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## For God's Sake

### The Work and Long-Term Impact of Christian Missionaries in Cameroon 1844-2018

Baumert, Nicolai

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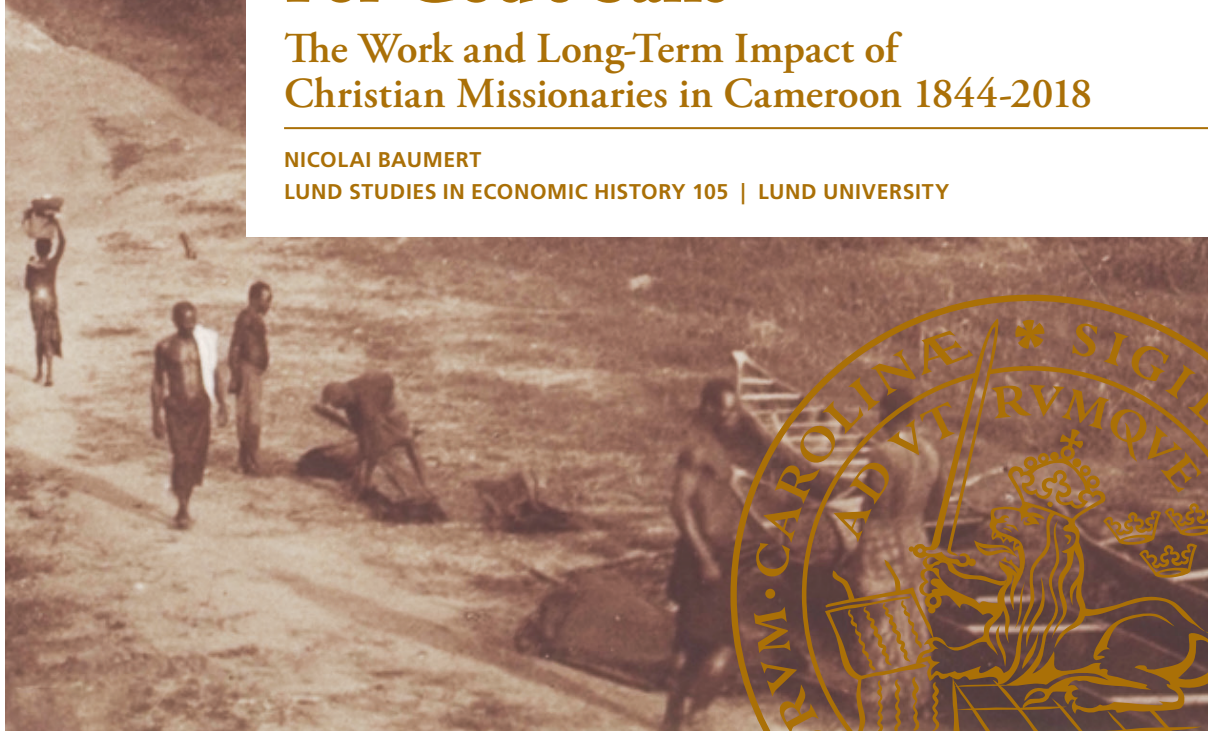
# For God's Sake

The Work and Long-Term Impact of  
Christian Missionaries in Cameroon 1844-2018

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NICOLAI BAUMERT

LUND STUDIES IN ECONOMIC HISTORY 105 | LUND UNIVERSITY





# For God's Sake

## The Work and Long-Term Impact of Christian Missionaries in Cameroon 1844-2018

Nicolai Baumert



**LUND**  
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DOCTORAL DISSERTATION


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*Faculty opponent*  
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<b>Title and subtitle</b> For God's Sake – The Work and Long-Term Impact of Christian Missionaries in Cameroon 1844-2018		
<b>Abstract</b> <p>Most countries in Sub-Saharan Africa have made great strides towards more accessible and higher quality schooling and medical systems in recent years. Despite this, education and health care in Africa lag behind other developing regions and large inequalities in educational levels and health care access remain across countries, subnational regions, and gender. Cameroon, in west-central Africa, with its unique history of colonial rule by three European powers is no exception as it still struggles to provide citizens with stable and inclusive education and healthcare. A growing body of literature attributes Christian missionary expansion in former African colonies since the mid-19th century with having a transformative and primarily positive impact on public goods provision. Since schools and medical facilities proved to be an effective tool for proselytization, missionary societies in Cameroon were not only the main providers of formal education but were also crucial players in the initial establishment of institutionalized health care during the colonial era. This thesis examines the interdependencies, dynamics, and long-term implications of mission work in Cameroon since their arrival and expansion from the 19th century until today.</p> <p>I create novel historical databases documenting the temporal and spatial extent of missionary expansion in Cameroon by drawing on newly collected and largely unexplored data from annual mission reports. I further link geocoded historical information on the scope of mission work to data on individual-level educational achievement and health care infrastructure in Cameroon today. Qualitative evidence, financial records, and staff censuses from missionary reports allow for a deeper understanding of the interdependencies of missionary work with the indigenous population during the colonial era.</p> <p>I find that the spatial extent of formal schooling was influenced by several geographical and spatio-historical features as well as characteristics of the local indigenous societies. In doing so, I move beyond existing research that mostly relied on inaccurate and Eurocentric historical atlases and often insufficiently accounted for the determinants of missionary locations in assessing the long-term effect of mission work on contemporary outcomes. Further, I identify a persistent and positive impact of colonial-era missionary investments in education and health care on Cameroonians' schooling achievements, educational gender equality, and access to health care today. Potential mechanisms underlying this long-lasting impact are cultural shifts – set in motion by the work of missionaries – regarding the value of schooling and Western medicine, and the persistence of schooling and health care physical infrastructure. The magnitude of these effects differs by missionary denomination for educational outcomes, and between missionary societies and the colonial government for health care access.</p> <p>Finally, I highlight the crucial role of Africans in the functioning of missionary work in Cameroon before World War I. Missions relied on the local acceptance of indigenous chiefs and depended predominantly on African personnel to facilitate the rapid and cost-efficient expansion of the missionary sphere of influence. While the financial contributions of indigenous Cameroonians to the mission funds were low (yet non-negligible) relative to donations from Europe and America during German colonial rule, Africans' willingness to accept Christianity and their demand for missionary services ultimately determined the success of missions in Cameroon.</p>		
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# For God's Sake

The Work and Long-Term Impact of  
Christian Missionaries in Cameroon 1844-2018

Nicolai Baumert



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Lund Studies in Economic History is a series of doctoral dissertations and edited volumes of high scholarly quality in subjects related to the Department of Economic History at the School of Economics and Management, Lund University. All volumes have been reviewed and approved prior to publication.

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*To my family for unconditional love and support*





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# List of papers

- I. Baumert, Nicolai & Bolt, Jutta (2022). *Breaking new ground: The expansion of formal education in Cameroon, 1850 – 1958* [Unpublished manuscript]. Department of Economic History, Lund University.
- II. Baumert, Nicolai (2022a). *On a mission for public health – The historical roots of institutionalized health care in colonial Cameroon* [Unpublished manuscript]. Department of Economic History, Lund University.
- III. Baumert, Nicolai (2022b). *On a mission for education – The legacy of colonial-era missionary education in Cameroon* [Unpublished manuscript]. Department of Economic History, Lund University.
- IV. Baumert, Nicolai (2022c). *Africans on a Mission: Evidence from Missionary Reports in German Cameroon* [Unpublished manuscript]. Department of Economic History, Lund University.





# 1. Introduction<sup>1</sup>

In recent decades, many parts of Sub-Saharan Africa (SSA) have experienced substantial improvements in the access to education and health care (e.g., Barro & Lee, 2015, pp. 16 & 70; World Bank, 2016).<sup>2</sup> While the population of SSA nearly doubled between 1990 and 2015, the share of primary school-age children out of school decreased from 47 to 21% over the same period (World Bank, 2022a, 2022b). During the same time (1990-2015), under-five child mortality in SSA was more than halved (United Nations Children's Fund [UNICEF], 2015).

Nonetheless, when compared to other global regions, African levels of educational achievements and access to health care are still low and overall progress has been relatively slow and inconsistent throughout the 20<sup>th</sup> and early 21<sup>st</sup> century (e.g., Deaton, 2003; Frankema & Van Waijenburg, 2012). Large parts of other (former) developing regions such as Asia and Latin America have achieved sustained and rapid progress in their educational achievements and health outcomes at least since the midst of the 20<sup>th</sup> century (e.g., Barro & Lee, 2015, p. 57; Jamison, 2006, pp. 12-3). In contrast, despite episodic periods of economic growth, educational improvements, and advances in the access to health care, much of Africa continues to lag behind in its development level (Jerven, 2010; Lee & Lee, 2016; World Health Organization [WHO], 2021). Further, vast differences in income per capita, individuals' average life and health span, or their educational achievement persist not only between SSA and other global regions, but also across and within African countries or even subnational regions (International Monetary Fund [IMF], 2017; Jamison, 2006; UIS, 2019; World Bank, 2021).

Many economic historians have recently centered their explanations for slow economic progress in Africa around the importance of unfavorable geographical conditions (e.g., Alsan, 2015; Bloom and Sachs, 1998; Sachs, 2001)<sup>3</sup> or poor institutions (e.g., Acemoglu et al., 2001; Bertocchi & Canova, 2002; Grier, 1999;

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<sup>1</sup> I am grateful to Jutta Bolt, Jeanne Cilliers, Felix Meier zu Selhausen, Kerstin Enflo and Ellen Hillbom for providing invaluable feedback on earlier versions of this introductory chapter. Further, I thankfully acknowledge financial support from the Knut and Alice Wallenberg Foundation (grant number KAW 2016.0184).

<sup>2</sup> Throughout this dissertation, the terms Sub-Saharan Africa and Africa are used interchangeably, but always mean the former.

<sup>3</sup> Other proponents of the geography hypothesis beyond the African context are for instance Gallup et al. (1999) and Diamond (1997). Rodrik et al. (2004) or Keefer & Knack (1997) are further examples of studies arguing for the institutional hypothesis in a global context.

