming view stood thing schooner mate provisions twelve bound appearance return longitude began making officer craft head fine hour till weather north light in day reef strong evening harbour sur steamer left east danger though fleet half crew isle found night cano order early reach fresh side vessel captain miles cabin winds east world length part anchorage island boat made sight back fish taking current cape time board wind great close full tons past steam round port shore ship coast hours short fair bridge place days water voyage land long make ready leaving calling morning lock sail deck point rocks flag fell distance breeze beach small landed west english post calm leave noon passage good beach small landed west english post calm hope pilot distance breeze beach small landed west english post calm sand south gave large latitude cargo landing clear safe town afternoon obliged bottom anchorage minutes arrival pass heavy channel rock dark twenty gale stern running mile company alongside departure dangerous passing running mile beautiful eleven watch overboard deep account commodore work usual opposite watch determined deep account main rope struck

(u) Seafaring

dried collected industry extremely family eaten bark similar proportion height peculiar taste character angola niger remarkable western africa west coast frequently england vegetation labour central region considered eastern iron natural tropical chiefly growing america sierra leone nature continent abundant guinea brought variety wheat white gold coast southern commerce abundance work jpe fish south indian india extent cultivation wood district growth size native interior african cotton palm live sold western and soil fruit part cultivate make french european cap island found goods supply place sweeter form leone cattle gold great africa large year race vegetable root state grow king plant country species made quantities world english rice called trade tree small water negro lower excellent article produce corn parts food quality ivory rich time portuguese years corn leaves wild feed find wine numerous west africa sierra high general ground fact greater tobacco scale principal suga regions coffee season thousand gardens principal senegal valuable coffee extensive growth imported sufficient fertile portion important numbers lands agriculture amount fertile portion important numbers northern purpose goods description appearance times equal twenty franc manufacture helen ansed distribution easily

(v) Trade/Commerce

native forward piece follow curious people occasionally appearance straight africa minutes smoke chance twenty sport escape bullet creature struck frequently lumber shoulder scene shooting tal direction standing snake shoot africa nest woods leopard cattle kind brought covered food whist pretty kill hunting moment white flesh sight dark find home bull buffalo dogs night dead back camp find generally blood meat bird lion great found caught sharp tail length size oper game wild side time heard haphunt lying fine head trees hot long fire high animal sand give gave path feet animal times turn sand part jungle full forest ground grass made left wood called fell till close found large water herd short began trunk noise beast elephant bush small leaves numbers slowly rifle green young good distance leaves numbers broken life hand horse black suddenly thick skin rest dense face huge body legs country deep rhinoceros heads wounded hard place making beautiful high beneath plain approach hole hundred morning party common light beneath shaden numerous immediate lands coming strange at front heavy hippopotamus strong stream poor walk edge

(w) Zoology/Hunting

J Maize Dictionary

Table 9: Maize and its synonyms by ethnic group or language

N°	Maize Synonym	Ethnic Group or Language	N°	Maize Synonym	Ethnic Group or Language
1	Aburo	Akan	44	Makka	Hindi
2	Aburokyire	Akan	45	Mambwe	Northern And Southern Nguni
3	Aburro	Akan	46	Mamputo	Congo
4	Bambusangu	Northern And Southern Nguni	47	Mamputo	Kikongo
5	Barajovar	Portuguese	48	Manya	Congo
6	Bele	Bantu Languages	49	Masa	Congo
7	Bemba	Kikuyu	50	Masar	Hausa
8	Burro	Akan	51	Mashela Baheri	Tigrinya
9	Cebele	Hehe, Bena, Kinga, Lenje, And Nsanga	52	Mavele	Bostwana
10	Chimanga	Chichewa	53	Mays	Taino
11	Cimanga	Yaw	54	Maza	Kikongo
12	Cirombe	Mozambique	55	Mealie	Afrikaans
13	Corn	English	56	Meel	Afrikaans
14	Dege	Nyamwezi	57	Mielie	Afrikaans
15	Dent	Portuguese	58	Milho	Portuguese
16	Dente De Cavalho	Angolan	59	Milho Zaburro	Portuguese
17	Fipa	Northern And Southern Nguni	60	Mmedi	Tswana
18	Flint Corn	American	61	Muhindi	Kiswahili
19	Gombe	Nkoya	62	Nahepwe	Mozambique
20	Hemba	Chagga	63	Naku	Makua
21	Holengwe	Northern And Southern Nguni	64	Ngoma	Bisa, Lala, And Nsenga
22	Horse-Tooth	English	65	Nyiha	Northern And Southern Nguni
23	Ifun	Ethiopia	66	Orobi	Luo
24	Ilbo	Ethiopia	67	Panizo	Spanish
25	Imanga	Yaw	68	Pemba	Chagga
26	Indian Corn	English	69	Pemba Muhindi	Kiswahili, Pokomo, Pare, Chaga, Thaiicu, Saghala, Seuta, Zalamo, And Kami
27	Kaba	Bambara	70	Phaleche	Bostwana
28	Kafir Corn	English	71	Polenta	Italian
29	Kaffir Corn	English	72	Poone	Sotho
30	Kaffer Corn	English	73	Saka	Sabi, Fipa, Mambwe, Lungu, Nyiha, And Bambusangu
31	Kafer Corn	English	74	Sangu	Congo
32	Kebele	Hehe, Bena, Kinga, Lenje, And Nsanga	75	Silk Maize	English
33	Konde	Southern Cushitic	76	Sitamu	Bostwana
34	Kukuruz	Ottoman Turkish	77	Tuba-Nyo	Senegambia
35	Lianya	Congo	78	Turkey Corn	English
36	Lungu	Northern And Southern Nguni	79	Turkish Corn	English
37	M'Lungu	Swaziland	80	Turkish Wheat	English
38	Mabela	South Africa	81	U'Hlanza-Gazaan	Swaziland
39	Ma-Faki	Bostwana	82	Umbila	Zulu
40	Mahis	Spanish	83	Umbona	Zulu
41	Maíz	Spanish	84	Yabaher Mashela	Amharic
42	Maize	English	85	Zaburro	Mozambique
43	Maka	Bambara	86	Zea	Spanish

K Traveller Text Examples of High Prevalence Topics

In this Appendix we have reproduced two digitized sample pages by highest prevalence (θ) per each of the 25 topics. All of the θ coefficients for the examples are larger than 0.95. The text within the square bracket represents the data base ID for the given text within the production system, illustrating how meta information can be embedded in a filename structure.

1. Climate/Weather (2.47%)

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appendix. Helena daring Twelve Observations at Noon Daily at Ascension and St. August, . Month, from September, , to March, S. January, v. Ascension. St. Helena. Helena. Day. St. Day. Ascension. Slight rollers, N.W.. Calm. N.. Slight surf, N.W, Calm. Medium rollers, Slight surf Medium rollers, N., Heavy surf, N.W. Calm Calm. Slight rollers, N.W. Calm. Slight surf Calm ... Slight rollers, N.W. Calm. Calm Calm Slight surf, N.W. surf Slight surf. Calm N. V. Slight Slight surf Slight surf, Slight rollers, W. .. Calm. Medium rollers, N. Sight surf, N.W. Slight rollers, W. .. Slight surf, N.W. Medium rollers, N. Heavy surf, N.W. Slight surf Slight surf, N.W. Slight surf ... Heavy surf, N.W. Calm Slight surf, N.W. Heavy surf, N.W, Slight surf, N.W. Calm Calm Slight surf. Slight surf, N.W. Calm, Culm N. Heavy surf. Slight surf, N.W. Slight rollers, Calm N, Heavy surf, N. Slight surf, N.W. Medium rollers, Calm Medium rollers, N, Medium rollers, N. Calm Calm. Slight surf Medium rollers, N, Calm Calm. Calm Heavy surf, N.W. slight rollers, N.E. . Very slight Surf. Slight surf, N.W. Calm. Ca Slight rollers, N.E. . Slight surf, N.W. Medium mtters, N., Slight surf, N.W. Calm N. Calm. Slight rollers, N. Heavy surf, Calm... N.W. N. N. Slight surf, Slight surf Heavy surf, Slight rollers, Slight surf, N.W. Slight surf. Slight rollers, N. Calm Slight surf, N.W. Calm. Slight surf ... Calm Slight surf, N.W. Calm. Slight surf Slight surf ... Slight surf, N.W. Calm. Calm... ... Calm Slight surf, N.W. Calm. Calm Calm N.W. Calm. Slight surf, Calm Slight surf N.W. Calm. Slight surf, Calm Calm. Calm. Calm Calm N. Calm. Calm. Slight rollers, N.W. Calm Slight rollers, N. Slight surf, Calm Calm. N. Slight surf, N.W. I Slight rollers, Sligit surf, N .W. N.W. Calm N.W. Calm Slight surf, Medium roppers, N.W. Slight surf, Slight surf, N.W. N.W... Calm. Calm Slight rollers, ht surf, N.W. Calm. Calm... ... Slight surf . lm. Calm. Calm Calm... Calm. Calm. Calm Calm... Calm. Calm Calm. Calm CitlUl Calm. Calm Calm Slight surf, N.W. Very slight surf. Medium rollers, N W. N.W. Calm Sligit surf, N.W. Slight surf, Calm Slight surf N .W. Calm. Slight surf, Calm Calm surf, N.W. ,t Calm Calm. Calm Calm... ... Calm. Slight surf, N. Calm. Calm... ... Calm. Slight roppers, N. ... Very sligit surf. Calm Calm. Slight rollers, N. Very slight surf. Calm Calm. Calm Calm. Very slight surf. Calm Calm Slight surf, N W. Calm Very slight surf. Calm... ... N.W Slight surf, Very slight surf. Calm Calm Calm, Very slight surf. Calm Calm Calm. Very slight surf. Calm Slight surf Calm. Calm. Calm Calm Calm. Calm. Calm Medium rollers, Calm.

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Slight surf, W. Cairn N. Calm. Slight surf, slight rollers, W. .. Calm

[*Melliss jc 1860 1 english original pdf*]

ST. HELENA. Months, from September, M at A im a, d , to Avgust, . Behm J Mat, . Jolt, . ayP
Ascension St. Helena. Hay. Ascension St. Helena. Calm Slight surf, Calm X.W. Calm Slight surf, X.
VV. Calm. Calm Calm Calm. Calm Slight surf, X.W. Calm Slight surf, X.W. Calm. Slight surf ...
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St. Helena. Day. Ascension. St. Helena. Calm... Slight surf, X.W. Calm... Calm Slight surf, X.W.
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X.W. Calm. Slight rollers, W. ... Slight surf, X.W.

2. Journal Properties (1.28%)

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3. East African Explorations (2.44%)

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BOTANY e RuBIACEAcontinued . Pentas sp. Toro, Doggett. Pentas sp. Uganda, Wilson. Virecta

sp., cf. *V. multiflora*, Sm. Ankole, Doggett. *Otomeria madiensis*, Oliv. Madi, Speke Grant. T.L.S. xxix. t. , f. . *Hedyotis* sp. Uganda, Wilson. *Oldenlandia abyssinica*, Hiern. Congo Forest, Doggett. O. Heynet, W. A. Uganda, Speke Grant. *Mussenda erythrophylla*, Sch. Thonn. Ruwenzori, Doggett. WV. *luteola*, Del. Gani and Madi, Speke Grant. *Randia dumetorum*, Lam. Madi, Speke Grant. *Gardenia lutea*, Fres. Madi, Speke Grant. *G. Thunbergia*, L. f. Uganda, Wilson. *Tricalysia* sp. Madi, Speke Grant. *Plectronia venosa*, Oliv. Madi, Speke Grant. T.L.S. xxix. t. , f. . *Canthium* sp. Baringo, Johnston. *Vangueria* sp. Madi, Speke Grant. *Ixora* spp. Madi, Speke Grant. *Coffea arabica*, L. Waichiru, near Lake Victoria Nyanza, Speke Grant. *Rytidea* sp. Uganda, Wilson. *Anthospermum* sp. Nandi Forest, Johnston. *Spermacoce ampliata*, Oliv. Unyoro, Speke Grant. T.L.S. xxix. t. , f. . *S. hebecarpa*, Oliv. Ukidi, Speke Grant. *S. kotschyana*, Oliv. Madi, Speke Grant. T.L.S. xxix. t. , f. . *S. sphienostigma*, A. Rich. Uganda, Wilson. *S. stricta*, L. f. Bukedi Forest, Speke Grant. *Mitracarpum senegalense*, DC. Unyoro, Speke Grant. *Rubia cordifolia*, L. Uganda, Wilson Mau, Johnston. Dipsaceae. *Scabiosa Columbaria*, L. Nandi Plateau, Johnston. Compositz. *Gutenbergia cordifolia*, Benth. Unyoro, Speke Grant. *Bothriocline* Schimpert, Oliv. Hiern. Uganda, Wilson. *Vernonia ambigua*, Kotschy Peyr. Madi, Speke Grant. *V. cinerea*, Less. Uganda, Wilson. *V. Grantee*, Oliv. Unyoro, Speke Grant. T.L.S. xxix. t. , f. . *V. hymenolejns*, A. Rich. Ruwenzori, Doggett. *V. Perrottetiz*, Sch. Bip. Madi, Speke Grant. *V. pumua*, Kotschy Peyr. Uganda, Wilson Madi, Speke Grant. *V. purpurea*, Sch. Bip. Madi, Speke Grant. *V. thomsoniana*, Oliv. Hiern. Madi, Speke Grant. *V. turbinata*, Oliv. Hiern. Madi, Speke Grant. . *evolacea*, Oliv. Hiern. Uganda, Wilson Madi, Speke Grant. *Vernonia* spp. Uganda, Wilson. *Vernonia* sp. Western Ankole, Doggett. *Adenostemma viscosum*, Forst., forma. Uganda, Wilson. *Ageratum conyzoides*, LL. Uganda, Wilson Unyoro, Speke Grant. *felicia abyssinica*, Sch. Bip. Mau Plateau, Johnston. Eriyeron Granti, Oliv. Hiern. Unyoro, Speke Grant. T.L.S. xxix. t. , f. . *Conyza egyptica*, Ait. Unyoro, Speke Grant.