Michalopoulos & Papaioannou, 2016, 2020; Nunn, 2008) as fundamental causes of underdevelopment (e.g., Acemoglu et al., 2014). The importance of the institutional foundation of progress has often been linked to the long-term persistence of development paths caused or facilitated by historical events, episodes, and processes (e.g., Acemoglu & Robinson, 2012). Consequently, many scholars have set out to identify past events and episodes that may have sustainably altered the course of development in SSA until today (cf. Nunn, 2014a). Historical events and processes may have long-lasting implications for development as these change norms, behaviors, and preferences, which may alter or reinforce prevalent values, beliefs, or institutional changes over time (Rueda, 2016, pp. 26-7). Further, the initial establishment of facilities that promote human growth accumulation (e.g., schools or hospitals) may have a lasting impact on development over time due to the physical persistence and sunk costs of immobile facilities (e.g., Huillery, 2009; Jedwab et al., 2017; Jedwab & Moradi, 2016).

In the African context, various examples of historical episodes and processes that have previously been studied for their potential importance for long-term development mostly evolve around the effects of traditional farming practices, the African slave trade, or European colonialism (see section 1.1.). This dissertation focuses on another rapidly increasing body of literature investigating the implications of a transformative development in Africa during the late 19<sup>th</sup> and early 20<sup>th</sup> century – the expansion and work of Christian missions. Specifically, this dissertation examines the determinants and long-term implications of missionary activity in colonial Cameroon on subsequent development and contemporary outcomes in the country's education and the health care system. This is highly relevant as the West-Central African country struggled to achieve inclusive and rapid development at rates comparable to more successful nations in SSA throughout the past century. Cameroon also continues to show high levels of inequality in the access to health care (e.g., Tandi et al., 2015) and education (e.g., UNESCO, 2022). With its diverse colonial past, including occupation by three different colonizers (i.e., the Germans, British, and French) and a long history of exposure to multiple Christian missions of varied denominations, Cameroon represents a unique case to examine.

Given the importance of historical episodes and processes for contemporary outcomes, this dissertation assesses whether part of the discrepant regional development within Cameroon is attributable to early exposure to rapidly increasing missionary activity and mass conversions during the late 19<sup>th</sup> and early 20<sup>th</sup> centuries. Since Christian missionaries initiated the formal school system and institutionalized medical care in Cameroon, this dissertation focuses on a deeper understanding of the processes and mechanisms of these dimensions of human development (e.g., Enang, 2019; Vernon-Jackson, 1968, p. 13). Explaining and assessing historical predispositions and processes that may have impacted the diffusion of formal education and medical services are of particular relevance to the

overall development process given that schooling and health care have been identified as crucial determinants of economic growth, demographic trends, and gender equality (e.g., Glaeser et al., 2004; Romer, 1989; Vila, 2000). Despite the large importance of and diverse exposure to missionary work in Cameroon, most previous research has primarily focused on the effects of French versus British rule after WWI on the country's development path (e.g., Dupraz, 2019; Guarnieri & Rainer, 2021; Lee & Schultz, 2012; Mabeu & Pongou, 2021).

Therefore, this dissertation constitutes the first study that aims to comprehend and quantitatively assess the importance of missionary presence in shaping Cameroon's education and health care systems until today. Using hitherto largely unexplored data sources from mission archives, it seeks to create an understanding of the historical process of the settlement, expansion, and work of missionary societies with exceptional depth and nuance. Thus, the dissertation complements previous research on the long-term impact of missionary presence in SSA with the unique case of Cameroon while highlighting the complex interdependencies that missionary work was subject to.

In doing so, this dissertation also contributes to the rapidly growing research field of African Economic History more widely.<sup>4</sup> While our understanding of Africa's past has come a long way since German philosopher G. W. F. Hegel derogatively claimed in 1830 that "Africa is not a historical part of the world, it shows no sign of movement or progress", the comprehension of dynamics, interdependencies, and determinants of African development may be improved tremendously still today (Hopkins, 2009; Koschorke, 2015). In the words of Greenwood (2016, p. 15): "[...] history is always on the move. We will never be able to capture the full story, but each baby step brings us a little closer to understanding it a little better".

## 1.1 Previous literature, motivation, and contributions

Based on previous literature, this section highlights the relevance of this thesis for current research debates on the link between historical episodes and subsequent development paths. It also discusses the dissertation's contributions to the literature. This section further elaborates on the overarching research questions of the four dissertation chapters.

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<sup>4</sup> The recent surge of this research field has even been referred to as a "renaissance of African economic history" by numerous authors (e.g., Austin & Broadberry, 2014; Cogneau, 2016; Fourie, 2016).

### 1.1.1. Previous literature

The past two decades saw the emergence of an extensive range of empirical literature providing evidence for the importance of historical processes and events for contemporary economic development (Matasci et al., 2020, pp. 3-4; Michalopoulos & Papaioannou, 2017, p. ix; Nunn, 2012, 2014a). The seminal contributions in this line of research (Acemoglu et al., 2001, 2002; Engerman & Sokoloff, 1997, 2002; La Porta et al., 1997 & 1998) studied the long-run effects of European colonialism on the former colonies' subsequent economic development path (cf., Nunn, 2014a, p. 347). Different facets of colonialism are emphasized as determinants for diverging development paths in former colonies (Nunn, 2009, p. 67). The colonizer identity (e.g., French versus British) with its related legal system and investor protection (La Porta et al., 1997, 1998), the respective colony's suitability for growing globally traded cash crops and mining (Engerman & Sokoloff, 1997, 2002), and the colonized region's disease environment encountered by European settlers (Acemoglu et al., 2001) were claimed to have had a persistent effect on the development of local institutions and long-run economic progress. Even more recently, economic historians increasingly turned to other historical events or episodes that are studied for their long-term impact on economic, educational, and demographic development.<sup>5</sup>

This thesis focuses specifically on the expansion of the work of Christian missionaries and its potential long-lasting implications for subsequent educational and health care development. Given the importance of schooling and health care access for individuals' well-being and a country's economic progress, this potential link could carry with it important implications for the role of religion in the development trajectory. In fact, the Weber (1905) hypothesis – arguing that the emergence of Protestantism emphasized (bible) literacy and “provided the moral foundation that spurred the transition to a modern market-based industrial economy” (Nunn, 2014a, p. 365; cf. Landes, 1998) – is perhaps the most prominent example of the interrelation between a historical process, a cultural transformation, and long-run development. Whether Protestantism had positive and lasting effects on educational and economic development over time is still an unsolved debate in the literature (cf. Becker et al., 2021, pp. 602-606; Cantoni & Yuchtman, 2021, p. 220). While several studies have documented a significant and beneficial impact of the diffusion of Protestantism on economic activity and educational outcomes (e.g., Becker & Woessmann, 2009, 2010; Boppart et al., 2013, 2014; Hornung, 2014),

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<sup>5</sup> Common examples include the transfer of ideas, goods, and populations as part of the Columbian Exchange (e.g., Nunn & Qian, 2011), European revolutions and interstate warfare (e.g., Acemoglu et al., 2011; Aghion et al., 2019; Tilly, 1990), technological innovations (e.g., Baten & van Zanden, 2008; Dittmar, 2011), international trading practices (e.g., Acemoglu et al., 2005; Jia, 2014; Greif, 1993, 1994; Puga & Trefler, 2014), traditional farming practices (Alesina et al., 2013; Andersen et al., 2016), or the African slave trade (Dalton & Leung, 2014; Nunn, 2008; Nunn & Wantchekon, 2011) (cf. Cantoni & Yuchtman, 2021, pp. 219-223).

others have found little support for a positive effect of Protestantism on regional economic development (e.g., Cantoni, 2015).

By focusing on Christian missionaries, the religious context offers another related research avenue to examine the link between the historical diffusion of religion and contemporary outcomes. Many authors have recently examined the impact of missionary expansion in colonies outside of Europe and the related spread of religious ideas, formal schooling, and modern medicine on the colonized territories' economy (e.g., Valencia Caicedo, 2019; Wietzke, 2015), educational outcomes (e.g., Acemoglu et al., 2014; Fourie & Swanepoel, 2015; Gallego & Woodberry, 2010; Nunn, 2014b), gender equality (e.g., Baten et al., 2021; Montgomery, 2017; Nunn, 2014b) the political system and participation (e.g., Cagé & Rueda, 2016; Woodberry, 2012), social mobility (e.g., Alesina et al., 2021; Meier zu Selhausen et al., 2018; Wantchekon et al., 2015), health indicators (e.g., Cagé & Rueda, 2020; Doyle et al., 2020), and (religious) values (e.g., Nunn, 2010; Okoye, 2021).<sup>6</sup> Examples of studies that analyzed the association between Christian missionary presence and contemporary outcomes focused on Asian countries (e.g., Amasyalı, 2022; Bai & Kung, 2015; Calvi & Mantovanelli, 2018; Calvi et al., 2020; Castelló-Climet et al., 2018; Chen et al., 2022; Ma, 2021), Latin America (e.g., Valencia Caicedo, 2019; Waldinger, 2017), and Africa (e.g., Baten et al., 2021; Cagé & Rueda, 2016, 2017, 2020; Gallego & Woodberry, 2010; Jedwab et al., 2021, 2022; Nunn, 2010, 2014b; Okoye, 2021). Most of these studies on the long-term implications of missionary activity have identified a positive association between historical mission presence and the subsequent human capital formation.

However, as others have pointed out (Jedwab et al., 2022), much of the research investigating missionary legacies has insufficiently accounted for the various determinants of missionary settlements. Further, such studies mainly analyzed missionary presence solely based on imprecise, unspecific, and incomplete historical atlases (e.g., Beach, 1903; Roome, 1925; Streit, 1913, 1929) for a single year and with low levels of spatial detail. Generally, former German colonies are rarely regarded (cf. Montgomery, 2017). This dissertation aims to fill this void for the historical case of Cameroon with newly collected, comprehensive missionary and colonial datasets as well as a high degree of historical contextualization.