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BOTANY GRAMINEA continued . *Panicum chrysanthum*, Steud. Unyoro, Speke Grant. *P. Crus-Galli*, Linn. Unyoro, Speke Grant. *P. sanguinale*, Linn. Uganda, Speke Grant. *P. verticillatum*, Linn. Unyoro, Speke Grant. *Panicum Echinochloa* sp. Baringo, Johnston. *Pennisetum Benthami*, Steud. Madi, Speke Grant. *Pennisetum* sp. Baringo, Johnston. *Olyra latifolia*, Linn. Toro, Doggett. *Sporobolus elongatus*, R. Br. Uganda, Speke Grant. *Cynodon Dactylon*, Pers. S. to N., Speke Grant. *Chloris compressa*, DC. Uganda, Speke Grant. *C. gayana*, Kunth. Unyoro, Speke Grant. *Eleusine coracana*, Gertn. Cultivated everywhere, Speke Grant. *Phragmites communis*, Trin, Unyoro, and from N. northwards, Spcke Grant. *Eragrostis megaustachya*, Koel. Unyoro, Speke Grant. *E. patens*, Oliv. Unyoro, Speke Grant. T.L.S. xxix. t. , f. . *Eragrostis* sp. Nandi Johnston. *Poa* sp. Ruwenzori, Doggett. CRYPTOGAME. Filices. *Gleichenia dichotoma*, Hook. Uganda, Wilson. *Cyathea Dreget*, Kunze.

Uganda, Wilson. Davallia elegans, Sw. Ruwenzori, Doggett Uganda, Wilson. Lonchitis pubescens, Willd. Uganda, Wilson. Cheilanthes farnosa, Kaulf. Ruwenzori, Doggett. C. multifida, Sw. Naivasha, Johnston. Pelliea yeraniefolia, Fe. Uganda, Wilson. P. hastata, Link. Uganda, Wilson. Pteris flabellata, Thunb. Ruwenzori, Dogtt. P. inesa, Thunb. Uganda, Wilson. P. quadriaurita, Retz. Uganda, Wilson. Ceratopteris thalictroides, Brongn. N., Speke Grant. Asplenium amenum, C. H. Wright. Ruwenzori, Doggett. A. furcatum, Thunb. Ruwenzori, Doggett Uganda, Wilson and vars. N. Speke Grant. A. longicauda, Hook. Uganda, Wilson. A. agripes, BL Uganda, Wilson. . A. rutiefolium, Mett. Ruwenzori, Doggett. Nephrodium FuixMas, Rich., var. Uganda, Wilson. . N. unitum, var. propinguum, Baker. to N., Speke Grant. N. Welsont, Baker. Uganda, Wilson. Nephrolens cordifolia, Pres. N., Speke Grant. Oleandra articulata, Cav. Uganda, Wilson. Polypodium lycopodioides, Linn. Uganda, Wilson. P. Phymatodes, L. Uganda, Wilson. P. rigescens, Bory. Ruwenzon, Doggett. a.

4. Conflict (4.76%)

[Anderson a 1800 1 english original pdf]

OFFICIAL PAPERS. th ditto, rank and file wounded. th ditto, rank and file wounded. Homspechs ditto, horse killed, rank and file, horses wounded. Royal Artillery, rank and file killed officers, rank and file wounded rank and file missing. Brigade of Guards st battalion of the Coldstream, rank and file killed serjeant, rank and file wounded. st battalion of the d regiment, officer, serjeants, rank and file killed , officers, Serjeants, rank and file wounded. st Brigade d battalion of royals, rank and file killed officers, serjeant, rank and file wounded. st battalion of the th regiment, rank and file killed rank and file wounded. d battalion of the th regiment, officer, rank and file killed officers, rank and file wounded. d regiment, rank and file killed officers, rank and file wounded. d Brigade th regiment, rank and file killed rank and file wounded. th regiment, rank and file wounded. th regiment, rank and file wounded. th regiment, rank and file wounded. d Brigade th regiment, rank and file killed rank and file wounded. th regiment, rank and file killed officers, serjeants, rank and file wounded. th regiment, serjeant killed officer, serjeants, rank and file wounded. th Brigade Queens, officer, serjeants, rank and file wounded. th regiment, rank and file killed officers, serjeants, rank and file wounded. th regiment, rank and file killed officer, serjeant, rank and file wounded. th regiment, rank and file killed officers, serjeant, rank and file wounded. th Brigade Stuarts, officers, serjeant, rank and file killed officers, serjeants, rank and file wounded rank and file missing. De Rolles, rank and file killed officers, serjeants, drummer, rank and file wounded. officers, serjeant, rank and file missing. Dillons, serjeant, rank and file killed officers, serjeants, rank and file wounded. Reserve

[Anderson a 1800 1 english original pdf]

OFFICIAL PAPERS. , Return of the Killed, Wounded, and Missing of the Army under the Command

of LieutenantGeneral Sir John Hely Hutchinson, K. B. at the Siege of Alexandria. Camp, August , . Aug. , . Driving in the enemy s advanced posts. th foot, rank and file killed officer, Serjeants, rank and file wounded. th foot, rank and file wounded. d foot, rank and file wounded. Stuarts, rank and file wounded. Antient Irish fencibles, rank and file killed. Rifle corps, rank and file killed officer, serjeant, rank and file wounded. Total. rank and file killed officers, Serjeants, rank and file wounded. RANK AND NAMES OF OFFICERS WOUNDED. th regiment,, Lieutenant Mansergh. Rifle corps, Ensign TramlachAug. , . MajorGeneral Codes corps, advancing to blockade the western side of Alexandria. Artillery, rank and file killed, rank and file wounded. Coldstream guards, first battalion, rank and file wounded. d regiment of guards, first battalion, rank and file wounded. th foot, officer, rank and file wounded. th foot, rank and file wounded. th foot, first battalion, rank and file wounded. th foot, second battalion, rank and file wounded. th foot, second battalion, rank and file killed rank and file wounded. Rifle corps, serjeant, rank and file wounded. Total. rank and file killed officer, serjeant, rank and file wounded. OFFICER WOUNDED. th foot, Lieutenant Hawkins. N. B. horses killed. Aug ,

5. Health/Medicine (2.73%)

[Robertson r 1769 1 english original pdf]

io him El. cath. amar. jii. every hour, in Tome warm thin gruel, until he had fome ftools, and afterwards, his antimonial medicine and drink. th. He was troubled with much inquietude in the night. At a. m. an acceffion of his fever came on, and remitted at , during which he had four copious tools. He took his medicine every four hours. Pm. he was eafer, tho very weak, and his tongue foul, with a bad tafte in his mouth. th. At a. m. a paroxyfm with an increafed violence of his former complaints, returned. He vomited leverely, and felt great pain upon preffing the pit of the ftomach. There was an imperfct remiffion at . An exacerbation came on again at a. m. which remitted at p. m. when he complained of coftivenefs, giddinefs, proflration of his firength, and very great defpondency. I continued his medicine and drink. th. He had an eafer night. I ordered him a drachm and an half of bark, with two drachms of fal. cath. amar. and repeated his bark every hour, with a little wine, which agreed with him, and he had feveral tools. th. He had a good night, was free of fever, complained of weaknefs only and took eighteen drachms of bark, with wine and water. He continued to take his bark until the th of April, only decreafing the number of dofes daily, when he returned to his duty. I gave him twice a day for fome time after, a wine infufion of the bark. CASE XIV. Francis Eaftmond, marine, a ftrong man, on the th of April Latitude obferved, N. a. m. was feized with rigours, which were followed by the general complaints, and in the evening there was an imperfect remiffion of them. I ordered him an emetick, the antimonial medicine at night, and nitre in his drink. d. About in the night, an exacerbation came on he was much troubled with inquietude, and had a great pain and AriCture over his eyes, and at the bottom of his orbits, with all his former complaints. At p. m. there was a flight remiffion only. I gave

him fal. cath. amar. Iu and at night repeated his medicine every four hours, with his drink. d. He had an indifferent night, and at a. m. a paroxyfm commenced with rigours and, together with his former complaints, was attended with an irregular pulfe, a foul tongue, watching, and a delirium. I applied a large blifter between his fhoulders, ordered him camphor, gr. viii which he naufeated, and the fp. minder, with eff. ant. every four hours, and made his feet and legs be put in warm water. th. His fever remitted at a. m but he was very coftive. I repeated the dofe of falts, which gave him feveral copious ffools and afterwards his antimonial I

[Robertson r 1769 1 english original pdf]

i th. He complained only of weaknefs. I prefcribed a drachm of the bark twice a day, with wine and the elix. vitr. which agreed with him. th. He continued better, and took his bark as before, with a nourishing diet. th. He complained of being coftive. gave him fal. cath. amar. ii. which made him cough and fpit up fome phlegm. Afterwards, he took his bark at four dofes, inftead of two, with his wine as before. th. He did not recover any Strength. I increafed his bark to half an ounce a day, which he took as before. Now commenced his Remitting Fever. th. He had no cough, but was very hot, the firft part of the night, and perfpired freely after. I continued his bark, wine, and diet. At p. m. ho was Seized with a chillinefs, which was fucceeded by a fever,, haemorrhage at the nofe, and third that went off by a profufe perforation. During the paroxyfm, I prefcribed the fp. minderer. and Sage tea. th. He was quite weak, efpecially in his loins, and thirSiy. I ordered him a drachm of the bark with wine every hour. At p. m. a fevere exacerbation of the fever, with the haemorrhage, a violent headach, great pain in his loins, a purging, and urgent third, came on. The fp.minderer. and tindl. theb. were prefcribed, together with his drink. th. The paroxyfm continued, the haemorrhage returned in the night, and he complained of great pain in his knees. At. p. m. he was feized with chillinefs, and a reaching, which were followed by the fever, haemorrhage and other complaints, I added tincd. theb. gt. x. to the dofe of bark, which I gave him every hour, together with his wine. id. Without any remiffion, another exacerbation of his fever came on in the night, with a very profufe haemorrhage, at lead to the quantity of lb. iv. before it was Propped with doffils immerfed in the tindt. Slype, plugged up hisnefe, and opiates adminidered internally. His extremities then were cold, his pulfe was vermicular, he was covered with a cold fweat, his countenance was ghady, and he was quite faint. At a. m. a paroxyfm returned with rigours, and a puking, which was troublefome through the day. His extremities were frequently well rubbed with flannel clothes fprinkled with volatiles, and then wrapped in them the bark with wine and tindt. theb. was regularly repeated every hour, and at intervals I ordered him a little wine. P m. his extremities became warm an equable and moderate perfpiration broke out over him, and he was in tolerable fpirits. dHe was reflfe and puked once the ftrd part of the night. His medicine agreed with him, and he Slept a little towards morning. His pulfe was much firmer, he was quite cool, and complained of weaknefs only.

I continued

6. Zoology/Hunting (5.43%)

[*Ansorge w 1894 1 pdf*]

ELEPHANTHUNTING hut on the spot to shelter me for the night. These grasshuts can be run up in halfanhour or less, and are very primitive. About a dozen long, lithe wands are cut from the nearest shrubs, or from the reedstalks of the elephantgrass, and are stuck an inch or two into the ground in a circle. By bending the reeds towards each other, and fastening the ends together with wisps of grass, and then piling grass over this beehive frame, leaving a small hole open to serve as entrance, the hut is ready. At first the elephant track through the jungle was easy enough to follow, but soon we had to keep to the spoor of one animal only, because the herd had spread itself out, where the bush grew denser and more difficult to pass. Byandby we heard the peculiar rumbling noise made by elephants feeding in security and unalarmed. We made straight for it, till it became the clear hurrhurr, a sure sign that the elephant is very comfortable and quite unconscious of danger. As the bush became so dense that we could barely see three or four yards ahead of us, we got, quite unintentionally, right into the very middle of the herd. For we suddenly heard one of the elephants rumbling behind us, and two others answering to our right and left. To find ones self unexpectedly surrounded by these dangerous animals is rather unpleasant but having placed ourselves in the dilemma, we had to make the best of it. Elephanthunting is considered out here a much more dangerous sport than hunting lions. The elephant and the buffalo are exceedingly vindictive and revengeful, especially if wounded, and they then offer a more exciting sport to the hunter, as they usually go for their enemy, if they see him, and try to kill him. We therefore pushed forward with great caution towards the elephant we knew to be somewhere in front of us, when suddenly my Soudanese guide dropped on his knee and pointed silently ahead. Kneeling down by his side and peering into the obscurity of the bush, I had just realised that two elephants were standing motionless within a few yards of us, when one of the animals swung round. I rapidly aimed halfway between ear and eye, and gave him a solid bullet from the LeeSpeed rifle. The shot was instantly followed by the whole herd, over fifty probably, setting up the most aweinspiring screaming, hissing, snorting, and trumpeting imaginable. It

[*Livingstone d 1840 1 pdf*]

HABITS OF THE LION. Chap. VII. In general the lion seizes the animal he is attacking by the flank near the hind leg, or by the throat below the jaw. It is questionable whether he ever attempts to seize an animal by the withers. The flank is the most common point of attack, and that is the part he begins to feast on first. The natives and lions are very similar in their tastes in the selection of titbits

an eland may be seen disembowelled by a lion, so completely, that he scarcely seems cut up at all. The bowels and fatty parts form a full meal for even the largest lion. The jackal comes sniffing about, and sometimes suffers for his temerity by a stroke from the lions paw laying him dead. When gorged, the lion falls fast asleep and is then easily despatched. Hunting a lion with dogs involves very little danger as compared with hunting the Indian tiger because the dogs bring him out of cover and make him stand at bay, giving the hunter plenty of time for a good deliberate shot. Where game is abundant, there you may expect Hons in proportionately large numbers. They are never seen in herds, but six or eight, probably one family, occasionally hunt together. One off. Oswell and I followed as soon as I had reloaded, and when we were in sight of the buffalo, and gaining on him at every stride, three lions leapt on the unfortunate brute he bellowed most lustily as he kept up a kind of running fight but he was, of course, soon overpowered and pulled down. We had a fine view of the struggle, and saw the lions on their hind legs tearing away with teeth and claws in most ferocious style. We crept up within thirty yards, and, kneeling down, blazed away at the lions. My rifle was a single barrel, and I had no spare gun. One lion fell dead almost on the buffalo he had merely time to turn towards us, seize a bush with his teeth, and drop dead with the stick in his jaws. The second made off immediately and the third raised his head, coolly looked round for a moment, then went on tearing and biting at the carcass as hard as ever. We retired a short distance to load, then again advanced and fired. The lion made off, but a ball that he received ought to have stopped him, as it went clean through his shoulder blade. He was followed up and killed, after having charged several times. Both lions were males. It is not often that one hags a brace of lions and a bull buffalo in about ten minutes. It was an exciting adventure, and I shall never forget it. Such, my dear Livingstone, is the plain, unvarnished account. The buffalo had, of course, gone close to where the lions were lying down for the day and they, seeing him lame and bleeding, thought the opportunity too good a one to be lost. Ever yours, Frank Vardon.

7. Trade/Commerce (4.97%)

[*Moloney ca 1884 1 pdf*]

FORESTRY OF WEST AFRICA. *Urena lobata*, L. A common Tropical weed, used medicinally as a mucilage. The inner bark affords an abundance of fibre resembling jute. Paper has been made from this fibre in India. Treasury of Botany, Lindley and Moore. Kew Museum. Distribution Upper Guinea, Nile Land, Mozambique District. *Pavonia zeylanica*, Cav. Perennial plant, from the roots of which an infusion is made and prescribed in fevers. Useful Plants of India, H. Drury. Distribution Upper Guinea, Nile Land. *Hibiscus tiliaceus*, L. A small tree with purplish branches. It gives a fibre which is extensively used in Bengal for rough ropes. The bark is used for caulking purposes in Formosa. Manual of Indian Timbers, J. S. Gamble, p. . Kew Museum. Distribution Upper Guinea, Mozambique District. Indian

Hemp, Bastard Jute *Hibiscus cannabinus*, L.. Annual. Cultivated for its fibre in most parts of Africa. The plant is largely grown in Western India, both as a potherb and for its fibre, known as Ambari, which much resembles jute. Paper made from this fibre, and an oil from the seeds, are exhibited in the Kew Museum. Flora of Tropical Africa, D.Oliver, vol. i., p. Treasury of Botany, Lindley and Moore. Kew Museum. Distribution Upper Guinea, North Central, Nile Land, Lower Guinea, Mozambique District.

[*Moloney ca 1884 1 pdf*]

FORESTRY OF WEST AFRICA. Bellenda or Bembee of Sierra Leone, African Bark *Crossopteryx Kotschyana*, FenzL. Bushy tree or shrub. The bark is employed as a febrifuge. Flora of Tropical Africa, Oliver, vol. iii., p. . Distribution Upper Guinea, Nile Land, Lower Guinea, Mozambique District. *Urophyllmi rubens*, Benth. Shrub six feet high. Used as a red dye by the natives of Fernando Po. Flora of Tropical Africa, Oliver, vol. iii., p. . Distribution Upper Guinea. *Randia malleifera*, Benth. Shrub or small tree. The Blippo, with the inky sap of which the NiamNiam and the Monbuttoo delight to dye themselves. Flora of Tropical Africa, Oliver, vol. iii., p. . Distribution Upper Guinea, North Central, Nile Land, Lower Guinea. *Wilde Katjepiering*, *Bufifelsbal* *Gardenia Thunbergia*, L.. Shrub or tree. Wood hard, heavy, and strong, and used for making tools, clubs, kieres, yokes, axles, fellies, ploughs, c., at the Cape of Good Hope. The fruit is eaten by elephants in the Mozambique District. This tree is said to be used medicinally in the Madi country. *Silva Capensis*, Pappe, p. Flora of Tropical Africa, Oliver, vol. iii., p. loi. Distribution Upper Guinea, North Central, Nile Land, Lower Guinea, South Central, Mozambique District.

8. Evangelization (2.95%)

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9. European Settlement (2.13%)

[*Younghusband f 1895 1 english original pdf*]

II RESOURCES OF THE TRANSVAAL ir But when, sixty, seventy, or a hundred years hence, the gold has all been cleared out of the country, is there no industry which may take the place of the gold mining Fortunately there is. The existence of coal has already been alluded to, and besides this there are vast quantities of iron ore of a quality better than that obtained in England, and immediately adjoining yet other coal beds furnishing good coking coal and silver, copper, lead, and other minerals are found in various parts of the country. To deal with the coal first. In one colliery, not halfadozen miles from the gold mines, I have seen a seam of coal oft. in thickness. This coal, though of low quality, suffices for the purposes of the gold mines, and there is a sufficient quantity of it to outlast far the lives of all the gold mines. Besides these coal deposits near the gold fields and those others by the Vaal river, which furnish coal for the railway system far down into the Cape Colony, there are literally hundreds, perhaps even a thousand square miles of coal in the Middelberg and Ermelo districts lying between Pretoria and Delagoa Bay. In the midst of these coal beds is the outcrop of iron ore. And running through them is the latelyconstructed railway to Delagoa Bay. With these vast coal fields close to a firstrate port on the Indian Ocean, the prospects of the coalmining industry seem brilliant. The great fleets of oceangoing steamers which run to

[*Younghusband f 1895 1 english original pdf*]

SOUTH AFRICA OF TODAY CHAP. known pioneer of South African enterprise, that in ten years time not a ton of English coal will come to South Africa, may not improbably prove true. Nor is it only on gold mines, steamship lines and railways that the coal will be used. There are also prospects of a great iron industry arising which would require supplies of the good coking coal which has recently been discovered and tested. Why, when the existence of a reef of magnetite from to feet wide, extending for several miles close alongside the coal, and of such quality as to yield per cent, of metallic iron, was well known, no proper attempt has yet been made to start an iron industry will seem strange. The reasons are that till two years ago there was no railway through the iron district, that good coking coal had not been discovered, that the expense of importing coke from England was almost prohibitive, and that the cost of both white and coloured labour has hitherto been excessive. The existence of one of those curses of this country, a concession, set a still further bar upon enterprise in this direction. Now, however, that the railway has been made, that coking coal has been found close to the iron, that wages of the natives are in process of reduction, and white labour has become plentiful, efforts are being made to start an iron industry. And if the prophecy of a Durham engineer, that the time would come when even the railway engines would be made in this country from materials obtained on the spot, may be held as applying to too distant a period

10. Imperialism (6.06%)

[Mackenzie j 1876 2 english original pdf]

POLICY OF IMPERIAL GOVERNMENT might seem to him necessary in connection with the native tribes. The instructions of Sir Charles were as follow DownING Street, November , , SrrI am directed by the Earl of Derby to inform you that you have been selected by Her Majestys Government for the appointment of Special Commissioner in Bechuanaland. . The general object of your mission is, as stated in the memorandum submitted by you to the Secretary of State for War, to remove the filibusters from Bechuanaland, to restore order in the territory, to reinstate the natives on their lands, to take such measures as may be necessary to prevent further depredation, and finally to hold the country until its further destination is known, You have also correctly defined the outlines of the policy to be adhered to, and your own duties as Special Commissioner. . You will, as Special Commissioner, be under the direction of Sir Hercules Robinson, Governor of the Cape Colony and Her Majestys High Commissioner in South Africa, who will, however, be requested to leave you a very large discretion as regards all local matters. I approve of your proposal to communicate as soon as possible with the President of the Orange Free State, and with residents in the Colony and elsewhere. , With regard to all operations in the field, and the organisation of the mounted Volunteer Force, you will receive your instructions from the Secretary of State for War and the General Commanding in South Africa, and will not be accountable to the Colonial Government or to the High Commissioner. Should you require assistance in the discharge of your civil and political duties which cannot be rendered by the military officers on your staff, you should apply to the High Commissioner to sanction any necessary payments from the fund at his disposal for the purposes of the Bechuanaland Protectorate. . You will of course clearly understand that Her Majestys Government have agreed that the Cape Ministers shall in the first instance endeavour to effect a peaceful settlement of the difficulties in Montsioas country, and that active military operations shall not be commenced until a reasonable time has elapsed. It is not possible to judge how much time may be so occupied, but in a recent telegram of the st ultimo Sir H. Robinson has indicated that six weeks might be required. Her Majestys Government sincerely trust that the Cape Government may be able to propose such a settlement as can be honourably accepted, but it is obvious that in the unfortunate event of their failing to do so, no time should be lost in removing from the Protectorate those who have violated its independence and seized the lands of the protected chiefs. , The Cape Government have stated that if their mission be successful they think they will be in a position to subinit to the Colonial Parliament as soon as it meets a scheme for the government of the country pending its annexation to the Colony. Should their

[Mackenzie j 1876 2 english original pdf]

OVERLAPPING RESPONSIBILITIES missioner, the objects of Her Majestys Government would have been far better secured, and without misunderstanding. But what was retained to the High Commissioner in the letter, was taken away in the spirit and circumstances, of the instructions to the Special

Commissioner. There can be no doubt as to the meaning of Sir Charles Warrens instructions. You are practically free and you are responsible in your military capacity. As to civil and political questions, we do not rescind the Commission so recently granted to Sir Hercules Robinson as High Commissioner for South Africa. But while you will thus be under his direction as the High Commissioner for South Africa, as Bechuanaland is in South Africa, Sir Hercules will be requested to leave you a very large discretion as regards all local matters. Should you require assistance in the discharge of your civil and political duties which cannot be rendered by the military officers on your staff, you should apply to the High Commissioner to sanction the necessary payments. Most people will regard these words as meaning that the power and the responsibility in Bechuanaland were to belong to the Special Commissioner, who was not the Deputy of the High Commissioner, like myself or Mr. Rhodes, but who held his Commission directly from Her Majesty, as did the High Commissioner himself. The probable reason why formal supremacy was still yielded to the High Commissioner was in order to facilitate any measures which might be taken for the speedy annexation of Bechuanaland to the Cape Colony, and not with the view of curtailing the local freedom of Sir C. Warren. This is indeed made quite certain by a despatch of Lord Derby to the High Commissioner, in which Sir Hercules Robinson is informed that Sir Charles Warrens appointment is civil and political as well as military, and that his the High Commissioners assistance was indispensable to secure the cooperation of the Cape Colony , . The High Commissioner was also informed that Her Majestys Government would not, of course, hold him responsible for all the details of Sir C. Warrens proceedings and Sir Hercules Robinson was asked to give him a free hand as far as possible , . It is quite true that this

11. Camping (5.96%)

[*Pueckler hl 1837 2 english translated pdf*]

. RIDE THROUGH THE DESERT. on hearing which the dromedary immediately lies down. No sign is necessary to make it rise again, for it invariably does so of its own accord as soon as ever the rider is mounted and has taken the bridle into his hand. For my own part, notwithstanding the heat, I should greatly have preferred travelling in the daytime, in order to have a better view of the country, but I was universally assured that the animals could not hold it out and we were, therefore, obliged to travel during the night, which fortunately was illumined by the brightest moon. This arrangement rendered the following peculiar mode of life necessary during our whole tour, we breakfasted at nine oclock in the evening and mounted our dromedaries at ten, the camels, with the greater part of the baggage, having set out five hours earlier. The dromedaries had to carry, besides ourselves, the most necessary articles, such as a small tent, some carpets, a chest, containing everything necessary for breakfast, the toilette, and writing. Before, or at sunrise, we generally reached our nights quarters some hours later than our caravan, where we found our tents and beds prepared, and the cloth laid for dinner so that, after

spending a short time in dressing, we were able to sit down to dinner about seven o'clock. After dinner we lay down to sleep, and towards evening, our early hour, we viewed the curiosities of the country. The latter part of the evening, till the time of starting, was devoted to reading and writing. In this manner a truly diverting, watchman's life, which I venture to recommend to all my successors

[*Beechey fw 1821 1 english original pdf*]

JOURNEY FROM unable to find them and strangers might often pass within a hundred yards of their tents, without suspecting there was a soul in the neighbourhood. As the whole property of a wandering Arab consists in his flocks and cattle, and the few little articles contained in his tent, he has very little trouble in moving, and half an hour after he has determined to leave the place of his residence, no traces will remain of his late habitation, but the ashes scattered about the hole in the earth which served his whole family for a fireplace. His sheep and cattle are collected without difficulty at the sound of his voice, or that of some part of his family, while his tent, in the mean time, with all its contents, the chief of which are his wives and his children, are packed up in a few minutes on the backs of his camels, and ready to move on with the rest. If he is not pressed for time, the women often walk with the older children, and assist in driving the cattle and should he have no camels, which is very often the case, both women and children are loaded to the utmost of their strength with such articles as cannot be transported in other ways. But neither women nor children on these fatiguing occasions exhibit any signs of discontent or uneasiness the length of their journey and the weight of their burdens are borne with the greatest cheerfulness and the whole is considered as a matter of course, which their habits of life have accustomed them to expect, and to support without any other effects than the temporary fatigue of the exertion. If the journey should be long, the tent is seldom unpacked till they have arrived at the place of their destination, and the whole party sleep very soundly on the ground, in the midst of their sheep and cattle, till the first

12. Early Exploration (4.00%)

[*Linschoten jh 1583 1 pdf*]