Yet, before discussing the specific motivations for and contribution of this dissertation based on the presented literature in more detail, it is worth emphasizing that many of the studies investigating persistent long-term effects of historical events (particularly in the context of European colonization) have been challenged due to the inherent *compression of history* that they often embody (e.g., Austin, 2008). Commonly, the scarcity of historical data leads to a mere analysis of the association between historical predispositions in the distant past and modern

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<sup>6</sup> This work was pioneered by Woodberry (2004) identifying a positive link between Protestant missionary presence and income levels or the spread of democracy in former non-settler colonies.

economic development today without accounting for the individual historical context and the complex chain of mechanisms and dynamics linking the two points in time (cf., Matasci et al., 2020, pp. 4). For instance, Cooper (2002, p. 15) and Hopkins (2009, p. 158, 2019, p. 10) characterize this type of analysis as based on a “leapfrog back across time” or heroic “leaps of faith” across the centuries, respectively. Other authors further point to episodic and non-uniform development also during colonial and post-colonial times, which are not explained by the persistence literature (e.g., Frankema & Van Waijenburg, 2012; Jerven, 2010). This thesis joins the ranks of studies on the potential long-run effects of mission work in the past and is guided by careful historical contextualization as well as a vast array of qualitative and quantitative data sources. These allow me to examine the expansion of missionary societies as a process rather than a mere event, to focus on specific mechanisms, and, consequently, to alleviate the concerns of presenting a “compressed” version of history.

### **1.1.2. Motivation and research questions**

Given the scarcity of quantitative data that was traditionally inherent to the study of African economic history, investigating the impact of the missionary expansion in SSA has gained enormous attention in the past two decades (e.g., Fourie, 2016; Jerven et al., 2012). While, of course, there is ever-present value in understanding history on its own merit, this thesis is also a product of this reignition of interest in African economic history. It examines the determinants, driver, and long-term impact of the expansion of Christian missionaries in Cameroon – a country with a unique colonial and missionary history involving the occupation by three colonial powers (i.e., the German Empire, the British Empire, and the French Republic) and a diverse exposure to numerous missionary societies. It thereby aims to improve and contribute to our understanding of the historical influencing factors for the development of education and medical services in SSA over time. I focus primarily on schooling achievement, educational gender equality, and health care access as regarded contemporary outcomes since these dimensions of human development are widely recognized for their mutual reinforcement and their important interplay with economic progress, demographic change, and even political stability (e.g., Asongu & Nwachukwu, 2016; Bloom et al, 2004; Deaton, 2013, p. 10; Glaeser et al., 2004).

Based on the fact that most previous research has established a positive link between historical missionary presence and the subsequent development path, this dissertation seeks to investigate the dynamic interdependencies and long-term implications inherent to past missionary work with exceptional depth. I draw on largely unexplored data sources and focus specifically on the Cameroonian country case. To this end, I created novel databases with improved data coverage (over time and spatially) on the diffusion of formal education and health care by missionary

societies and the colonial government as compared to other data sources, which have commonly been used to capture mission presence in SSA (e.g., Beach, 1903; Roome, 1925; Streit, 1913, 1929). These new databases are the result of, first, the collection of historical reports at various archives in Europe and the United States and, second, the digitization and geocoding of these colonial-era records.

Given that German colonies have thus far remained relatively understudied within the recently emerged body of literature on the long-term implications of missionary work in SSA, centering the analyses in this thesis on the unique historical case of Cameroon aims to complement existing research with a unique perspective. Within the research field of examining the impact of mission work in SSA on long-term development, I also, on the one hand, address methodological issues that many existing studies may be subject to, and, on the other hand, highlight and propose alternative and novel data sources that similar, prospective research could be based on. In doing so, I also intend to help improving the reliability and accuracy of future additions to the rapidly expanding research on the long-lasting effects of historical missions for economic development.

Based on its examinations of the historical context and quantitative information, the dissertation explores whether the work of missionary societies ultimately led to alterations in Cameroon's local development path. I argue that such changes may have been brought about by two main mechanisms (see also section 1.3).

First, channels of social and cultural reproduction – proposed by theory as well as by previous empirical research – may have played a role in the transmission of values, beliefs, and preferences regarding formal education and medical care, that missionaries instigated. Second, the physical persistence and sunk costs of schools and medical facilities established by missionary societies sustainably endowed certain regions with a higher stock of human capital promoting facilities. This may have also caused further spatial investments into education and health care to target the same regions in following periods.

Finally, the creation of novel datasets documenting the historical diffusion of education and health care in colonial Cameroon could encourage and inform future research gaining further insights on the dynamics of missionary work and its link to subsequent economic development. With these objectives in mind, the overarching research questions that guide the studies incorporated in this dissertation ask:

- (1) What were the drivers and determinants of the missionary expansion in Cameroon from the late 19th century until the end of colonial rule?
- (2) How was the work of missionary societies in Cameroon during the early colonial era shaped by African agency and the interaction with the colonial government?
- (3) What were the long-term implications of the expansion of mission work in colonial Cameroon for the country's schooling outcomes, educational gender equality, and the health care system until today?



### **1.1.3. Contributions of this dissertation**

The contributions of the dissertation are multifold and inform the search for answers to the research questions posed. Nonetheless, many of these contributions (e.g., the creation of historical databases) may also serve as starting points for future research and as reference points for cross-country comparisons when investigating the drivers and determinants of the missionary expansion as well as its long-term implications in other countries in SSA.

First, the newly gathered quantitative and qualitative data underlying this dissertation describes the advent of formal education and health care in colonial Cameroon with unprecedented detail (papers 1, 2 & 3). It illustrates when and where the initiation of formal education and health care in colonial Cameroon took place and how they developed over time. The numerous missionary societies are further compared with the respective colonial governments in their relative importance for the provision of public goods in colonial Cameroon. Depicting the establishment of modern medicine and institutionalized forms of knowledge transmission in a former German protectorate (Kamerun), this dissertation also contributes to the vastly understudied literature on the dynamics, implications, and interdependencies of colonial and missionary activity in regions initially annexed by the German Empire (e.g., Cornevin, 1969; Gwanfogbe, 2018, 2020; Miller, 1993, 2003; Vernon-Jackson, 1968). To this end, the annual time-series dataset with missionary and colonial schooling locations and enrollment numbers as well as the novel database on medical facilities of missionary societies and the colonial government in interwar Cameroon may also be used for future studies of the dynamics of missionary work in Cameroon under different colonial regimes. Therefore, the collection of information from missionary archives for this thesis helps overcoming the “dearth of written evidence for much of the [African] continent” (Reid & Parker, 2013, p. 10).

Second, based on this extensive data on the geographical diffusion of missionary education over time, the empirical analysis in paper 1 identifies geographical and spatio-historical factors that influenced the locations for mission schooling in colonial Cameroon. In doing so, the paper also provides a methodological contribution to the existing literature assessing the long-term impact of missionary activity in SSA on contemporary outcomes by addressing and investigating the endogeneity bias that may be inherent to many such studies (e.g., Jedwab et al., 2022). With spatially detailed information on the extent of mission activity from annual missionary reports, the paper contrasts the selective, imprecise, and incomplete information on mission work in Cameroon that is found in commonly used historical atlases. Acknowledging and accounting for potential biases that distort the results of studies on the long-term effect of missionary exposure not only serves the reliability of the subsequent quantitative findings in this dissertation but could also inform and apply to future research on the persistent impact of missionary

expansion. Further, paper 1 goes beyond just the locational determinants of schooling stations and examines the commonly overlooked spatial influencing factors of these missionary stations' total enrollment. Finally, to our knowledge, we (NB: paper 1 is co-authored by Jutta Bolt) are the first to capture the effects of competition and cooperation between varying missions on their spatial expansion and local performance of schooling activities by drawing on the diverse set of annual records from different missionary societies.

Third, central to the overarching research questions and adding to previous literature on persistent missionary legacies, papers 2 and 3 examine the long-term implications of missionary work on today's health care access, contemporary schooling outcomes, and current educational gender equality in Cameroon. The analyses in papers 2 and 3 are based on unique empirical strategies as well as detailed, historical missionary and government data sources that have not been used to document and assess the extent and lasting impact of the early colonial-era diffusion of schooling and health care in Cameroon thus far. This novel information on the early dissemination of education and medical services in Cameroon by missions and the government also allow papers 2 and 3 to further compare the relative importance of the identity of the historical health care provider (i.e., government versus mission) for the magnitude of persistence effects in health care infrastructure and educational outcomes.

Fourth, while focusing on the impact of the expansion of missionary societies in Cameroon, the country's partitioning into a British and a French-administered League of Nation (LoN) mandate territory after World War I (WWI), respectively, further enables this dissertation to explore the effects of colonizer identity on long-term development for the Cameroonian context (cf., Cogneau & Moradi, 2014; Dupraz, 2019; Guarnieri & Rainer, 2021; Lee & Schultz, 2012; Mabeu & Pongou, 2021). In fact, the combination of archival reports on the public good provision of missions and the colonial government(s) allows this dissertation to verify whether its findings on the lasting missionary legacy in education, gender equality, and health care hold when accounting for the potential effects of different colonial regimes in Cameroon.

Fifth, in contrast to the commonly Western-centric focus of studies on the determinants and long-term impacts of missionary work in SSA, the combination of different data sources collected for this dissertation enables paper 4 to highlight the complex interrelation of missionary work with indigenous communities and chiefdoms or the colonial government. Exploring the extent, nature, and importance of Africans' involvement in mission work, the paper shifts the missionary perspective towards the local societies in colonial Cameroon under German rule. Different from historical atlases with a selective, Eurocentric coverage that mirrors a racial ideology from colonial times, I use detailed missionary census data and personal reports more accurately indicating the contributions of the African workforce to the missionary expansion in Cameroon. In doing so, I examine African

agency and the “Africanization” of mission work, which has largely been neglected in the literature thus far (cf., Cornevin, 1969; Frankema, 2012; Johnson, 1967; Meier zu Selhausen, 2019). Only recently “[e]mphasis has shifted [...] to a concern with indigenous Africans as religious consumers and as missionaries in their own right” (Maxwell, 2013, p. 2). Insofar, paper 4 also contributes to the endeavor in line with Robert Cornevin (1969, p. 383) stating that “the history of German colonization could very well be rewritten essentially from the African point of view”.

The findings of the individual papers are summarized in section 1.5. The summaries are followed by a discussion of the overall conclusions of the dissertation in section 1.6 based on the synthesis of the results and insights gained from all four papers.

Of course, although this dissertation speaks to general debates around the long-term impact of the diffusion of religion or early investments in public good provision for the subsequent development path of pre-industrial countries, it remains a context-specific study on Cameroon (see section 1.4.3. on limitations of this thesis). This country-specific focus requires extensive historical contextualization to understand the objectives and motives of the main actors in colonial Cameroon as well as their individual interplay with geographical and spatio-historical circumstances. Therefore, the limitation to the Cameroonian case may also form a strength of this dissertation as it results in a thorough understanding of the historical evolution of Christian influence, education, and health care in Cameroon in profound depth. It further allows this study to consider the missionary expansion as a historical process rather than a single event – all while looking beyond a “compressed” version of history (cf. Austin, 2008).