It is altogether faire andgesdanfeer ground, keep goodinafc, tottij great care inben poti, to the point oi b fee afojefaid, pou Gjal Icaue fetch frellj inater, as indl initbin as initbout the flanb of it ones on the land fide, not paf becaufe the country people bfe to oucr runne Sng betineene It and thelandfrom this point and fpoile men on the fedaine this Varella to another point are . miles, t pou runne Ipeth Under r . degrees, this land of Varella ojtbeaft, and from this fecond point pet a is a feooke, and from thence to Pulo Cutuo miles further there is another point this the courfc is ioth, and nojth and bp Weifj courfe is runne halfe a ftrifec to the oth foj the fpace of . miles, from thence the Jftojtheafl betineene this

second and thirde land begitteth to be a great Deale of tiber point there Ipeth the creefees, the firff
 iuber that pou haue patt, hauing in manp places of isthe hauen inhere pou lade blacfee inrode, fandie
 ffrandes, inbre men map anfeer ten tohich is called Deiraon from thisthirde miles from Varella folnard, a
 mile front point to the Varella the coaft runneth theland there Ipeth a long flat Biland called Bjiojtb, and
 feuen miles before pon come to Pulo Cambir, and betnaene this lafid and p V arella there is a creefee
 inhere there Ipeth the land are .fadorne deepc fandie ground, a toinn, and tlno miles further there is an
 in the middle of the Hand on the lande fide, land of ff onie cliffes rtofe to the land, inhtch there is a fmal
 fandie bap that hath frelj ina afarreoffiheinethlifeea man that fieth oj ter, inhereifneedbepoumapanfeer,
 fojitis anglcth, inherebp the pojtingalles call it good ground, and in the middle of the channel Opefcador,
 cj the fifler and if pou defire to betineene the Biland and the land it is altoge runnetothe Varella, being
 patt the iland tberfatre being a fmall mile inlength from pou fhall pjefentlp be neere the land, inhere this
 Sifland about tinelue miles ojthinard, pou haue a great ttrande inith faire grounde. the land mafetb a
 point, and from thence to his Varrella is a high hill reaching into the Sand there is a great creefee, and
 fit the fea, and aboue on the toppe it hath a Uerie inaro to the ot bineft inhere the high land high ttonie
 toch. Itfec a toiner ptller, inich endeth, inich from this point tinaroe run ntap be fecn far off, therfoe
 it is bp the lponetb to the Mleff it is an open bjofeeti tingalles called Varella, that is, a Cape, loin lande
 inhere pou find a riuer of tbee fa jlgacfee marfee at the fcote of this hill on home deepe, tnitbin the
 hauen hauing fandte the outb fide it hath a ijerte great creefee ground, inith a great mouth o entrie, and
 reachingnojthinard in, al of muddp ground, inithin it hath a iMel of fadome deepe s . fadome deepe, pou
 cannot fee it far off, this riuer runneth further into the land, t. becaufe the one lande runneth though
 the . miles tinarod from the entrie oj mouth ther, but as pou paffe bp the Grand afojefaid, there Ipeth a
 great htllagc, inhere pou map and begtnne to come necre the Vai ella, tben haue great ttoje ofhtftualles
 and other necefthe creefee beginneth to open, inich hath a fades in the mouth of this riuer on the eatt
 herie faire entrie, and initbin hath tino run fide there ttandeth a high bouell, and on the iting ftreames
 of herie gcod frefh inater, hee Witft fide a loin fandie ttrande, pou mutt that commcth thither tuith a
 fijip bp mp ad enter right fojtb in the middle, and although rnfe fhall not put in there, becaufe hee hall
 it is herie inidc, pet being intthin pou mutt haue much labour and trouble to bjing the niafee pour felf
 fure Mb anfeers cables, fpectip out again, foj there the inind is fcantipou allp from the inett fide, fo i
 if it inere earlte map inel anfeer inithout at entrp mouth in the peare pou fljall there finde ttiffe Heif
 thereof as haue done, pou map feefee fo ininds, inich inoulde djiue pou on the other fb other places
 inhere frefi inater is to bee fide of the Riuer in this Riuer is much fill had, that ttand on the other fide
 of the hill, toalfo in the land there is much tnild felh, inttb Snardsthe joth, at the foote thereof inhere
 iuine, tigers, Rhinoceros, and fuch lifee the high lande that reacheth into the fca enbeattes the countrep
 people inere of good Beth, inhere pou begin to find a herie great nature, but ine haue giuen them caufe
 of fa ffrand to get this inater pou mutt goe herie fpitton bp our bad dealing inith them fine neare to the

point of this hill, and as pou run miles further foinard from this Riuer along along toinardes It, inhen pou compaffc it a the coatt there are f ino Hands inith certafie bout pou fhall fee a fmall fandie bap, inith cliffes about halfe a mile from the land, and the afojefaid great ffrand and place of inate pou map paffe betineene them andtbe lande, ring, inhere pou map anfeer inhen pou inill, tinelue miles from fbefe Claudes, there Ip fo it hath gd anfeer grounde, but it hath a etb other BHandcsbp the lande, inhere there great tncouentence, and mifchtefe,inhich is, are feme places ofrounde fande inith a fan that pou fee compaffed about bpthecountrp die ttrande, and there fs a fmall Riuer , people,that are great enemies to the potfin inhere pou haue much Catte that fs, galles, and fea Rotters, therefore pou mutt Rpce Unffampeo in the hushes as it groin The . Booke etb

[*Linschoten jh 1583 1 pdf*]

Cfje coMef caaOSbtgejimiMofCattiotl M II atunnetb to tfe mouth entriefcalled ttje the great Blland With tOe Warpe pointed top, ares earesnotbWarO,artd from the cbam iping in tlje mouth of the lamer of Canton, nell WettWaro lietb the Wap to Macau. fet from the Weff point of the fame Hand . not down this courfe,fo that bauc fbefneo miles eafffouthcaff lieth a great high long it in an other place, in the anigation from land. Which reacheth riokhWeff outbcaff, Malacca to Chinattf pou paffe betWom thefe is altogether Without trees buffjstfront llanos, pou muff alWaies run With the lead the outheaft point oftbefamellano,batf a in pour band,to find the septhcs.f rom Mamile to feaWard, Ipeth an other round high tau miles notbeaff Ward lietb a feerp great Hand,and the channel that runneth betWant ianD high IW,Wttb a herp high ttjarp point. them is faire and gon the notheaff fide of Snhich lieth in the greatett mouth entrp of this great lano, front the middle thereof to the rider of Cantothjough the Which great the land there lieth , olong cloue Hands Iuncostbaf is the paniW fljippes foj mar roches,cIofebp,ofa reddiW earth. Without cbanotfe doe paffe Where our fljips meane anp trees betWeene the tbWeff end of thelojtingals map lifetoife paffe through, the afoefaid Hand the land,runneth a final and on the Weft point of this Hand, balfe a channel though the Which the fmall Ban mile fouthWard, lieth certaine ftone Cliffes, coins Which are the CbiniW barites ligfp betWan the Which and the iland,it is aldeep fersdoe paffe.jfrom Canton to the affcefatS faire ground, as alfo along bp the land on Hanoe the Water maietb a gulfe crcehes the fourth fide, bepondthefc ffonp cltffes to fea though fhftsConntrie pon paffe when pon Ward,therelieth certaine fmal Hands,and be come from Iapon, jfrom this round Hand pond thefe HanosfomeWbat farther to feafrom the mouth that is betwne both . Ward,there lieth other great lndsbut pon triples Cafttfojtbeaff, the land hath a point mult not paffe bettoamc the afojefaid ffonp With a high and cue land Upon it. ful of blacli cltffes and the fmall landg, but between the Winning buWes, hauing on the SaUcftfouthbfinal the great Hands pou map free lie paffe Weff fide a ffill ftpe land, and on the CaffWithout feare. Ifrom Macau mtlesfouthbhotheaff fide, it is aU mallepc. jfrom this eaffWard,ltetb a great and high land,betng land there runneth a popnt into the fea, and deuidcd in .parts, bp a fmall

running Water right again this point, about the length of out of the fea, f a farre off fjcWetb lifee a hip aharqubnfeWot, there Ipeth a great long hautng neither trees no bulfies, and halfe a HUandreachng as the coaff doth. Dbc eban mile from thence toWardcs the Idnd, there is ftell betWcene this point and the Blland afoe an other long Hano,With trees in the middle fatd,is fcarfe .fadome dapWithm thepopnf of the cbanneUbetWeen thefe .HandSjinfbe foWardes the land, on the MefffourthWeft entrie thereof, on the fide of Macau, ipeth a fpde, there are manp and god roads to anfeer roch cliffe,Which the Water Walfieth ouer. f the Monfon of China, at , f ,faOttie Which pou muff ifiunne.fo all the reft is fair dope, mtiddie grouno. hauelapnethere at andgcDdWap, jfrom this great Hand that anHer comming from the Blland of lapon, deuideth it felf in ,parts,.miles Caftfouth Came thjough theafoefaid final channelWere eaft, ipeth an other long high HanoWttb a althe glands called As Ilhas de Canton, ijerp biach Wining w of trees calted To the Bllands of Canton do end this Wap front quion,and fro thence half a mile to fcaWard, the ,afoefaid Hands, to this popnt btw lieth a row of ..Hands cliffestpon ofland, mahethagolfe, bp mcanes of the muff run bet Wane them and the lano,tobete great rahe al this croffc Wap is faire and it is faire grounds if pou Will pou map paffe good, and When if is anp hard Wether, then outward to fea from all the landsfrom this theregoethaterie hollow Water, fpeciallte lande afepcfaiio, to the land, about a tuple clofc bp the Channel of the two Bilandes thereabouts diffant from it,lpetb an other Jfrom this popnt of the land afoefat, anti loW f long Blland with trees in the middle of thepopnf of the Hand, . miles along bp the the channel befWeme thefe .Hands, there coaff lieth a crMte With ccrtaine lands and lieth an land cltffe,ano an other bp tbe cltffes in the mouth thereof,on the eaffnojth land that lieth bp the lanbbcttown this cliff eaff fide, Which are gcod defence againll in the middle of the channell the aland that femes foule Wethcrthere pon baue bictu lieth to feaWard,it is dtepe faire, and on the ails t other necffartes, and being ,miles to Caffnojtheaft point of the aland to feaWard, feaWard, there lieth a ffonp roefie cliffe,i on the land fide,tbere is a fmall creehe bap, a farre off Wetoetb ltfce a WWpe fender faple Where there is a god barbar fo the Monfon Iping fender .oegr. , this coaff along bp of the fourth Winds and there is liKeWtfe good the fea is fandie ft rand, inward bojing a bigfo freW Water roud about this Hand Tonqui land,it reacheth eaftnotheaffWard to a point on,it is all faire groutpshut turning again to ofland, Iping fffne tuples from the popnt The . Books, . Lam on

13. Seafaring (4.63%)

[*Reynolds jn 1831 1 english original pdf*]

VOYAGE OF THE POTOMAC. February, repugnance to trade, and gave, without much apparent suspicion, license for the captain to enter and trade in other ports. The ship Three Friends, Stewart master, made a voyage from Salem to Batavia in the year eighteen hundred and one. Bally Strait, situated between an island of the same name and the east end of Java, is about six leagues wide. On the

sixteenth of January, eighteen hundred and two, the Three Friends was accompanied by a ship called the Margaret. The morning began with fresh contrary winds, while beating into the Strait of Bally. Having got part way in, the wind fell off, and the current being ahead, brought to an anchor in twenty fathoms sandy bottom, the Java shore distant half a mile. At half past six in the evening, the current having shifted, weighed, and drove with the stream light airs from the Java coast and at dark lost sight of the Margaret. The wind being from the western quarter, carried quite over to the Bally side the current carrying the vessel around a point, and shortly afterward, within a cables length of the shore, drove along for a few minutes, found soundings in thirty fathoms, let go the sheet anchor, and brought her up at about one hundred and fifty feet from the rocks, where she rode a few minutes. At nine P. M., light air came off the land a boat being ahead, the cable was cut, time not permitting to heave it up in a moment the wind died away, and the next, came right on shore, all sail being set, she took aback and struck The afterguns were immediately thrown overboard, water started, and the decks cleared of wood in short, every thing that could be done to lighten her, but all to no effect. The captain and officers supposing little on their part could be done, the current running five knots per hour, the wind, what there was, directly on shore, four men sick minuteguns were fired, and fortunately answered by the Margaret, whose superiority in sailing had enabled her to gain safe anchorage in Palembang Bay on the Java shore and answering minuteguns were now heard from the Dutch forts at Palembang. The situation of the captain and his crew was now deplorable. Driven on shore, on the savage and inhuman coast of Bally, the vessel on her beam ends, four men sick, not able to work a single remaining gun, the idea of losing the ship and cargo, and of being themselves massacred by the savages, presented a picture gloomy enough when they were somewhat relieved by the appearance

[*Grant c 1781 1 english original pdf*]

HISTORY OF MAURITIUS. stance, lest any of our vessels, passing near this island, and perceiving a building and smoke, may imagine that they are persons cast away, and lose their time, as I did, in the endeavour to get them off the island. The vessels which come here to Mauritius, endeavour to put in there and although our charts place the rocks that surround it at five leagues distance, it does not exceed more than two miles. On the 1st June, steering westnorthwest, I discovered the Island Mauritius, fourteen leagues distant, having deg. min. west variation I bore towards the northeast part of the island, until I had passed near the Round Isles, keeping two miles without the coast of the island, until I arrived at a miles distance from the Coin de Mire. The French Captains told me, that the sides of this rock were so perpendicular, that a ship may approach near enough to admit almost of throwing a biscuit ashore. After I had passed this point, I bore away towards the land, southwest by south, and southsouthwest, until I was near a ledge of rocks which run out before the long point, for about two miles. from the shore, though they may be approached to at the distance of a mile without danger I found no bottom with sixty

fathom line, at the distance of two miles, after which there is no hazard. The town and the mountain of Peterbotte are then visible the latter of which is very remarkable, and serves for the point of direction to enter the harbour. After having passed the ledge, which has just been mentioned, and keeping close to it, as the wind blows off shore, you may cast anchor in fifteen or twenty fathom water, though the bottom is not very good till you arrive near the port. I mention this circumstance, because if you sail during the night, the currents are so strong, particularly near the island, that they would carry the vessel to the leeward before it was day, and it would be absolutely necessary to bear away to the east, to regain the wind. There is no danger whatever between the ledge and the port so that you do not get into less than twelve fathom water, you may sail by night as well as by day. Every vessel that arrives here, after having passed the ledge and drawn near the land, must hoist her flag and fire two guns. If in the night, the lantern must be lighted up, when a pilot comes on board, who brings vegetables with him, and steers the ship to the entrance of the port. The port captain then comes on board, with a boat, chains, c. to assist the ship in entering the harbour, and to moor it there, which he sees properly done before he quits the vessel. As the channel is very narrow, and the wind is generally contrary, it is frequently necessary to tow vessels

14. Ethnography (3.94%)

[*Smith a 1880 1 pdf*]