## 1.2. Historical context

Summarizing the history of pre-colonial, colonial, and post-independence Africa Cameroon<sup>7</sup> on a few pages in this dissertation appears impossible without vast generalizations and (over)simplifications. Therefore, this section aims to primarily introduce important chronological landmarks that defined Cameroon’s development while focusing specifically on the exposure to missionaries and colonial rule. Even though the “tripartite historical periodization” (Reid & Parker, 2013, p. 7) into pre-colonial, colonial, and post-colonial times or the distinction between “before” and “after” the arrival of Westerners may actually represent relicts of European imperialism, I also decided to distinguish these historical periods for their usefulness to the structuring and empirical strategies of this dissertation. Of course, the expansion of Christian missionaries in Cameroon as studied in this thesis does not

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<sup>7</sup> Throughout this section, the term Cameroon refers to today’s territory of the country unless otherwise specified.

fully coincide with the colonial occupation. However, as explained below, missionary work intensified with colonialization before its share in public good provision declined post-independence – underscoring the suitability of this Eurocentric periodization for the Cameroonian case.

Archaeological sites demonstrate occupations on the territory of what constitutes the Central African country Cameroon today that date back at least 30,000 years (Cornelissen, 2002). The first identified written record mentioning the area of present-day Cameroon is a periplus chronicling the voyage of Carthaginian explorer *Hanno* in the 5<sup>th</sup> century BC passing Mount Cameroon (Le Vine, 1964, pp. 15-6). At a similar time (i.e., 6<sup>th</sup> to 4<sup>th</sup> century BC), the earliest documented civilization in Cameroon, the *Sao*, rose to importance in northern regions near Lake Chad and the Chari River. This civilization lasted until the 16<sup>th</sup> century AD when it fell to the Kotoko kingdom, which, in turn, was later incorporated into the (Kanem-) Bornu Empire. The empire introduced Islam to northern regions of current-day Cameroon before eventually being pushed out by the Fulani's expansion resulting in the establishment of the Sokoto Caliphate.

Portuguese explorers reached coastal Cameroon in 1472 and termed the Wouri river *Rio dos Camarões* due to the abundance of ghost shrimp (i.e., *Camarões*), eponym of Cameroon's name (Gwanfogbe, 2018, p. 2). Despite the Portuguese initiation of trade (mainly ivory or agricultural products and later slaves) along the coast, they did not establish permanent settlements or stations in Cameroon and were soon surpassed by Dutch, French, English, Danish, Swedish, and Brandenburg slave traders (Le Vine, 1964, p. 17). Eventually, the British, who had declared slave trade illegal in 1807 leading to an eventual end of trade in humans with the Americas, dominated the coastal trade and established commercial agreements (e.g., for palm oil and ivory) with local chiefs by the early 19<sup>th</sup> century (Austen, 1977, p. 318; Gwanfogbe, 2018, p. 2; Le Vine, 1964, p. 18). Simultaneously, with the settlement of the English Baptist Missionary Society (BMS) at the Bimbia trading post, Christian missionary work in Cameroon was commenced in 1844, as well (Brutsch, 1950, p. 302; Dekar, 2001; Weber, 1993, p. 1). Nonetheless, the influence and expansion of the BMS remained limited and restricted by a lack in financial and human resources – not least due to a high mortality of Europeans (BMS, 1843, p. 36; Curtin, 1961; Dekar, 2001; Gruender, 1982, p. 138; Kwast, 1971, p. 19; Vernon-Jackson, 1968, p. 92; Weber, 1993, p. 2). All successively established BMS settlements were located along the coast and attracted only few converts (228 church members in 1885) during the roughly four decades of active presence (BMS, 1885, p. 92; Skolaster, 1925, p. 13). Similarly, the American Presbyterian mission initiated its first, tentative attempts to expand the proselytization work into Cameroon from 1871 and eventually established a missionary main station in the late 1880s (Steiner, 1903, p. 64).

With a “rising tide of European imperialism at the end of the [19<sup>th</sup>] century”, the 1880s and 1890s also saw a distinct intensification of colonial expansions during

which the major European powers partitioned nearly all of Africa amongst themselves (Pakenham, 1991, p. xxi; Reid & Parker, 2013, pp. 3-5; Sanderson, 1985, pp. 96-158). Despite the predominant role of the British in the region, the German Empire annexed Cameroon as a protectorate in 1884 – isolating the British missionaries from their home country’s spheres of influence and putting an eventual end to the BMS’ presence in German *Kamerun* (Groves, 1969, p. 477; Kwast, 1971, pp. 78-9; Vernon-Jackson, 1967, p. 8).

The vacuum left by the departure of the BMS after the colonial annexation of Cameroon offered a unique opportunity for other missionary societies to fill in for the British missionaries in an attempt to convert souls. An increasing European grip on regions all over SSA allowed for missionary explorations “in hitherto remote and inhospitable environments” (Maxwell, 2013, p. 2) while, previously, “[m]any missionary undertakings in the nineteenth century were clear failures and had to be abandoned, often at great cost to their members and their sponsoring organizations” (Miller, 2003, p. 184). In Cameroon, only the American Presbyterians had withstood German annexation and continued their work. In turn, the British missionaries from the BMS were quickly replaced by the Basel Mission in 1886, which grew to become the most important society before WWI (Brutsch, 1950; Dah, 1983, p. 114; Skolaster, 1925, p. 14). Aiming to unify with the indigenous Baptist community, which had been left behind by the departure of the BMS and resisted uniting with the Basel missionaries, German Baptists established their work from 1890 and grew to become the third-largest Protestant mission in German Cameroon (Brutsch, 1950; Rudin, 1938, p. 362). These unification efforts failed, however, and the two Baptist groups (i.e., indigenous and German Baptists) operated separately throughout most of the period under German rule (Donat, 1960; Scheve, 1901, p. 10; Weber, 1993, pp. 6-7). Finally, the German Pallottines became the only major Catholic missionary society in German Cameroon after their arrival in 1890 (Skolaster, 1925, p. 12).

Soon after arriving in Cameroon, all four missionary societies<sup>8</sup> commenced preaching and built schools as a means to promote Christian ways of life and bible literacy (e.g., Le Vine, 1964, pp. 69-71). As in most African colonies, missions therefore constituted the main provider of education also in the German protectorate while the colonial administration gladly left the development of a schooling system to the religious organizations (e.g., De Haas & Frankema, 2018; Dupraz, 2019, p. 634; Meier zu Selhausen, 2019, p. 28; Michalopoulos & Papaioannou, 2020; White, 1996; Woodberry, 2004). Moreover, after setting up health care services for the

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<sup>8</sup> Miller (2003, p. 193) pointed out that “[a]s organizations, missions defy simplification” and “[t]he only simple truth about evangelical missions is that there is no simple truth about evangelical missions”. The need for differentiation also holds true across denominations. Maxwell (2013, p. 5) noted that “[m]issionaries were as diverse as their national origins, social background, and theologies”. However, given the scope of this dissertation, this section cannot account for all such differences. More in-depth discussions of the interdenominational distinctions are found in the papers included in this dissertation.

white settlers, missionaries were quick to realize the effectiveness of medical services in attracting potential converts, as well (cf., Etherington, 2005, p. 275). For instance, in describing the work of the Basel Mission in Cameroon, Dah (1983, p. 99) states that “[i]f worship is connected with medical care, the masses attending such healing centres cannot [...] avoid coming under Christian influence”. Therefore, limited health care was provided at most missionary stations in Cameroon, as well – though nowhere near to the same extent as education (Dah, 1983, p. 120; cf. Doyle et al., 2020; Groves, 1969, p. 486; Hardiman, 2006, p. 24).<sup>9</sup> The major share of mission activities revolved around proselytization and teaching tasks.

Islamic and indigenous education as well as traditional forms of medicine had been practiced long before the arrival of the missionaries. While not institutionalized, scaled, and formalized to the same extent, Muslim or indigenous knowledge transmission had of course been an important tool to socialize children as members of the community before the advent of missionary education already (Gwanfogbe, 2018, p. 10; see also papers 1 & 3 in this dissertation).<sup>10</sup> Similarly, medical practices, knowledge, and experiences with local diseases had already been passed on across many generations of Africans (e.g., Lang, 2017a; cf. Headrick, 1994). Yet, the systematic and formally organized approach of mission schools (and, eventually, medical services) certainly constituted something novel to most of the Cameroonian population (Enang, 2019; Vernon-Jackson, 1968, p. 13).<sup>11</sup>

Missionaries (in Cameroon and across SSA) mostly endeavored to spread the gospel and often willingly assumed their role as part of a *civilizing mission* – sharing the colonizers’ “aims when it came to literacy, hygiene, and industrial development” (Maxwell, 2013, p. 4). As mentioned, missionary societies soon realized that the provision of education and medical services proved to be a suitable strategy of attracting potential converts (Akakpo-Numado, 2005, p. 22; Berman, 1975, p. 16; Dah, 1983, p. 99; Good, 1991; Raaflaub, 1948, p. 36; Wuerz, 1902, p. 6). However, missionary societies also encountered indifference or even opposition to their

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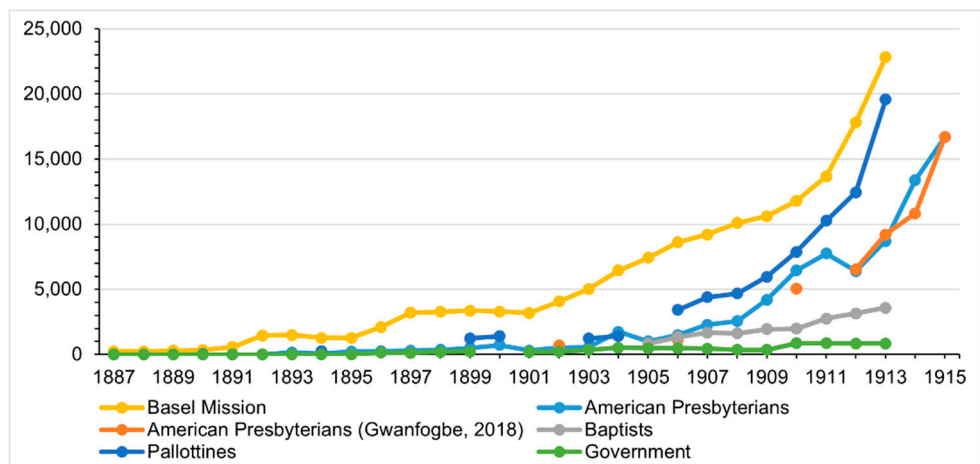
<sup>9</sup> For both providers of health care, the colonial government and missionary societies, however, insufficient financial resources prevented broad access of Cameroonians to medical services during the German period (Mokake & Kah, 2013, p. 102; Reichs-Kolonialamt, 1915b).

<sup>10</sup> Often frowned upon due to a lack of intellectual training, Gwanfogbe (2018, pp. 13-4) describes how indigenous teachings included mathematics, proverbs, recitations, or insights regarding geographical, environmental, and climatic features. Technical skills such as fishing, hunting, building construction etc. were also part of a training within the tribe, community or family (Vernon-Jackson, 1968, p. 13). Muslim education – while present in certain Cameroonian regions by the 18<sup>th</sup> century (e.g., Bamum or Mandara) was primarily aimed at religious teaching and achievement (e.g., Huillery, 2009, p. 185; Vernon-Jackson, 1967, p. 5).

<sup>11</sup> Vernon-Jackson (1968, p. iii) adequately defines schools as “formally organized classes of pupils, primarily children and adolescents, regularly meeting with teachers for primarily secular studies and referred to as schools by their founders”.

norms, beliefs, and services by Africans due to clashes with indigenous religions, family structures, and value systems widespread among the existing societies (cf. Kraemer, 1940, pp. 298-312; see paper 4 for details). Commonly, the value of formal and institutionalized education in its own right – beyond the access to new technologies, labor opportunities, and social upgrading – was not immediately clear to many Africans in Cameroon (e.g., American Presbyterians, 1898a, p. 2) or elsewhere in SSA (Lindenfeld, 2005; Maxwell, 2013, p. 13). At the same time, competition across the Christian denominations and with Islam (more prevalent in Northern regions of Cameroon) was also happening despite attempts by the German government to prevent such rivalries (Rudin, 1938, p. 369; cf. Johnson, 1967 & 1969; Vernon-Jackson, 1968, p. 136).

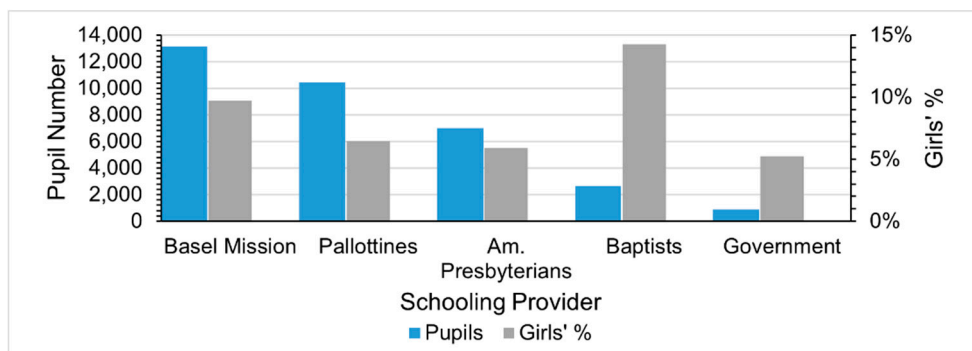
In Cameroon (and across the African continent), it took until the beginning of the 20<sup>th</sup> century for rapid increases in the numbers of Christian converts and pupils at mission schools to take place (Ekechi, 1971; see also Meier zu Selhausen, 2019, pp. 26-7) (see Figure 1).<sup>12</sup> This acceleration of the missionary diffusion was mainly due to an increasing colonial expansion and control, which highlighted the advantages of schooling – in turn creating African demand for educational services – and allowed for further penetration of inland territories by missionary societies (Dah, 1983, p. 114; Foster, 1965; Gruender, 1982, p. 323; Meier zu Selhausen, 2019, p. 30).



**Figure 1: Number of pupils in German Cameroon at missionary & government schools, 1887-1915.**

Source: Baumert & Bolt (2022) – Paper 1, Figure 1 in this dissertation.

<sup>12</sup> Due to the opposition of Jesko von Puttkamer – governor of Cameroon until 1906 – against the education of Africans, this missionary expansion may have even been further delayed (Gwanfogbe, 2018, pp. 25-6; Stoecker, 1986).



**Figure 2: School Enrollment & Gender Share in Cameroon by provider, 1911.**

Source: Baumert (2022b) – Paper 3, Figure 1 in this dissertation.

Following the reign of previous Gov. Puttkamer until 1906, the colonial administration approached the education of Africans more systematically by implementing an Education Ordinance in 1910, which primarily restricted the use of vernaculars, forbade teaching in any other European language than German, and introduced financial aid for missionary societies based on their pupils' language examinations (Gwanfogbe, 2018, pp. 27-8; Vernon-Jackson, 1967, pp. 12, 1968, pp. 164-5). Education in government schools remained very limited during German rule – particularly for females (see Figures 1 and 2). Access to government and missionary health care in Cameroon was also rather restricted to urban areas with white settlers (Mokake & Kah, 2013, p. 102). Plans to improve medical care for Africans were set back by the outbreak of WWI (Lang, 2017b, p. 115).

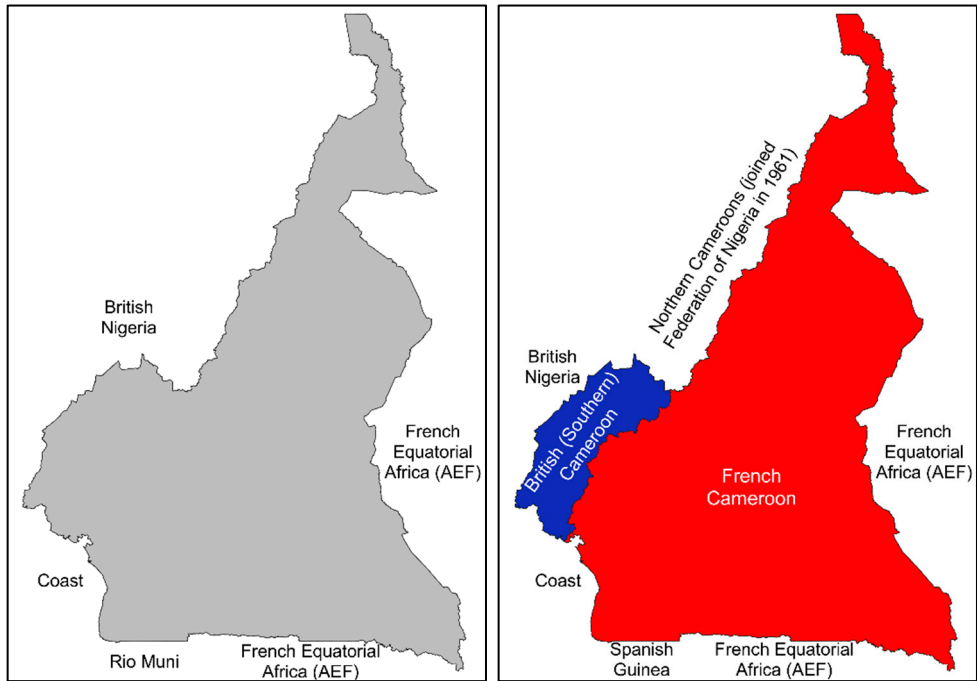
After WWI, the “colonial map underwent some reorganization” (Reid & Parker, 2013, p. 3). The German Empire suffered a defeat by the British, French, and Belgians in 1916 and had to give up its African territories. As a consequence, the territory of the protectorate of Cameroon was partitioned – rather arbitrarily – into separate League of Nations mandates governed by the British (administered from Nigeria and constituting around one fifth of the former territory) and the French (see Figure 3; Brownlie, 1979; Louis, 1967, p. 9).<sup>13,14</sup> WWI “was to throw the missionary

<sup>13</sup> The territory of Neukamerun – formerly part of French Congo and ceded to the German Empire by the French Republic in 1911 in exchange for surrendering claims on Morocco – is not regarded in this dissertation as it was seized again by the French in 1916 and has not been part of (French) Cameroon ever since (DeLancey et al., 2010, p. 277; Le Vine, 1964, p. 32).

<sup>14</sup> Separated by the Benue River, British Cameroons further consisted of Southern and Northern Cameroons (DeLancey et al., 2010, p. 79; Nfi, 2021). After French Cameroun's independence in 1960, plebiscites regarding the future affiliation of British Cameroons were held in 1961 determining that voters in Southern Cameroons desired joining the newly formed Republic of Cameroon while Northern Cameroons elected joining the Federation of Nigeria (DeLancey et al., 2010, p. 7). Given that the predominantly Muslim North of Anglophone Cameroon was almost entirely disregarded by colonial policies and was not reunited with its Francophone counterpart, it is mostly disregarded in this dissertation (Gwanfogbe, 2018, p. 126; cf. Dupraz, 2019).



activity into confusion” (Brutsch, 1950, p. 305), as well. All (Swiss)German missionary societies were, at least initially, banned from the two territories and several mission stations had to be abandoned or were transferred to either the remaining American Presbyterians or the newly arriving and under-resourced Paris Mission (Brutsch, 1950; Dah, 1983, p. 116; Keller, 1969, p. 146).



**Figure 3: German Kamerun versus League of Nations (post-WWI: United Nations Trust) territories.**

Note: Replicated from Baumert & Bolt (2022) – Paper 1, Figure 3 in this dissertation. Please note that a small territory of the French Congo briefly became part of German-administered Cameroon from 1911-1916 before it was returned to France and did not form part of Cameroon again thereafter (Delancy et al., 2010, p. 277). Further, British-ruled Cameroon after WWI also included additional northern territories before it was decided in a 1961 plebiscite that these areas were to become part of the Federation of Nigeria. Thus, I do not regard these territories in this dissertation.