African Zoology, vanes hoary, the inner ones nearly white, and both, towards tips, crossed by a broad blackish band upper tail coverts white, under ones black, some of them narrowly tipped with white. Tail above black, with four transverse bands of dark bluish grey, and the tips of all the feathers greyish white the vanes close to quills pure silky white. Legs and toes yellow claws black. Length from bill to base of tail ten inches length of latter nine inches and a half. Yomig. Front blackish brown crown and part of nape light rufous, variegated with brownish black streaks or clouds back of neck an uniform brownish black, feathers broadly tipped with pale rufous or tawny white chin, throat, breast, and belly, tawny rufous the two first with brownish streaks or spots, the third clouded by brownish blotches, and the last slightly marked by longitudinal brown streaks. Quill feathers with the grey less clear, and the tips of the feathers tawny white. Tail blackish brown, with three distinct white transverse bands, and the bases and tips of all the feathers white. Legs and toes dirty yellow. Inhabits South Africa. *Circus Swainsonii*, Smith. Front and eyebrows white upper parts ashy grey the tail coverts faintly banded with brown under parts and insides of shoulders pure white Primary and secondary wing coverts grey, faintly tipped with white quill feathers towards points brown black, outer vanes towards quills grey, inner vanes white. Tail rounded, the centre feathers brown grey with four or five broad, dark brown bands lateral feathers pale fulvous or tawny white, banded irregularly with dark brown the tips of all the feathers white. Bill lilack with a faint yellow mark on the edges of both upper and lower mandible towards base cere, legs, and toes yellow

claws black. Length seventeen inches and a half. Young. Front and eyebrows whitish top of head and back of neck pale rufous, variegated with longitudinal dark brown stripes back and shoulders dull brown, the feathers margined with rufous upper tail coverts white chin whitish under parts pale fulvous, darkest on the throat and breast many of the feathers with a dark rufous brown stripe in the course of the shaft. Outer tail feathers banded pale fulvous and dark brown. Inhabits South Africa. *Circus superciliaris*. Smith. South African Quarterly Journal, vol. i.jp. . the young. *Circus Le Vaillantii*, Smith. Bill black base of lower mandible yellow. Front, chin, nape, cervix, and part of breast, white or rufous white the feathers of the neck and nape each

[*Smith a 1880 1 pdf*]

African Zoology. throat and breast white, the latter with a few longitudinal black striae belly dull greyish white with many small irregular shaped black spots. Eyes brown bill bluish base of lower mandible, space round eyes, and the legs, yellow. Length thirteen inches. Young. Head bluish brown feathers finely edged and tipped with rufous nape and back of neck variegated blackish brown and tawny white back blackish feathers with rufous tips chin and throat pure white breast and belly tawny, variegated with oblong blackish spots, largest on the flanks tail brownish black with seven or eight transverse rufous bands, tips white legs and toes greenish yellow claws black. Inhabits Africa and Europe, not uncommon in South Africa. *Le Faucon*, Bulf. pZ. enl. pi. . *The Blueback Falcon*, Penn. Brit. Zool. *Falco Peregrinoides*, Smith, South African Quarterly Journal, vol. i. p. . *Spervel of the Cape Colonists*. *Falco hiarmictis*, Temm. Front and anterior part of crown black, rest of crown and nape rufous back of neck, interscapulars, back, upper tail coverts, and shoulders, bluish grey, with dark slate coloured transverse bands from the eye to the nape a black stripe, and another behind the angle of the mouth sides of neck, and all the under parts, pale tawnywhite. Bill bluish, the base of the lower mandible yellow eyes dark brown. Primary and secondary wing coverts hoary blue, with dusky greywhite transverse bands primary and secondary wing feathers brownish the inner vanes, for the greater part of their length, partially crossed by somewhat conical white spots. Tail hoary white, with ten or eleven moderately broad, black bands the intermediate spaces thinly sprinkled with minute brownish black dots or lines tips of all the feathers white cere, legs and toes, yellow claws black. Length of male fifteen inches, of female seventeen inches. Young. Head rufous, the front and nape variegated with black back of neck and interscapulars blackish, with the feathers finely tipped with rufous the black stripes on sides of head less strongly marked than in fullgrown specimens. Sides of the neck rufous chin and throat tawnywhite breast and anterior part of belly pale rufous, with a roundish black blotch towards the middle of each feather hinder part of belly, under tail coverts, and thighs, pale rufous, without variegations. Primary and secondary wing feathers blackish, with the inner vanes marked by transverse oviform pale tawny spots, all tipped with light rufous. Tail blackish, with seven or eight irregular transverse rufous bands all the feathers broadly tipped

withru fous. Bill bluish green, with shades of black, and the lower mandible with a very faint tinge of greenish yellow at base cere

15. Geology/Geography (5.08%)

[*Robinson e 1852 1 english original pdf*]

Mar . NABULUS. VILLAGES. reservoir. The view is pretty, and several places were in sight as Azmdt and Deir elHatab on the north side of the plain of Salim and especially Neby Belan, on the summit of the northwest buttress of the mountain, which lies north of that gain This continued to be a high landmark for the whole Our course now became about N. E. along the western side of the prolongation of the Mikhna. This name I have used for the whole extent of the large plain as far north as to the foot of Mount Ebal although strictly, it was said, the name Muakhna belongs only to the southern part, beyond the watershed. North of that point the plain slopes eastward and its watercourse lying along near the eastern hills, enters the little plain of Salim, as we have seen, and again issues from it at the northwest corner. Thence it still hugs the eastern hills in a deep channel and the narrower prolongation of the Mikhna becomes steeply sloping in that direction. Upon this we were now entering. After half an hour, at ., the three villages, Azmat, Deir elHatab, and Slim, were all seen in one line, bearing . E, At . we came to the spot, where the narrow sloping plain or valley breaks down at once by an abrupt descent towards the Firia forming a deep and steep valley, called Wady Bidan, with a still deeper chasm as the waterbed skirted by rugged pezed rocks, the strata of which were very greatly dislocated. ear the same point the road forks one branch, going tu Tabas, descends along the valley the other, which we took, continues high along the steep side of the western hill which here, in fact, is the northeastern flank of Ebal. At . there was a small fountain above us, sending its gushing little stream down the declivity. At . we were opposite the angle of the valley below, where it opens out into the wide plain of the Faria and where its deep bed suddenly takes a course N. E. still close under the southern mountain, and goes to join the main channel of the Faria a long distance below. We could see in it further down a stream of water and several mills. The mountain buttress in the angle is crowned by the Wely Neby Belan. The region of the Faria was now before us an open tract or basin of rolling plain, intersected by deep watercourses, which ultimately unite and flow to the Ghr by a very gentle descent. The western wall of the Jordan valley has here lost its precipices and its rough places have become comparatively plain. v . Beari . Burj elFaria , Ste CESAR I SE xr aT EN Tm . elHatab . Azmit , Ia , . Neby Belin . Vou. TL

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FROM DAMASCUS TO BA ALBEK, Suo. XL entirely uninhabited, it is a noted rendezvous for banditti, whenever the country is disturbed. From its junction with Wady Helwa to the entrance of

the plain of Judeideh is an hour and a half. The valley forms the southern boundary of the district of Zebedfny. From the spot where we now stood, Helwa is visible, beyond the basin of Judeideh, bearing . W. distant about one hour and twenty minutes. This mountain range is cleft to its base by Wady elKirm but extends thence unbroken to Wady Yahfdfeh, in a direction about N. E. Its greatest elevation is nearly six thousand feet above the sea. North of Sahil Judeideh the western ridge unites with it and the whole range runs out and terminates at Neby Shit. We now turned nearly a right angle, and began to descend very gradually about N. by W. along under the western brow of the ridge we had just crossed. After ten minutes we had splendid views of Jebel Siinntn and the mountain above the cedar, both of them resplendent with their crowns of snow. The descent continued gradual. At . we reached a small level plateau, half way down, with a low ridge between it and the plain. Through this ridge a Wady breaks steeply to the plain below this we followed down northwest, and came at . to the eastern margin of the plain. Back of this ridge, towards the northeastern part of the plain, on the side of the eastern mountain, is the small village of Kufeir Yabts which, however, we did not notice. Crossing the plain obliquely N. N. W. we fell into the Damascus and Beirfit road at ., at the mouth of Wady Zarir. This is a singular plain. Its length is nearly the same with that of Zebedany, perhaps two and a quarter hours its breadth not usually more than half an hour. Its general direction is from . by W. to N. by E. parallel to the plain of Zebedany but further south. It is of course higher than that plain being drained by the long route of Wady elKiirm to the Barada just below the foot of the latter plain. It corresponds in position to the basin of Kefr Kak that is, both lie west of all the higher ridges of AntiLebanon, in nearly the same line with these ridges. They are separated by a broad tract of high table land. This description of the road up Wady Jan. , pp. .The Rev. W. M. elKirm is from the manuscript journal of Thomson, in passing from Anjar to ZebeDr E. Smith in , diny iu , crossed this ridge much fur The Rev. J. L. Porter crossed the ther north, and descended directly to Zebemountain at this place in , on his way dany Biblioth. Sac. Nov. , p. . from Blidan to the sammit of Hermon. From a point on the Beirit road, half His road led from here southwest, descendway between the entrance of Wady eling and passing the entrance of Wady elKirm and Wady Zarir, the village of KuKirm, and then ascending, and crossing feir Yabds bears N. E. Ms. Journ the high plateau near Mezraat edDeir of Dr E. Smith. and Yintah to Kefr Kak. Biblioth. Sacra,

16. Conspicuous Consumption (3.23%)

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17. Egyptology (2.24%)

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a r . DOCUMENTS OF THE ROMAN PERIOD LAXAVI, Account or a SrroLocus. Harit. xem. Second century, An account of payments of wheat, barley, and lentils received during the month Phaophi from various classes of persons in several villages cf. B. G. U. , Ixxxvi a, ccc, and ccxl. Three kinds of payments occur tp nportwy, ie. rent of holdings paid by dypeoto yewpyol cf. introd. to lxxxi goof , a small charge more or less proportionate to that for nuoriay, stands for Bifadcpov and go for dolprpov, as is shown by Ixxxvi a. , and an Amherst papyrus in which deddpav doprpov occurs. The charges for freight are kept separate throughout the papyrus, and are added up separately in line , though included in the grand total in lines and . Another payment is found in line in connexion with the npciv yewpyol and consists of two abbreviated words, diaixjpoews excpopiov, so that it is really identical with the first see introd.to Ixxxvi, Payments of landtax by kAqpettyor also occur several times, but drowo are not mentioned. The villages from which the taxpayers came are Theadelphia, Euhemeria, Polydeucia, Dionysias, Philagris, Philoteris, Autodice and two others, all of which were in the division of Themistes, and Oxyrhyncha in the division of Polemo. On the versv is a taxreceipt Lxiv. a Sulenyeqorav eadoyljs rob Dandi rod y zrovs awd Anuparear B rous dioieqoems wepol aprafar vey reraprov, xpiOqs aprd Bai p Husow rraprov, paxod dprfa px B, appar golperpov wupod dprdfas By, xpi Bis praBy a jpmiov , gaxod aprdBys fjpiov iB. av Gealdergeias O Snipoclor yewipyar diolxirews xdolpfov avpob dprdBat gy , xpiOqs dprdfac yd, daxot aprdBa va Bx, Mpooerpotpeva mupot dprdBar O fjpurv y, xp Os aprBys jpeov , Paxei aprdBar B, wupod dprdBa on ijpcov, xpiOijs dprdBat yxd, plaxos dprdBa by Bu, xpOs dprdBqs rraprov, pfajxot dprdys . , Kal dia xJAnpotiyaw rupod aorafat o ijutov, xaluns wepot epra Bar wy Kaira yf ,bacbbbaad FAYUM TOWNS i xpqs dprdBar jue , gaxod dprBns .. . Ko Etnyepelas Onporiow bid rer dad OcladeAgelas rvpoh dprdBas on peor Kd, KpiOs aprdBat Brd, gaxot apr Sa xi, B Rdxpotxwr mvpod dprBai sf, xpiOhs dprdBai Apiav xo, xeXuns wupod dprdBat q Autor , xpi OAs dprdBat x rTraprov, gakod dprdBar wi. AloMueuxeias Snpootwy da rev dard s xduns Grupo dpr Bas a iB, dilagppor goprrov wvpod dprdBys x. Kat dia ray awd GeadeAgeias frupot dorBas A, kpiOns dora Par ny , faxot dprdBai . x, ddaddpov pol perpov rupot aprd Bins fuerv B, xpiOqs dprBys jpcov, tt