In British Cameroon, the colonial period following WWI was characterized by indirect rule, British neglect, and the resulting need for self-government (e.g., DeLancey et al., 2010, p. 5; Dupraz, 2019, pp. 634-5; Guarnieri & Rainer, 2021; Jua, 1995; Nzume, 2004, pp. 102-3). The British government heavily relied on missionary societies and *Native Authorities*<sup>15</sup> (i.e., “indigenous representatives of various ethnic groups”; DeLancey et al., 2010, p. 271; cf. Bolt & Gardner, 2020) for

<sup>15</sup> In this dissertation, certain terms describing the African population in Cameroon (e.g., natives), which may be considered inappropriate today, are employed in reference to the historical documents and colonial-era context, in which these terms were used. This terminology should be interpreted accordingly.

public good provision and judicial or executive functions (Chiabi, 1997, pp. 15-19; Lee & Schultz, 2012; Vernon-Jackson, 1967, p. 16). Therefore, to outsource educational obligations to non-government actors, the colonial administration permitted the Basel Mission and German Baptists to return to British Cameroon from the mid-1920s onwards whereas the Catholic Mill Hill missionaries had replaced the Pallottines already in 1922 (Keller, 1969, p. 58; Lang, 2017b, p. 122; Le Vine, 1964, p. 73). Implemented regulations for the establishment of schools were not very stringent – allowing missions to retain their status as the primary provider of interwar education while less than a quarter of the total pupils in 1938 were served by the government or *Native Authority*-administered schools (Dupraz, 2019; Gwanfogbe, 2018, p. 93; Vernon-Jackson, 1968, p. 400).

Further, the missions took on at least some of the health care responsibilities, which had largely remained unfulfilled before (e.g., German Baptists, 1932-1938; Great Britain Colonial Office, 1933b). During at least the first decade after WWI, however, medical personnel and funds in British Cameroon were lacking – in part because the colonial administration was rather reluctant to allow German medical staff to operate in the mandate (Forkusam, 1978, p. 48; Mokake & Kah, 2013, p. 110). Further, it took until the mid-1930s before the *Native Authorities* also made some significant advances in the provision of medical care (e.g., Nzume, 2004, p. 102-3; Great Britain Colonial Office, 1931a, p. 96, 1932b, p. 39; cf. Baumert, 2022a). Following WWII, the development of a colonial health sector was beginning to gain steam. In 1960 – close to the end of colonial rule in Anglophone Cameroon – missions ran 47 per cent of the hospitals in the British-administered United Nations (UN) trust territory that had replaced the equivalent LoN mandate (Enang, 2019).

Missions were also the main provider of education in the British-administered part following WWII. Supported by government grants-in-aid that amounted to 60 per cent of educational expenditures, missions continued to dominate the education sector up until 1961 when the Southern part of the trust territory was integrated into the independent Federal Republic of Cameroon (Dupraz, 2019). According to Gwanfogbe (2018, pp. 99-101), overall school enrollment in the Anglophone territory increased from roughly 25,000 in 1947 to 64,000 in 1959 whereas the government and *Native Authorities* accounted for an even smaller share of schools (~8 per cent in 1959) by the time of independence than at the end of WWII. Based on population estimates by Frankema & Jerven (2014), this would equal a share of around 4 and 8% among the overall population, respectively.<sup>16</sup>

In French Cameroon, the immediate years after German rule saw the arrival of the Paris Mission, a Protestant society that – despite early struggles to mobilize

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<sup>16</sup> Estimates for the school-age population could not be obtained. Since the population estimates by Frankema & Jerven (2014) are decennial, the enrollment shares compare population in 1950 and 1960 with enrollment in 1947 and 1959, respectively.

enough financial and human resources – was to fill most of the gap left by the expulsion of (Swiss)German missionaries (Brutsch, 1950). Saving missionary settlements from abandonment, the American Presbyterians also took over several of the stations that had formerly been operated by German-speaking missionaries (Keller, 1969, p. 146). With the additional establishment of the Catholic Sacred Heart Fathers and Holy Ghost Fathers from France, the importance of missionary societies for the provision of schools increased rapidly once again (Gwanfogbe, 2018, p. 51).

The French government gradually achieved an increasingly centralized colonial administration and firmer control (i.e., *direct* rule) of its mandate (and later trust) territory (e.g., Dupraz, 2019).<sup>17</sup> Although more health facilities were established compared to the British-administered territory, permanent medical infrastructure remained rare in rural areas initially (Engang, 2019; Ministère des colonies, 1922). Particular focus was instead put on the organization of mobile medical teams, which – “often at gunpoint” and with considerable side effects – examined and treated Africans for sleeping sickness after 1921 (Lowes & Montero, 2021, p. 1291). Yet, the measures at least proved successful in substantially reducing the incidence of sleeping sickness.<sup>18</sup> Eventually, physical medical infrastructure increased in the French-administered territory, as well. Apart from the mobile campaigns, 150 medical centers were found in French Cameroon at the end of the interwar period and significant missionary medical efforts were realized (Ministère des colonies, 1937).

Whereas government schooling only provided around 10 per cent of overall education before WWII – highlighting the predominance of mission schooling during the interwar period – the French administration introduced more extensive education by the state during the UN trust territory period (Gwanfogbe, 2018, p. 61). Eager to diffuse French culture and language more directly, the government increased its role in education substantially by raising its share in overall pupils from 16 per cent of overall enrollment in 1947 to around 32 per cent in 1959 (Gwanfogbe, 2018, pp. 68 & 72; Vernon-Jackson, 1968, p. 511). Public investment in education surged and subsidies to mission schooling also increased – even surpassing British grants-in-aid (per school-age child) from 1950 onwards (Dupraz, 2019). More direct involvement in the educational sector further meant increased control and monitoring of (missionary) schooling practices and contents – even though Catholic

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<sup>17</sup> Lee and Schultz (2012) elaborate on other examples of colonial policies and practices that varied across the internal border dividing Cameroon prior to independence (or even beyond). Among these are differences in the legal systems (civil versus common law in Anglophone and Francophone Cameroon, respectively) or labor policies (abolishment of labor tax versus maintaining a disguised form of it in former British and French Cameroon, respectively) (see also Dupraz, 2019; Le Vine, 1964, pp. 104-10).

<sup>18</sup> The scope of these medical campaigns was extensive. Over 660,000 people were examined in 1928 alone (Lowes and Montero, 2021).

and Protestant missionaries continued providing the majority of education in French Cameroon at independence.

In 1961, Anglophone Southern Cameroon was incorporated into the Federal Republic of Cameroon, which had gained independence during the previous year. The reign of the first president, Ahmadou Ahidjo, lasted until 1982 and was characterized by an increasingly authoritarian one-party state that centralized power even further following the end of the federation in 1972 and the resulting formation of the United Republic of Cameroon (DeLancey et al., 2010, pp. 7-8).<sup>19</sup> This centralization and unification also represented the imposition of the administrative and institutional features of Francophone Cameroon – with political decision-making at French-speaking Yaoundé – on the entire country (cf., Mawhood, 1983). Further, the center of economic activity with the country's major port (Douala) and a railway connecting it with the capital are all located in the French-speaking part of Cameroon.

From independence and throughout the rule of Paul Biya, who succeeds Ahidjo as president until today, Anglophone Cameroonians have lamented discriminatory policies with regards to public employment and the allocation of centrally provided goods despite the large incomes from petroleum revenues accruing since the 1980s (Lee & Schultz, 2012). Exemplifying the problems in creating and cherishing national unity, Cameroonian scholars have gone so far as to describe modern Cameroon as a “highly centralized system of government which perpetrates Anglophone subjugation, subordination and unquestionable submission to the dictates of a system of ruling by decree rather than by consultation” (Gwanfogbe, 2018, p. 137). Such sentiments are reflections of the socio-cultural, economic, and political marginalization that is perceived by much of the Anglophone minority in Cameroon today (Mabeu & Pongou, 2021; Takougang & Amin, 2018, p. 401-2). The socio-political divide within the country has remained until today and recently culminated in the *Anglophone crisis* with violent protests and separatist movements increasingly calling for the independence of Anglophone regions since 2016.

### 1.3. Theoretical considerations and analytical framework

As explained in section 1.1., recent research on the long-term implications of historical events or episodes in Africa has increasingly turned its attention to the expansion of Christian missionaries and their initiation of formal education or institutionalized health care as transformative processes for former colonies' subsequent development paths (see Becker et al., 2021 & Jedwab et al, 2022 for overviews). Based on theoretical arguments and previous empirical insights, this

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<sup>19</sup> Renamed to Republic of Cameroon in 1984.

section will explore the mechanisms that may lead to the association between missionary activities in the past and the subsequent human capital formation until today as studied in this thesis. Applying these theoretical considerations and empirical expectations to the historical context of Cameroon, I will subsequently derive and present the analytical framework guiding this dissertation.

In this thesis, I primarily focus on two mechanisms that may link colonial-era mission work in Cameroon to contemporary outcomes with regards to educational achievement, gender equality, and access to health care. First, I will explain how missionary societies – crucial to the establishment of formal education and institutionalized health care in Cameroon – may have brought about a long-lasting cultural transformation reflected in changes in preferences, values, or norms of the local African population. Second, I will argue how the early investments in schools and medical facilities may have been subject to dynamics of spatial coordination and sunk costs that could have played a role in manifesting a legacy of early (mission) schooling and health care.

The norms, preferences, or beliefs in a society – such as gender roles or the appreciation of education – often show a remarkable degree of continuity over time. Through a process of socialization by family members or the cultural and social environment, value systems and traditions are reproduced and transmitted within and across generations (Bisin & Verdier, 2001, pp. 298-9). This cultural and social reproduction is a slowly and gradually evolving process. Moreover, a population's prevalent culture – in line with Nathan Nunn defined as “decision-making heuristics, which typically manifest themselves as values, beliefs, or social norms” – may have a pronounced impact on a society's economic development (Nunn, 2012, p. 109).

Yet, external influences involving the exposure to novel ideas as well as institutional investments and predispositions may modify preferences and value systems – possibly changing the trajectory of societal and economic advances (e.g., Acemoglu et al., 2001; Huillery, 2009; Rueda, 2016, pp. 26-7). Such changes may manifest themselves as the results of historical events or episodes, which “permanently affect culture or norms of behavior” (Nunn, 2009, p. 79). Given that belief and value systems reproduce and reinforce themselves as a new equilibrium of society, a population's development path could sustainably be altered as a consequence of historical processes or episodes.