Giaxct dpraBns B, cai a var aa Piraypidos rupod dprd Sar n, diagpov dalprpav , Kai d ray dd Zvvr
 Plaxot aprdBas xg, diaddpov olprpov gexail praBns jpiow, Kai dia KAnpotyew srupoï aprafai mec, du
 edhopow Golprpov x, Riluns mupot dprBa ps fj yeB, xpiOHs dprBas, xn iB. Ff. iene diaxol dprdBai ha
 a, diladdpov hol pzpov wupod aprdBns Huiov yiB, xpiOns dprBys fpeov, Paxot dpraBns Hurov of. ...
 Byfportewr da Tay dd OeladcAgeias rupob apBai Fy, kal Oud ray dd PiAlwrlepidos wupot dprBat o, jf
 Glens repob dpraBai o FH. Awrvrciddos dnpootar rvpoid cpraBal yr, Piraypidos ia KAnpovrycor Tupot
 dprdBa y imc , Giappov Polprpou . PirwrleplSos a xAnpotyev rupod apraBa yx. Aurodlxns npoctap
 Gud ray dard Od aded peias rupot .dprBa FH, Silapipou polprpov wupod dprdBns xd. ar A. dia ray amd
 Geadedgeias rvpoi adprfai B Kd, Si abdpow polprpov B. Kal tite Anpperew TTodppeovos Ofupiyycov
 dia rae amd Oeladerpetas rvpod dprdBat yt fuer H, diladdpov polprpov ,bacbbbaadDOCUMENTS OF
 THE ROMAN PERIOD kat ddd rar awa Furr, xpilOys dprBai cy hpire , Saddpov olprpov a , Kiuns
 wvpod dprdBat we mor , KpiCijs dpr Ba vy Fuca , cifadopov holprpov wupai dpra Bar , epilOys apraBac
 a yy. Kai tmlp Aniuparor a rovs GeadeAlgefias difd dyporler yeul pyar xpuGns prBai Ag. ai apoxeiperas
 diodlxioeas wupo dprafar vey rraoror, xpd ys praBai pO jiov reraprov, paxod dpraBat px iP. ro. ya in
 the entry for pime is written above the line over an erasure. . dineqrens the word is here used apparently
 in its limited sense applying to payments on behalf of the government as opposed to payments on behalf
 of the temples cf. xli. I. rz. The correctness of the totals in this line and the next can be verified in five
 out of the six items owing to the lacunae in lines and in the fractions of two amounts of lentils we are not
 able to fill up the lacunae there. . Out of the three totals obtained by adding the xporjerpotpera to the
 preceding sum, two, the artabac of wheat and the ,. artabae of barley are not quite correct, io artabae of
 wheat making a total of , and artabae of barley making . The addition of the lentils is right. The lacuna
 at the beginning of the line no doubt contained a statement of the nature of the two small payments
 which follow. apov olperpow is out of the question, for these two payments are not included in the freight
 total in line . y,oofwv followed by a... ts more likely. cel th the meaning of this phrase cf. cccxxxix is
 obscure. , vy dd GeadeAgbeine yeapyoi whose domicile was at Theadelphia but who cultivated land at
 Euhemeria cf line and lxxxvi a. , and introd. to lxxxix. . ToAvdeuneias this village was near Theadelphia
 cf cviit, and p, . LXXXVI . Account or Srroioc. Harit. om. A.D. . An account of receipts during
 ten days by the sitologi of Theadelphia. The payments are made partly by aqudrunt yewpyol, partly
 by Anpoityo, and there are small charges for freight cf. introd. to lxxxix and lxxxvi The first two lines
 are a later addition in a smaller, but probably not different, hand. On the verso is a short account. . l.
 ey led xpuqs aprdBat px yxd paxod dprdBat .p wal proyor orroAyor GeadeAdeiasbacbbbaad FAYOUM
 TOWNS . a fos rod Ereih pnvis rot ..., rous Apreveivoy gai Otijpou xupicoy lard raw yernpcror roi adrod
 trav wuped aprdBas Tally jpuvcv Tpitor , aor dik Sypocrttay yewpyav vpod dprdBas B TPoB B, poprpar
 eA rvpod dpraBas yx, f c Enpocley yeapyaty wepo dpraBax B ponk , Kai dec x An potryeoy wupot
 praBas Zara ijpuvcv y, KeXpns rvpob dprBatT Sv cai tartp GdAay Kewl pay TodAvdeustefas Sypociay

ha rav dad GeadeAgleias yenyaty rupod dprdfas rod pio B, diadpow mupod dprdBas jute . . ye is writ-
 ten above the line over an erasure. . Aypodyer naturally suggests itself cf. cecxxxviii but the payment
 is by Aqudrin eee Cf. Ixxxvi. and introd. to Ixxxi. Lf. Gunpipow . toperpow, CE introd. to lxxxvi.
 LXAXAVIT, Payment Turoven a Baye , Kasrel Banat. cm, ., Lee. Receipt for various sums paid into a
 local bank, probably at Euhemeria, by the overseers of some estates beldnging to the corporation vixos
 of the city of Alexandria, These were situated at Euhemeria, and had formerly belonged to a philosopher
 named Julius Asclepiades cf. Ixxxii. , who had presumably bequeathed them to the city and it is the
 rentals opos of these estates, which were Inanaged by wiryptytal, that are the subject of the receipt. The
 document is of much interest, not only as affording an indication of some of the sources from which
 the wealth of Alexandria was derived and the manner of their acquisition, but also as an illustration
 of the development reached at this period by the banking system. The money paid into a local bank
 in the Fayim was to be paid out to a person at Alexandria. This person would naturally not have to
 wait for the coin to he actually transported. The mutual relations and organization of the local bank
 and the bank at the capital were such that money paid into the one could be drawn at the other. The
 papyrus is written in a remarkable hand, which presents at firstbacbbbaadDOCUMENTS OF THE RO-
 MAN PERIOD sight an almost Byzantine appearance, mainly due to the thickening of the extremities
 of the rather large and heavy semiuncial letters, Col. I. Erovs in Avroxpdropsos Kaloapos Tirov AiAiloW
 Adptavei Avravelvou ZeBaorod EdceBoiis, Mexeip xf. rolnoer xl rir Tiroy PXaoviov Etrvyiide rpdmefav
 Evaiper Lapawiwvos xat proyt emiryryre Uwrapyvvar ofkov mbAews Adegardpewy rporepov TovAloy
 AaxAnmitdou didordojv rrav epi Keplyv Ednpepeiay eis hopolv if Erovs taAarriolr ev Kai Opayuas
 repaxicyetAias eni ta rd iow ev Adefavdpela Sobijva a bri raw oTeupdray mpoxexipicpera, rdAavrov a
 dpaypai A. Excih , aurs wai proyor dufoles els ppolv ef Erovs TaAavroy xai dpaypas yeAlas repaxorias,
 a mpxeras rAavror paypat Av. vous, Paws , d adrde xfal proyor dpyloiesels ppoly im erovs Spaypas
 yerAlas, a mpdxetrat paypal A. Adpiavod q atzis xai proyoi dpfoiws eis ppalr im ravs Sipaymas yerAlas
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 diryfelidials, mle mpdxferrar paypai B. Enel , airds Kal prloxi els pbpor uy Erovs Spalyuas Siryethias,
 we wpoxetrar dpaypai B. Col. IT. x rous, Paddu , auras xai prjoyor els dpfor in Erovs Spaypas xleAals
 ... Jeortas, ds mpoxcirai paxpal Af. Be frapyarraw Pap. . ioor Pap. to. A Pap. so Av in and similarly
 im , . . Pap. so in , , . The th year of the Emperor Caesar Titus Aelins Hadrianus Antoninus Augustus
 Pius, Mecheir . Paid into the bank of Titus Flavius Futychides by Eudaemon, son of Sarapion, and part-
 ners, overseers of the property belonging to the corporationbacbbbaad FAYOM TOWNS of the city of
 Alexandria and formerly to Julius Asclepiades the philosopher, situated at the village of Eubemoria, for
 the rent of the th year, one talent and four thousand drachmae, on condition that an equivalent amount
 should be paid at Alexandria to the official in change of the siemmata, total tal. gooo dr. Epetph , by
 the same person and his partners, as before for the rent of the th year, one talent one thousand four

hundred drachmae, total as above written. T dr. aso. I. , otow mikes cf. Ixxxviii. , where the phrase recurs, wdAewy apparently there referring to Arsino. A similar use of the word olee is found in Ox. Pap, Tray. febotos abeor Ofupuyy raw. , Te ert tev oreppdrow the same tile is known to have existed at Antino from an scription dedicated to Severus Alexander in a. p. C. LG. mperayecurror Atomhiow Doryyiovs vali al AroMAwelow Bovdeorod yeppeeouipyow xai isi rar oteppdrer, ore here has apparently the sense of arab or Jima, lor which cf. C. , G. b. , LXXXVIII. Recerr ror Rent. Harlt, em, Third centiry aln, Receipt issued to a cultivator by the nomarch acknowledging payment of the years rent for a plot of land which had belonged to the Queen of Ptolemy Neos Dionysus, and was now apparently part of the common property of the city of Arsino That land was owned by cities and villages ig shown both by the preceding papyrus and by Pap. Gen. I. , B. G. U. , EH. Socnopaei Nesus, C. P. R. Hermopolis, Obthis in the Hermopolite nome and it is probable that such communal land is generally meant by the phrase nporla i. A parallel for the survival of the distinguishing title of land which had in Ptolemaic times been included in the royal domains is found in B. G. U. , where the PiAadeAdioy obvia is coupled with the yy Bacwhim and sperdiow. In that instance, too, the land had not improbably been the property of a queen, Arsino Philadelphus, from whom it had passed to the temples ef. Wilcken, Arche, I. , Ariow vopdpyns Sit Hpwwos A piacka yeopya Kai HEToyous yale. gyor mapa gol rb exdptar ot yewpyeyi KAJpov epi Kony GeadeAheiy ofxov mdeas BaaAioons Urodepaioy Nov Aiovicov tnep yertwars SesbacbbbaadDOCUMENTS OF THE ROMAN PERIOD dexdrow Erovs wAnpns. rovs B, Eweij xB. On the verse dmoxt Hpaxdcdy eal perdyery, . exoi peroy inserted above the line. Apion, nomarch, through Heron, to Heracleus, cultivator, and his partners, greeting, I have received from you the rent of the plot cultivated by you near the village of Theadelphia belonging to the corporation of the city and formerly to the Queen of Ptolemy Neos Dionysus, on account of the produce of the twelfth year, in full The twelfth year, Epeiph . . yewpye Heracleus is not called a Syydous yempyds, but that no doubt was his correct I title cf. xviii c. . , omev moAewe for oes in this sense cf Ixxxvil, . note. miAc in the Fayyim more naturally refers to Arsino than to Alexandria, and that Arsino is meant may be concluded from the fact that the receipt is issued by the nomarch. LXXXIX. Loan or SEED, Kasrel Bandt. xQ cm. A.D. . Acknowledgement of a loan of vegetableseed and barley for a period of four months. No interest was required for the loan, as was sometimes the case with loans in kind cf. xe and Wilcken, Os L. p, but in case the borrower failed to return it at the specified date, he was pledged to pay ten times the amount of vegetableseed, and no doubt the barley at a similarly high rate, though the exact proportion is lost. For the severity of the penalty cf. xi. . The papyrus is dated at the top in the th year of the xpdarqms of Augustus, and below this after a large blank space follows the contract headed by another date, the th year of Caesar simply, which also occurs in lines , . This double method of dating by the patyois and by the ordinary reenal year is found in B.G. U. and the identity of the numbers of the years of the xpdryis and of the reign proves that both were reckoned from the same point of time, The method

of dating by the xpadryos of Augustus, of which this papyrus offers the fifth instance, originated, as shown by Wilcken cf. Ost. I. pp. , , in a decree of the senate establishing an era in Egypt reckoned from the date of the capture of Alexandria cf. Dio li. . . The innovation had little success, and except on coins of the opening year of Tiberius reign no traces of the era have been found later than Augustus death.

[*Newberry p 1890 2 english original pdf*]

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18. Religious Tourism (3.65%)

[*Patterson jl 1849 1 pdf*]

APPENDIX . VII . CONTINUATION OF MOUNT OF OLIVES . The place where the apostles composed the Creed . The place where Christ prayed and taught us how to pray . The tomb of the prophets. The place in which Christ foretold the destruction of Jeru salem and the end of the world. The grotto of S. Pelagia, a penitent . The place of the Ascension . The place called Men of Galilee. The place where the Blessed Virgin, when on the point of death , received a palm from an angel . IX . FROM JERUSALEM TO BETHANY AND BETHPHAGE. The field where Christ cursed a fig tree and caused it to dry up . The house of Simon the Leper . The house of Lazarus, brother of Mary Magdalene and Martha. The town of Bethany. The tomb of Lazarus . The house of S. Mary Magdalene . The house of S. Martha. The tank of S. Martha . The stone of Bethany on which Christ sat. Bethphage . The castle called contra vos, or the she ass castle . The gate of the Holy City by which Jesus entered on the day of Palms, called the Golden Gate. x . THE HOLY SEPULCHRE. The chapel of the apparition of Christ to the Blessed Virgin . The pillar of the flagellation. The prison of our Lord . The chapel of S. Longinus , or of holy cross. The chapel of the parting of the garments. The place of the finding of the holy cross. The chapel of S. Helena. The chapel of the mockings of Christ. The sacred mount Calvary, where Jesus Christ was crucified . The place where He was raised up on the cross, and where He gave up the Ghost the rent of the rock . The chapel of Adam .

[*Harff a 1496 1 english translated pdf*]

THE PILGRIMAGE OF ing, at least five hundred, as I was in fact told and saw with my eyes. Item in this Temple of Solomon our Lord Jesus preached often to the Hebrews, and taught and wrought many miracles there. Here also he drove out the buyers and sellers because they did not observe the Sabbath. Item this is where our Lord Jesus was tempted of the devil and suffered himself to be carried to the summit of Solomons Temple. Here also the Jews threw down St. James the Less from the summit of

the Temple to his death. Item from this Temple, southwards, we came from here to the courtyard of the Temple, through a door called by us Christians Porta Speciosa, through which St. Peter and St. John passed when St. Peter healed the lame man, as is told in the Evangelium. Item we went from this Temple eastwards, some twentysix paces, into a very fine mosque or church called Porticus Salomonis. When the Christians possessed Jerusalem it was called the Church of Our Blessed Lady, where for a long time she went to school. Item this church, Porticus Salomonis, is much longer than the temple of Solomon. It is finely built and roofed with lead, and has within it fortytwo marble pillars and eight hundred lamps, which burn there daily. Since the heathen have this church in great reverence, no Christian or Jew may approach it. . Item at the end of this church we went down a great staircase into a vault, which was a stable of the Sultan or the Mamelukes, with accommodation for some six hundred horses. Since the church is wholly vaulted below we could see well, from its appearance, that in Christian times it was a crypt in which Mass was celebrated, as can be seen from the many altars which are still there. Item we went from this crypt into a beautiful little mosque or church, which is built quite close to the church Porticus Salomonis. This was built by the old Sultan Kathubee, On the Beautiful Gate, see Fabri, , p. . The large edifice on the S. side of the Temple area, called in the Middle Ages indiscriminately Palatium, Porticus seu Templum Salomonis Robinson, I, p. , now the Aksa mosque. For a description, see Gabriel von Rattenberg , RhrichtMeisner, p. . On these extensive vaults, see Robinson, I, p. .