Based on the seminal writings of Max Weber (1905), the emergence of one particular set of ideas and values – Protestantism – is most often pointed out as an example for the interlinked nature of shifts in cultural traits and long-term development. As Weber argues, following the 16<sup>th</sup> century-Reformation, Protestants' devotion to hard work and wealth accumulation as well as the emphasis of (bible) literacy promoted economic prosperity and facilitated the expansion of industrialization and a capitalist spirit (cf. Becker et al., 2016; Landes, 1998). Other channels associated with Protestantism that are often pointed out for their potential

to foster economic progress include formal education through religious organizations (i.e., *spiritual capital*), moral codes, country's openness, or social networks (e.g., Barro, 2004; Barro and McCleary 2003; Becker & Woessmann, 2009; La Porta et al. 1998; Lipset & Lenz, 2000; cf. Bai & Kung, 2015). Weber's hypothesis has been criticized for its historical inconsistencies and tested empirically with inconclusive results (see section 1.1.1), but the notion that the historical process of Protestantism's emergence – either due to inherent cultural traits (e.g., work ethic) or primarily through the emphasis of literacy – led to self-sustaining economic growth proved hard to dispel (Becker et al., 2016; Becker & Woessmann, 2009, 2010; Cantoni, 2015; Hornung, 2014; Samuelsson, 1964; Tawney, 1926, p. 316).

The importance of values, beliefs, or social norms (i.e., culture) is also reflected in their interplay with domestic institutions as “the channel underlying historical persistence that has received the most attention in the literature” (Nunn, 2012, p. 122). This reciprocal relationship – with culture shaping institutions and vice versa – reinforces itself through “endogenous cultural transmission mechanisms” where momentous shifts in the beliefs and values of societies may lead to sustainably altered development paths (Bisin & Verdier, 2001, p. 300; Rueda, 2016, p. 26). Culture therefore affects economic development directly but also indirectly through its relationship with institutions (Nunn, 2014a). A prime example for this process is the literature emphasizing the role of local institutions when studying the impact of European colonization on the subsequent economic development of former colonies (Acemoglu et al., 2001, 2002; Engerman & Sokoloff, 1997, 2002; La Porta et al., 1997, 1998). European settlers – bringing with them human (cf. Bolt & Bezemer, 2009; Glaeser et al., 2004) and cultural capital – established institutions that were endogenous to the migrants' ideas and norms imported from the Old World. Further, their culture and ideas durably affected the beliefs and values of the population in the settlers' respective host countries. This highlights the interconnectedness of historical processes, culture, and the institutional origins of economic development (Nunn, 2012).

Yet, much less abstract mechanisms than cultural shifts may also form part of the explanation why the establishment of schools and medical facilities in colonial-era Africa may have altered the development path of former colonies and still shows its long “shadow of history” (cf. Michalopoulos & Papaioannou, 2017, p. x) until now. In many parts of Africa, missionaries pioneered in the construction of schools and medical facilities that required initial investments and maintenance over time (e.g., Etherington, 2005, p. 275; Meier zu Selhausen, 2019, p. 28; Woodberry, 2004). Such educational and health care facilities are immobile and sustainably endowed certain regions, i.e., missionary spheres of influence, with a comparatively better stock of schools and medical locations (cf. Jedwab & Moradi, 2016). They may also be costly to relocate or rebuild elsewhere (cf. Jedwab et al., 2017). Moreover, even when missions were forced to leave their work behind (i.e., as a result of the

expulsion by the colonial administration), these facilities could then be utilized by indigenous rulers (e.g., *Native Authorities*, see section 1.2), succeeding missionary societies, or the government. Therefore, the sunk costs of educational and medical infrastructure may form a rather direct mechanism of physical persistence in the school and health care system (e.g., Lordemus, 2021).

Moreover, a region's existing educational and medical facilities in the past not only represents the endowment with schools and health care sites at that particular point in time, but these may also reinforce subsequent investments into the further development of that region's access to education and health care. More specifically, the initial presence of schools or medical care through early mission investments may have helped coordinate subsequent spatial investments by the government (colonial and post-colonial) or non-government actors (e.g., other missions, *Native Authorities*, NGOs) to the same areas (cf., Jedwab & Moradi, 2016). Areas with existing schools or medical sites could have benefited from local increasing returns of co-locating new facilities nearby or expanding existing facilities (e.g., hospitals) in subsequent periods – particularly if a higher share of trained personnel was present already (cf. Jedwab & Moradi, 2016). In turn, higher-skilled Africans may have moved to areas that had been exposed to mission schools and health care during the early colonial-era as these could be expected to offer better access to medical and educational facilities, which may have further reinforced the persistence in public good provision (cf. Huillery, 2009).

Studying the long-term impact of foreign missions moving on to *pastures new* in colonial Africa therefore addresses the implications of the diffusion of culture and values (cf. Weber hypothesis and the emphasis on literacy) as well as the effects of a path dependence in physical infrastructure during the time of European colonization. This historical process represents an excellent setting to assess and explain the relevance of shifts in cultural values and the initial establishment of educational and medical facilities for the economic development path in a context of institutional evolution. Investigating this episode with its implications for the case of Cameroon forms the core of this dissertation. The arrival of Christian missionaries and the subsequent initiation of education and institutionalized health care is worth assessing as a historical process of transformative importance (cf. Nunn, 2009). In doing so, I argue that the advent of formal schooling and medical care in Cameroon may have endowed certain regions with educational and medical investments while simultaneously setting forth a shift in norms and values favoring subsequent advances in the appreciation of education and health care access.

As a preamble, it is worth highlighting that most persistence studies connecting historical missionary presence to contemporary outcomes will distinguish explicitly and sharply between the pre-colonial, colonial, and post-colonial. Yet, in the words of Reid & Parker (2013, p. 2), “[t]his is not to say that Africa's recent history should necessarily be framed by the beginning and end of European colonial domination”. While the distinction between “before” and “after” colonial annexation also forms

a suitable starting point for the analytical framework of this study<sup>20</sup>, there is no reason to exaggerate the severity of an “exogenous” colonization or missionary shock either. In fact, as useful as the comparison between pre-colonial and colonial period is from an empirical view, it is worth acknowledging that societal changes, traditional belief or value systems, and indigenous forms of knowledge transmission or medicine in SSA preceded and directly affected the colonial era<sup>21</sup>. Nevertheless, given the absence of a provider of formalized schooling and health care before colonization, missionaries indeed brought with them novel, Western ideas about education and modern medicine (e.g., Etherington, 2005, p. 261; Hardiman, 2006, p. 48).

Despite the initial absence of substantial schooling efforts by the government, missionary societies – assisted by a growing African workforce affiliated with the missions – succeeded in drastically increasing the provision of education during the German period in Cameroon (Dah, 1983). This pre-WWI expansion of formal education is employed as a suitable point of departure to measure the long-lasting effects of mission schooling on contemporary levels of educational attainment and gender inequality. Turning to specific mechanisms that may have altered the development trajectory in Cameroon with regards to missionary education, this dissertation argues that the exposure to missionary activity raised Africans’ awareness of the value of formal education in regions where access to schools was first established. Strengthened by colonial expansion, which highlighted the value of education for socio-economic upgrading further, the reliance on mission schooling and the related build-up of trust in Western educational institutions reinforced itself within indigenous societies and was transmitted across generations. Due to the Weberian notion that Protestantism promoted the importance of schooling achievement in particular – not only for males, but also females – Protestant education may result in an especially strong effect on subsequent educational development (e.g., Gallego & Woodberry, 2010; Nunn, 2014b). Moreover, the sunk costs of existing schools may have been important to manifest a physical persistence of the provision of education (cf. Huillery, 2009; Jedwab et al., 2017). Further, the establishment of schools during the early colonial era could

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<sup>20</sup> This is due to the timely overlap of colonization with mission settlements and the initiation of systematic reporting by Western agents (i.e., annual mission records). Therefore, I disregard the very limited missionary efforts by the Baptist Missionary Society (BMS) in pre-colonial Cameroon before German annexation in the analytical framework. The work of the BMS is thematized in more depth in paper 4.

<sup>21</sup> For instance, this has been pointed out by Alesina et al. (2013), Iliffe (2017, pp. 97-8), Kossodo (1978); Frankema (2012), Montgomery (2017), or Adeyemi & Adeyinka (2003). Kwast (1971, pp. 42-52), Vernon-Jackson (1967, p. 5), Mokosso (2007, p. 19-20), Ardener & Ardener (2003), or Gwanfogbe (2018, pp. 9-19) offer insights on the traditional, indigenous beliefs and educational as well as medical practices in pre-colonial Cameroon (including Muslim-majority regions) specifically.



have been subject to the subsequent spatial coordination of educational investments to areas showing a better initial endowment with schools (cf. Jedwab & Moradi, 2016). In line with these mechanisms, related research also identified positive and significant associations of missionary activity in early colonial SSA with higher levels of education today (e.g., Acemoglu et al., 2014; Baten et al., 2021; Montgomery, 2017; Nunn, 2014b; Woodberry, 2004, 2012).<sup>22</sup>

In tandem with the two separate colonial administrations in Cameroon after WWI, missions also introduced institutionalized health care provision during the interwar years. This thesis estimates the spatial persistence of the broader diffusion of medical care on the distribution of health care facilities today. Other studies have previously examined and detected a persistence of public good provision in SSA (e.g., Huillery, 2009) and elsewhere (e.g., Chen et al., 2017; Dalgaard et al., 2018). Such a persistence in health care provision may have been established through several channels. First, the preceding arguments regarding a physical persistence of schools may apply to an even larger degree to medical facilities, which often require a high initial investment to establish, for instance, a regional hospital. Thus, sunk costs of existing medical facilities may constitute an important influencing factor for a lasting advantage in health care access in areas where medical facilities were established early (cf. Lordemus, 2021). Second, the colonial-era presence of health care locations may have acted as a reinforcing channel coordinating the following spatial investments into the same areas (Jedwab & Moradi, 2016). The co-locating of new medical facilities near existing ones or the expansion of health care facilities that are already present may be a result of this spatial coordination – particularly when returns-to-scale are high (Jedwab et al., 2017). A government’s tendency to preserve established spatial distributions of public expenditure and the initial human capital accumulation (i.e., a stronger political voice) in areas with early institutionalized health care may have also resulted in further public good allocations subsequently (cf., Banerjee et al., 2008; Davis & Weinstein; Jedwab et al., 2017). Third, the formation of a healthy workforce in Cameroonian areas exposed to health care already during the interwar period made it easier to recruit from for the colonial administration, which developed in such locations and continued to rely on productive laborers in these areas. Fourth, access to health care services before WWII may have resulted in a higher degree of trust in foreign missionaries, colonial governments, or the benefits of Western medicine subsequently (cf. Huillery, 2009).<sup>23</sup> To that effect, I argue that Africans’

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<sup>22</sup> Nonetheless, the interdenominational differences in the link between Catholic or Protestant schooling and today’s educational levels and gender inequality differ across previous studies (cf., Baten et al., 2021; Montgomery, 2017; Nunn, 2014b).