19. River Navigation (5.51%)

[*Barth h 1849 2 pdf*]

FROM KANO TO KEFFINABDEZENGA. having crossed a rivulet which sometimes presents difficulty in the rainy season, you arrive at Zariya. th. About noon arrive at a village called Ungwa Arende. Small waterpools on the road. th. About eleven oclock a.m. reach Kasellu, a walled place with the wall in a state of decay, and with a market held every other day. th. About the same hour arrive at Gimba, a large walled place, but thinly inhabited. th. Reach Matari, a large place. Between Gimba and Matan, nearer the latter, is a kurremi, which during the rainy season can be crossed only in boats. th. Kabi, a considerable walled marketplace. th. Reach a small village called Kasabo, situated on a mountainrange running eastward. The whole country is mountainous and a little before you reach Kasabo you pass a high mountain with a village on its top. th. Encamp in the forest called DawanserkinFawa, where there is a kurremi, dry during the hot season. th. A small village of the district Kadara, ravaged by the Fulbe. th. During the dry season you reach a place called Jere not Tere, while in the rainy season you encamp on the shore of the Gurara, the chief branch of the Kaduna, which cannot be crossed but in boats. The country mountainous. th. Reach a small village called Kamane country mountainous. th. A small place called Kateri, situated on a kogi, with water at all seasons of the year, and well wooded. It joins the

Gurara. st. A straggling Village called Golamma, inhabited entirely by Fulbe or Fellani. The country level, with mountains in the distance.

[*Barth h 1849 3 pdf*]

APPENDIX. Day. dam. People generally perform the distance in two days and a half. The following is a list of the names of localities between these two places Tshak, Eindenye, El Handema, Aristoremek, Egeti, Tingetdn, Tinrero, Timbarageri, two villages of the name El Meshra, Takembaut, Tenkeriye, Naudis, Gammatdr. Gundam is a walled town ksar or koira, the chief place of the district Aussa, and of considerable size, its population consisting of Songhay, Ruma, and Eulbe or Eullan. The town has a suburb on its W. side, where live the. Tdki, a tribe of the Eullan, and another suburb on the waterside, where live the Erbebi. On the side there is a black hill, full of fernan. Also to the S. an eminence is seen presenting the same appearance. The town is situated on the N. side of a large khaliy or rijl branch of the river coming from Dire and turning toward Ras el ma, the celebrated head of the waters, distant from here two days, either by land or by water, W. a little N. Another creek runs from Gundam to Kabara but during the highest level of the inundation the whole country presents almost one uninterrupted sheet of water. On the east side of Gundam is a dry creek called Arashaf, one day long and half an hour wide. At its eastern border, E.S.E. from Gundam, is the place called Waye e semen, with a creek adorned with the tree called taderes. th. A walled village koira of Imdshagh and Songhay on the trunk of the river, having passed in the morning the branch on which Gundam is situated. th. Arabebe, a village inhabited by Frflbe. th. Nyafunke, a large village, inhabited in former times by Imdshagh, but at present peopled by Fiffbe. th. Iketawen. Having passed in the morning close behind Nyafunke, a large i branch of the river, halt at noon in a village called Shenfikoira. th. Atara, a large village of Fiffbe, on the east side of a considerable branch of the river going to Gasf Gumo. th. EadhAllahi, a Eulbe village. th. Ydwaru. Ydwaru is one of the two chief places of Fermagha, and although consisting entirely of reed huts, is said to be little inferior in the number of its inhabitants to the town of Timbuktu. The importance of the place is clear enough from the annual amount of tribute which it pays, amounting altogether zeka and modhar taken together to head of cattle. During the inundation, Ydwaru lies at the border of Lake Dbu, which at that season extends from Sa to Ydwaru, but during the diy season it is about one mile distant from the small branch. Close to the latter lies a suburb where the Surk or Kdrongoy, a degraded section of the Songhay, dwell. In Ydwaru and the neighborhood live a great number of Eiffbe or Eullan belonging to the following tribes the Sonnabe, Yalalbe, Eeroibe, Ydwarun kdbe, and Jawambe or Zoghoran or Zoromawa. G. From Ydwaru to Teningu. st. Urungiye, an important place. d. Mayo, a village so called from a small creek, the Mayo Sdrroba, on which it lies. Between Urungfye and Mayo seem to lie the villages Seri and Nyamihara, the former inhabited by Songhay, the latter by Eiffbe. d. Ganga. th. Kdgi or Jdgi, having passed several hamlets, one of them called Ginnewd, a hamlet of cattle breeders,

with a ksar, then Dokd, Ngtdderi, Jdfieri, Sabre, and Burlul. th. Kora. th. Konna. th. Tenengu. The distance between Urungiye and Tnengu can, however, be performed in two days good traveling. Between Urungiye and Mdbti lie the following places UroMddi, Kdram, a Songhay village Rogdnte, a hamlet of Fiilbe YerSre, a hamlet inhabited by slaves of the Fiffbe Walo, on the Mayo Eenga Kaya, a village inhabited by Aswanek I have not been able to make even a short vocabulary of the idiom of these people. I only succeeded in making out two terms which they UBe, mh how are you and ena welcome.

20. Fertile Crescent (5.16%)

[Melly g 1850 2 english original pdf]

COLBURN AND CO.S NEW PUBLICATIONS. NARRATIVE OF A TWO YEARS RESIDENCE AT NINEVEH AND TRAVELS IN MESOPOTAMIA, ASSYRIA, and SYRIA, VITII KEMARKS OX THE CHALDEAKS, NESTORIAXS, YEZLDEES, C. By the Eev. J. P. FLETCHER. Two vols., post vo, s. bound. These Travels embrace not only Nineveh and its antiquities, but various new and interesting particulars respecting the Yezidees, the Nestorians, and Oriental Christians, as well as notices of the country betAveen Mosul and Aleppo, which has been explored by few European travellers. The intimate relations with the natives of the country entered into by Mr. Fletcher, who resided some years at Mosul, during his inquiries into the condition of the Oriental Churches, have furnished him with a vast fund of anecdote and illustration. The work also comprises disquisitions on the ancient cities of Mesopotamia, and on the successive empires estabUshed between the Tigris and Euphrates, with remarks on the hypothesis advocated by Major Rawlinson as regards the eaily Assyrian kings. OPINIONS OF THE PRESS. A work of ercat merit the remarks of a highly iatelligent and acute observer. The work is not less acceptable as a book of travel than it is valuable as an anxihary to the archaeology of the Holy Scriptures.towrfarc. At a time when the startling discoveries of Mr. Layard have called public attention to the cradle of Asiatic civilisation, the notes of a two years residence on the mighty plam of Nineveh, and of excursions into the remotest parts of AssjTia, from the pen. of another traveller, cannot fail to excite more than ordiuaiy interest. Mr. Pletcher, well versed in the questions connected with the geography of Scripture, and vlth the history and position of the different Churches of the East, made his obseTatlons on the countries which he visited, not as an ordinary traveller who picks up his knowledge casually, here and there, but as an experienced student, ho knows beforehand upon what points he is to direct his inquiries. His volumes form an instructive and agreeaile pendant to Mr. Lay Ids more exclusively antiquarian researches. The reader will meet which he would look in vain elsewhere. Jbiu Bull. with much valuabl i information for A book which lets us more into the secret of the habits and ideas of the natives of Eastern Asia, more especially of the Christian population, than any work we could point out. Mr. Fletcher brings fresh and valuable information from that new centre of antiquarian research. He had

the rare good fortune to be present at the first discoveries of M. Botta and he is not without claims to be ranked as a discoverer himself. But his disposition and his opportunities make him a better describer of the things of the dead. The circle of his inquiries was by no means confined to Nineveh, but extended to the whole Christian population of Asiatic Turkey, of whose habits, ideas, observances, and general condition he gives a minute, interesting, and, we are convinced, authentic account. The condition of the Eastern Churches is exciting much curiosity at present and his detailed description of them will be most interesting to the religious world. Our extracts will sufficiently show what varied, interesting, and useful matter these volumes contain. Two volumes abounding in lively and graphic sketches of scenes visited and of characters encountered. There is a great deal of original hypothesis and much gratifying information in these volumes. Mr. Fletcher is an acute observer, and a well-read historian. His work deserves to be popular, and cannot fail to increase our knowledge of the countries of which it treats. *Evangelical Magazine.*

[*Griffiths fi 1897 1 english original pdf*]

Corric STUDIES. is scarcely an improvement. The name is Hrsideie, and occurs regularly, just in this sequence, among the Tabennesiote abbots. The second of these books is Dom E. . Butlers study of the early accounts of Egyptian monasticism. Here we are given first the discussion of the problems, and are to await a subsequent edition of the texts, Very elaborate investigations of the Greek, Latin, and Oriental recensions lead the author to the conclusion that the shorter Greek text ed. Meursius of which Heraclides Paradise ed. Rosweyd is a Latin translation, must be the original Hist. Dausiaca, Like Dr. Preuschen, Dom Butler has recognized the Greek form of the Htst. Monach., and regards it as the work which Sozomen consulted and attributed to Timothy of Alexandria, Coptic documents are, he thinks, still difficult to value exactly some of them the Lives of Pachomius seem early enough to rank almost with the Greek. But Amlineans grounds for supposing the first Pachomian biography to have been in Coptic are shown to be inadequate, and passages are cited from the Arabic, Saidic and Bobairic Lives further to prove that he was wrong in asserting the closest relationship to be that existing between the two first of these, All three Dom B. would rather regard as independently derived from a Coptic archetype, and that again from a Greek original. But scattered through the book there is a great deal of matter relating to Coptic literature beyond what is here mentioned , , are long dissertations upon the Coptic and Ethiopic versions of the Lansiatic History contains a sketch of the growth of the collections of Apophthymata, one of which is so prominent in Zoegas Catalogue while Appendices III. and IV. are devoted respectively to Amlineans claims for Coptic originals of various texts, and to a table of correspondences between the various versions of the Pachomian Lives. Besides the works last described, two articles by M. Ladeusze must be mentioned, which also deal with early Egyptian monasticism. M. L. holds that the problem of the original form of the Pachomian Lives has not been satisfactorily settled by Amlineau

nor by Griitzmacher, who practically adopted A.s views, He examines seven texts, Greek, Coptic and Latin, and concludes that the original Life is represented by the Greek Bios, and the Paralipomena both ed. Bollandists, that from these the Latin version printed by Surias is derived, while from it in turn was extracted the other Latin text of Dionys. Exig. ed. Rosweyd. As for the Coptic Lives, they too depend in part upon Greek originals as against Amlineau, though some Coptic texts may belong to independent but secondary compositions. L. has, in

21. Architecture (3.49%)

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ro BENI HASAN. tomb have been left flat, probably to receive an inserip bottom. Inside the porsito Wee find Be arched tion, The columns taper slightly from the base to the roof, the height to the ixtrados measuring ne at top, which is surmounted by a square abacus of the The great doorway has a average height of same width as the architrave. The sides average inches and a width of inches, which gives as nearly inches at the top, inches at the centre, and as possible cubits of inches for the height, and hl inches at the base. , cubits for the width. The wall separating the The architraves supported by these columns divide portico and main chamber has a thickness of the roof into three parts, consisting of flat arches inches or cubit. springing from the upper edges of the architraves. The The doorway itself was closed by a wooden door i greatest height from the floor to the inrados or summit pivoted above in a timber lintel let into the wall, and of the arch is inches or cubits, whilst the walls below, resting on a pivot block let into a quadrant average inches or cubits. The height from socket, The jambs of the doorway proper are not the floor to the underside of the architraves is parallel, the stone having been more cut away on the inches, south side, so that the passage widens inwards this i A doorway in the centre of the eastern wall, would give the idea of a door of considerable thickness inches cubits high, admits to the shrine, the floor and fitting well. of which is raised above the level of the main chamber. From an example found in the small tomb No. , The door Pt. I, Pl. va had two leaves closing in the the heelstone of the great doors appears to have been centre the lintel was a wooden beam let in above the a roughly shaped hard stone, such as dolerite, with a doorway, and quadrant sockets cut in the sill held the shallow depression on the upper surface for the doorpost iii heelstones, to work in. The shrine itself, a small chamber inches wide The main chamber in the tomb of Khnemhotep is and inches long, contained the great Kastatue of not quite square, the length averaging inches, Amenemhat, seated, with his wife standing on his while the breadth averages inches, showing a right, and his mother on his left hand. The right hand difference of inches. The breadth seems to be in of the statue of Amenemhat was found below on the hill, tended for cubits, whilst the length may have been and has been replaced in the shrine. It is closed and set out with acubit rather worn, about of an inch crasps a yellow tie it measures inches across the too short.

knuckles, so that if we take a human hand to measure The roof is arranged in three flat arches, with a height about inches at the same place, this would indicate of inches or cubits from the intrados to the that the statue was almost two and a half times the floor, The columns were sixteensided, but without natural size. To judge from this fragment, the work fluting they have all been cut clean away, even the manship of the statue must have been coarse and rough, bases having gone. The height from the floor to the il but to conceal this defect it may have been highly underside of the architraves averages inches or f . coloured. There are two sepulchral shafts in this tomb, cubits, so that the columns themselves must have which are on the southern side of the main chamber, been about cubits high. but it was not considered desirable to have them cleared. In this tomb the floor of the shrine is on the same The dimensions of this tomb will be further dealt level as that of the main chamber, but there is a raised with when comparing it with the following one. threshold in the doorway. The shrine doorway has an minh average height of inches or about cubits, and Tomb No. . The tomb of Khnemhotep II. Pt. I., a width of inches or cubits. The interior of Pl. xxii., though emaller than that of Amenemhat and the shrine is far better finished than that in the tomb of possibly not so well proportioned, is of much superior Amenemhat. It measures inches in length and work, inches in breadth, with an average height of Bit To begin with the portico which is preceded by an inches, giving respective cubit measures of , , ail i open court, as in the tomb of Amenemhat, the dentils and cubits. It contained a large seated figure of . above the architrave are almost complete, and the two Khnemhotep a portion of the face of which was found sixteensided columns are finished. The average width lying, like the hand of Amenemhat, on the hill side i of the sides is inches at the top and at the but the figure is too mutilated to admit of any exact i i

[*Newberry p 1890 3 english original pdf*]

BENI HASAN, , ANT The painted eastern wall seems to show clearly that placed at the entrance to reach the level of the floor, Be the painting of the tomb went on side by side with the and these would mask the opening to the tomb shaft. eer caunhiciil Inside we find the roof made in three arches, divided . ooh f by two architraves running east and west, and formerly Sta Tomb No. . Outside this tomb, but now joined to oti . kaa . Se . supported by two columns, of which the sole remains ht wei it by the partition wall having been cut away, there is Bree . are are the bases the heizht to the under side of the archi f a small, uninscribed tomb No, , in the shaft of ey niit i traves from floor level is, on an average, inches, and ons which was found an undisturbed burial of the AItth or ren A he . . a to the infrados of the side arches inches, ae Allth Dynasty. oi rt aoe . On the eastern wall we have another peeuliarity a This small tomb has an arched roof, but is otherwise ss all shrine doorway, standing above a species of pedestal geil not remarkable, . tek inches high, leads into a small shrine measuring tip ee bh . i gobs . Tomb No. . The next noteworthy tomb that of inches by inches, on the eastern wall of Denar ee Remushenta, Pl, xxvi. was simply a plain chamber, which are the remains of a small sculptured

figure. been a measuring inches by inches, It never had The doorway is inches high there are no steps up
alte ae either architrave or columns, but seems to have been to this shrine, which was closed, as usual,
with a wooden det i carefully finished the average height of the roof above door. bs gi te floor level is
inches, On the southern half of the Besides the shaft in the doorway, there s a second Lal if western wall
is a false doorway, which was left un sloping shaft inside in the southwest corner, descendbaste Syst .
finished, The chamber contained six burial shafts, ing inches, or feet, at a slope of to , and et s ending
in a very small unfinished chamber. ate tile i Tomb No, . This tomb, that of Baqt IL. is rex Tomb
No, . and io rae , Fy if fy ev scale, markable chiefly for its size see Pl, xxvu.. Here the Tomb No. .
Next to Lon met si Joined to it . masons have got too high in the stratum, the result by a doorway
cut through ule SUNT wall by the Copts, te poy ob ii being that they have had to leave the roof full
of the tomb of Bagt II., No. n the Sketch Survey, sy baeles a iv nnsists of a very nial a boulders, in a
very rough state moreover, they did not and Pl. xxxiv, It eee of a es plain ae oer peta mune bee yy z
neaurine inches by inches, entered b bia nal allow enough thickness in the roof, so that parts have Ss
a smal See een eee LuLs . cErEL A, Agee y sw hic ao fallen in, and the rest is cracked and hable to
come door way Inohies nigh and Inches wide, which Lea Feo down in a few years time, unless it is built
up with sinall to light it properly. The doorway a bas ie pe piers or in some other way supported. The
chamber Peco in the Bockel the doorpost pene CHa ail ere i measures inches by inches, Again we have
couth or nghthand side of the door this is, I think, dpe de . neither architrave nor columns the average
height of the only case at Beni ee m which a door appears to hak ibe ind the roof above floor level being
inches, On the have opened to the right. The roof has an average mite . c a . oy i Sates ira outside the
door has been so much cut away that its height of inches at the four corners, but rises to be real height
cannot be determined. in the centre of the east wall. There were no fine cls oe a Hy a oT F The Coptic
inhabitants of this tomb cut doorways columns or architrave. pei bi . e ce r Fr ca fa aah ke through
the northern and southern walls into the Along the eastern wall are three tombshafts, the ose adjoining
tombs, southernmost of which is the largest example of the a square type of shafts here it measures inches
by te Tomb No, . This tomb Pl, xxxiii., unfortunately inches, and was probably intended to be cubits
ae ik without a name, brings us to an entirely different square, the cubit in this case being inches. ie de
style of architecture, for here we go back to the outThe six remaining tombs do not seem to merit oe
Vid Sm side portico, with an arched roof, and an architrave particular notice. They were measured, and
their plans a Ty supported by two octagonal columns, similar to will be seen in Pl. xxxvii, of the present
volume. TEA car boise Amenemhats tomb in the Northern Group, Fla hs Le A doorway inches high
gives entrance into a bik if ehamber inches by inches, On referring to the cen Plate it will be seen that the
floor level is inches re ks above the doorsill, and that there is a ereat, sloping a shaft oecuyping the entire
breadth of the doorway. ta This leads one to suppose that there were probably steps mt Hi atu H vn , i ma

22. Diplomacy (6.06%)

[*Sauer jw 1852 1 english original pdf*]

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from the British Resident to the Rev. Messrs. Arbousset and Dyke th August. Letter from the British Resident to the High Commissioner nd September.

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... .. Xll Page. Document. Date. Continued Letter from the British Resident to the Civil Commissioner of Caledon River th June. Letter from Assistant Commissioner Shepstone to the Civil Commissioner of Victoria nd July. Extract from a Letter of the British Resident to the Chief th July. Moshesh Letter from the British Resident to the Chief Sikonyela . th August. Letter from the British Resident to the Secretary to the High Commissioner th August. Letter from the British Resident to the Secretary to the High Commissioner th August. Letter from the Rev. J. J. Freeman to Earl Grey, Secretary of State for the Colonies th August. Letter from the Secretary to the High Commissioner to the British Resident nd August. Letter from the British Resident to the Secretary to the High Commissioner th August. Letter from the British Resident to the Secretary to the High Commissioner . st September. Letter from the Secretary to the High Commissioner to the British Resident th September. Letter from the British Resident to the Secretary to the High Commissioner th September. Letter from the British Resident to the Secretary to the High Commissioner th September. Letter from the British Resident to the Chief Moperi th September. Letter from the Chief Molitsane to the British Resident st September. Letter from the British Resident to the Chief Moshesh nd September Letter from the Chief Moshesh to the British Resident rd September. Letter from the Resident Magistrate of Bloemfontein to the Chief Moshesh rd September. Letter from the British Resident to the Chief Moshesh . th September. Letter from the British Resident to the Secretary to the High Commissioner th September. Letter from the British Resident to the Secretary to the High Commissioner th September. Notification th September. Letter from the British Resident to the Chief Moroko th September. Letter from the Chief Moshesh to the British Resident th September. Letter from the Chief Moshesh to the Resident Magistrate of Bloemfontein th September. Letter from the British Resident to the Chief Moshesh nd October. Letter from the British Resident to the Chief Moshesh nd October. Extract from a Letter of the Secretary to the High Commissioner to the British Resident rd October. Statement of the Chief Moroko rd October. Letter from the British Resident to the Chief Moshesh th October. Letter from the British Resident to the Secretary to the High Commissioner . th October. Letter from the British Resident to the Secretary to the High Commissioner . th October. Letter from Moshesh to the British Resident th October. Letter from Carolus Baatje to the British Resident th October. Letter from the Rev. Mr. Daumas to the British Resident th October. Letter from the Chief Moshesh to the British Resident th October. Letter from the Secretary to the High Commissioner to the British Resident th October. Letter from the British Resident to the Chief Moshesh th October. Letter from the British Resident to the Secretary to the High Commissioner th October. Letter from the Chief Moshesh to the British Resident . th October.

23. Prayer (5.17%)

[*Varthema l 1503 1 pdf*]

LUDOVICO DI VARTHEMA. chains for life. For this reason, therefore, I never would yield to her, and also because I did not wish to lose both my soul and body. wept all night, recommending myself to God. Three days from that time the Sultan returned, and the queen immediately sent to inform me that if I would remain with her she would make me rich. replied That if she would cause my chains to be taken off, and perform the promise she made to God and Mahomet I would then do whatever her highness wished. She immediately had me taken before the Sultan, who asked me where I wished to go when he had taken off my chains. I answered him Iasidi habu maris una mafis, meret maris uuellet mans, ochu mafis octa mafis alia al naby Intebes sisi in te iati iaculane abdech, that is, O lord, I have no father, no mother, no wife. I have no children, I have neither brothers nor sisters, I have only God, and the Prophet, and you, O lord will it please you to give me food, for I wish to be your slave all my life Vn And I wept constantly. The queen was present all the time, and said to the Sultan Thou wilt have to render an account to God of this poor man, whom without any cause thou hast kept so long in chains. Beware of the anger of God. Said the Sultan Well, go w here thou wilt, I give thee thy liberty. And immediately r he had my chains taken off, and T knelt before him and kissed his feet, and then I kissed the queens hand, who took me also by the hand saying Come with me, poor fellow, for I know that thou art dying of hunger. When I was in her chamber she kissed me more than a hundred times, and then she gave me many good things to eat. But I did not feel any inclination to eat, for I had seen the queen speak privately to the Sultan, and I thought that she Ya sisi, abb ma fish umm ma fish marat ma fish waladmaish akh ma fish okht ma fish. Allah, enJSabi, anta, bas, sisi. Anta taatini akul, ana abdak. lord, I have no father, no mother, no wife, no child, no brother, no sister. God, the Prophet, and you only. You give me food to eat, and I am your slave.

[*Beauclerc g 1826 1 english original pdf*]

JOURNEY TO MAROCCO. in his hand. I asked him why he was so breathless the poor fellow was in despair at finding me again ill, and told me that he had suffered much anxiety for fear I should think he had not kept his word about the bournouse, for which he had been searching all day in the town, and having at last procured it, had come with all haste to shew me how anxious he was to serve a friend who had always been so kind to him. I then told him I was going to take my leave of him, and that he must allow me to make him a few presents, and also some for his pretty young wife at Fez. The sight of these trifles seemed greatly to affect this noble minded young man, for as I tendered them to him, he gently refused them, and turning away his head, he hid his handsome face in his hands, and for a time seemed

overcome with shame at last, he broke silence, and turning to the interpreter, as he sat on my bed, he said, tell him that Hamet is ashamed to look at his friend, because he feels unable to equal him in his kindness, and from this feeling, he had refused the presents which I again pressed him to take, saying that there was no true friendship where there was a wish to nullify the obligation conferred, by an equal obligation. With a melancholy look, he placed the things I had given him in his haik, and taking off his turban with his right hand, which he raised above his head, while his left hand held mine, he looked up to heaven, and having uttered a short and earnest prayer to Alia, to protect me through life, and grant me many years to live in happiness, he o

24. Christian Values (6.04%)

[*Backhouse j 1838 1 pdf*]

CHRISTIAN COUNSEL. XXXV on ministers but according to his ancient promise, the Lord is himself a swift witness against sin, and the teacher of all his people, who incline their ear, spiritually, unto him. God, by his Spirit, which is sent unto man, in the name, and through the mediation of Jesus Christ, reproves for sin in the secret of the heart for the Spirit is that Life which the evangelist John declares was in Christ, and was the light of men and Christ is that true Light which lighteth every man that cometh into the world. It is only as man bringeth his deeds to the light, which is also described as the Grace of God that bringeth salvation, that he becomes convinced of sin, so as truly to repent and waiting upon God, in the way of his judgments for sin, and earnestly praying unto him for forgiveness, for Christs sake, under the sense of his own vileness, that he comes to know Christ experimentally, as the Lamb of God which taketh away the sin of the world. It is only as man is thus truly humbled under the mighty hand of God, and is willing to dwell under his refining power, the baptism of the Holy Ghost and of fire, which is the alone saving and effectual baptism, that he is exalted in due time, being favoured to feel that his sins are blotted out for Christs sake, and that receiving peace in his soul, the Spirit itself beareth witness with his spirit that he is a child of God. The same Spirit which before condemned him for sin, now becomes his Comforter in righteousness and as he continues to wait upon God, and to pray to him for help to walk in the Spirit, it becomes also his guide into all truth. Such can testify, that it is by grace alone, through faith that they are saved that they are washed and sanctified, and justified in the name of the Lord Jesus, and by the Spirit of their God. Blessed indeed are they who are willing to be thus guided and taught they need not essentially that any man teach them, but as the same anointing the Holy Spirit, teacheth them of all things, and is truth, and no lie they shall be taught of the Lord, who will supply all their need, according to his riches in glory by Christ Jesus and under all the varying circumstances of life, they shall know Christ to be the Shepherd and Bishop of their souls. The Lord will qualify those who thus come unto him, to be taught of him, to instruct the families which he has committed to

them, in the way of holiness, as they seek unto him for wisdom and strength to discharge this important duty. These can assemble their families, and read the Holy Scriptures to them, and use such other means c

[*Backhouse j 1838 1 pdf*]

xlii APPENDIX. P. of God. And we are persuaded, that the knowledge of his mercy in Christ Jesus, will be greatly promoted, through those who are taught by his Spirit, directing others to the same teaching. The apostle Paul says, God hath not appointed us to wrath, but to obtain salvation by our Lord Jesus Christ, who died for us that whether we wake or sleep, we should live together with him. Wherefore, comfort yourselves together and edify one another. And Peter says, As every man hath received the gift, even so minister the same one to another, as good stewards of the manifold grace of God if any man speak, let him speak as the oracles of God if any man minister, let him do it as of the ability which God giveth, that God in all things may be glorified, through Jesus Christ. Faithful gospel ministry is a great means of edification, and those who labour in the Gospel with a sincere heart, are worthy of double honour. We have rejoiced to find so many of this description settled among you, and to see some of your own number, in various places, raised up to labour in word and doctrine. The spread of the Gospel, which these desire to promote, would be greatly advanced, if you were more diligent in seeking to have the salt of it, in yourselves so that wherever you go, you might shew forth the praises of Him who hath called you out of darkness into his marvellous light having your conversation honest among the Gentiles, that they also might by your good works, which they should behold, glorify God in the day of visitation. When within reach of a place of worship, where the Gospel of Christ is preached, be diligent in attending it and when not near enough to attend, you may still assemble together to wait upon God. Remember the injunction of the apostle, Let us consider one another to provoke unto love and good works, not forsaking the assembling of ourselves together as the manner of some is, but exhorting one another. It is pleasing to observe among you, an increasing disposition to seek religious instruction, and to attend public worship. These are important duties. But beware of substituting the means of edification for the end. The great end and object of all religious exercises is, that we may be led unto God, and learn to stay our souls upon him, having our expectation from him that we may come under his teaching and guidance, so as to be led into the belief and Without practice of all truth. Christ we can do nothing. But with the aid of his grace, or good Spirit strengthening us, we can do all things needful to salvation. And the word of his grace is nigh in the heart, convincing of sin, and building up the obe

25. Publisher (0.61%)

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