<sup>23</sup> In this regard, health care services at facilities that Africans voluntarily sought out are to be distinguished from medical campaigns with forcible treatments that may involve side effects (cf. Lowes & Montero, 2021).

appreciation for health care provision was transmitted within and across generations, affected the subsequent establishment of medical facilities, and is reflected in the distribution of health care facilities still today.

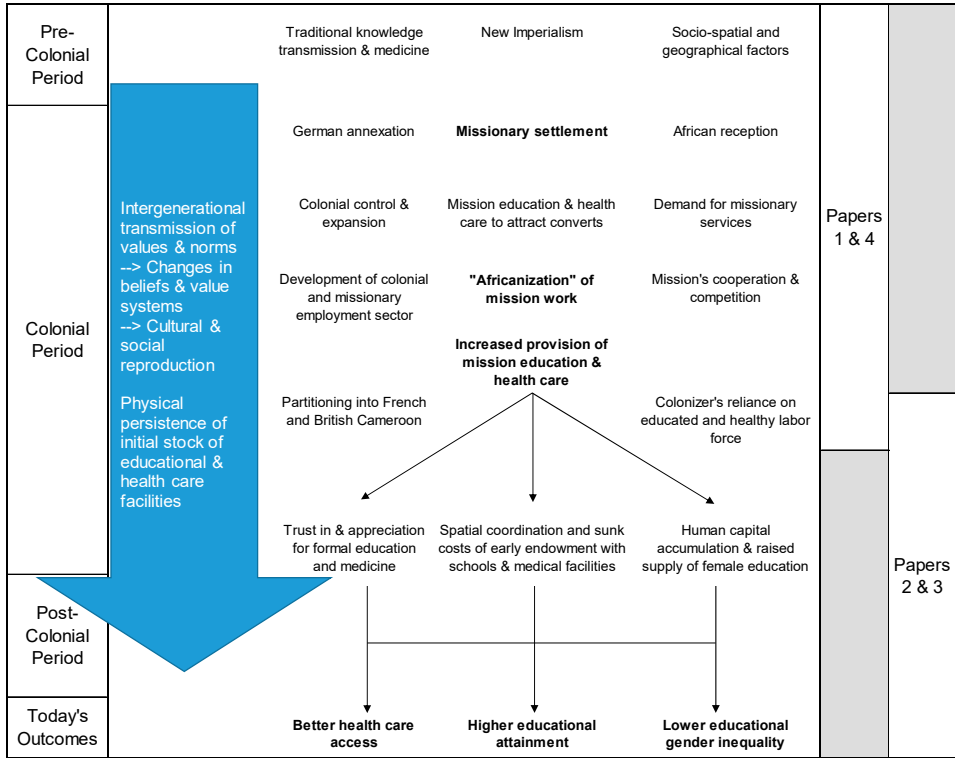
The transformations of individuals' belief systems and their appreciation for educational and medical services can have major, long-lasting implications for subsequent economic transformations. In line with Bisin and Verdier (2001, p. 300) stating that "families will socialize children more intensely whenever the set of cultural traits they wish to transmit is common only to a minority of the population", I argue that even a small share of early Christian converts with altered preferences and norms in Cameroon initially may have led to a momentous shift of local development.

Embedding these theoretical considerations into the historical context of Cameroon, this section now proceeds to present and discuss the analytical framework of this dissertation. Figure 4 illustrates the complex interdependencies of missions, African societies, and the colonizer, which led to the historical establishment of formal education and health care systems in colonial Cameroon. It also shows geographical and spatio-historical characteristics that may have played a role in fostering or impeding the expansion of public good provision. Finally, it presents channels through which the early endowment with schools and medical care as well as shifts in Africans' values and beliefs related to education and health care may have manifested themselves in Cameroon. The figure also distinguishes between the specific papers in this dissertation that address the indicated subtopic (right-hand side) as well as a rough chronological time course (left-hand side). The remainder of this section briefly describes the influencing factors and predispositions that affected the historical case of Cameroon and the analytical approaches taken in this thesis.

Of course, the colonial annexation of Cameroon and the rapid expansion of missionary societies was part of a broader geopolitical period characterized by *New Imperialism* and a "wave of global missionary efforts" (Meier zu Selhausen, 2019, p. 26). Moreover, as addressed in paper 1, geographical (e.g., disease environment) and spatio-historical factors (e.g., population density) as well as the reception of Christianity by indigenous communities clearly determined the specific locations where missions settled, established churches, and built schools. Previous literature has often only acknowledged the potential endogeneity of missionary expansion *en passant* and relied heavily on incomplete historical mission atlases (e.g., Beach, 1903; Roome, 1925; Streit, 1913, 1929) with selective information on mission locations in one year only (cf. Jedwab et al., 2022).<sup>24</sup>

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<sup>24</sup> The recent study by Jedwab et al. (2022) forms an exception as it investigates the determinants of missionary expansion in colonial Ghana and thereby highlights the potential endogeneity issues inherent to the study of missions based on incomplete historical atlases.



**Figure 4: Analytical framework of this dissertation.**

Notes: Author's own construction. The main topics and outcomes studied in papers 1-4 are highlighted in bold letters. Arrows represent the mechanisms and channels that this dissertation focuses on specifically.

With only limited government efforts in terms of the schooling and medical care for Africans, missions took on the major share in the development of formal education and (particularly after WWI) health care in Cameroon. Others have previously pointed out the important role of missionary education and health care in attracting potential converts (e.g., Dah, 1983, p. 99; Doyle et al., 2020; Schlunk, 1914a, p. 10; Schmidlin, 1913, p. 42). The demand for missionary services – a largely neglected topic in previous literature<sup>25</sup> – and its relation to increasing colonial control is discussed as part of papers 1 and 4, as well.

While competing for potential converts with limited resources, missionary societies in Cameroon were forced to increase their capacity for proselytization and schooling to be able to serve the growing demand for education raised by an expanding formal employment sector. To my knowledge, paper 1 in this dissertation is the first study that accounts for intradenominational cooperation and

<sup>25</sup> Notable contributions include Aboagye (2021), Frankema (2012) or Meier zu Selhausen (2019).

interdenominational competition when estimating determinants of missionary locations. Using qualitative reports, paper 4 further zooms in on interdependencies of missionaries' work with the colonial government, Islam, and African societies specifically. For the Cameroonian case, the paper also provides qualitative and quantitative evidence of the "Africanization" of mission work, which has previously been acknowledged by other scholars (e.g., Frankema, 2012; Meier zu Selhausen, 2019), but has not received much in-depth attention in the literature until now.

Finally, in line with the theoretical considerations at the onset of this section, the arrows included in Figure 4 reflect mechanisms and channels that this dissertation addresses. The large blue arrow represents the overarching notions that public good-providing facilities are subject to a physical persistence and that shifts in cultural and social values reproduce over time. In turn, the smaller black arrows indicate specific channels through which the "lasting nature of physical facilities" (Huillery, 2009, p. 179) and shifts in preferences, norms, and values may have manifested themselves in Cameroon.

The next section outlines the data and methods employed to create an improved understanding of the missionaries' settlement and their expansion of schooling provision, the importance of African agency in relation to mission work, and the long-term implications of missionary activity.

## 1.4. Data and methodology

The data collection at numerous missionary and national archives with the subsequent digitization of the records and the construction of novel data sets for 19<sup>th</sup> and 20<sup>th</sup>-century Cameroon form the centerpiece of this dissertation. Nevertheless, in order to exploit the richness of information within the gathered data in a target-aimed fashion that is able to directly address the research questions and mechanisms outlined in sections 1.1. and 1.3., a variety of adequate quantitative and qualitative methods is used for this dissertation. Therefore, the following sections introduce the nature and sources of the employed data before discussing the methodological strategies of the four papers. The data and methods utilized in this dissertation – tailored specifically to the topics and aims of each of the four individual studies herein – are described in more depth within the respective papers.

Generally, this dissertation will likely be considered part of the recently emerged strand of literature referred to as *New Economic History* (cf., Hopkins, 2009) which "follows an inter-disciplinary approach, integrating historical narratives and insights from other-than-economics social sciences (mostly sociology, political science and anthropology) with mathematical models, and formally tests longstanding, influential conjectures with econometric techniques" (Michalopoulos & Papaioannou, 2017, p. x). Nonetheless, this dissertation aims to go beyond merely

connecting two points in time and “compressing” history (Austin, 2008). Instead, it complements econometric analyses (such as in papers 1-3) with a consideration of the interdependencies between the (colonial) actors relevant to the studied country case (paper 4) and a profound historical contextualization based on varied missionary and colonial data sources (papers 1-4).

### 1.4.1. Data

This thesis builds on the construction of historical data sets that may be of use for research studies reaching beyond the scope of this dissertation and that may be considered part of a broader effort to digitize and transcribe different sources of data on the economic history of Africa (see Fourie, 2016). Generally, the historical data sources can be distinguished between colonial and missionary records. However, at times, the gathered colonial reports also include scattered data on missionary work and presence, which is used to complement and cross-check the information found directly in missionary reports. I present these colonial and missionary data sources, together with the contemporary datasets and geographical as well as spatio-historical indicators, in the following.

#### *Missionary Sources*

Missionaries compiled annual reports and censuses that summarized their work in (pre-) colonial Cameroon and documented the struggles and successes experienced while aiming to convert African souls. Further, the reports detailed the appropriate use of donations from Europe and America in the mission fields. The records include personal reports from missionaries, general information about the progress made in the proselytization efforts, and statistical tables with balance sheets, regional or district/village-wise church membership, or school enrollment.<sup>26</sup> Other information (e.g., on medical work or the mission workforce) is not reported with the same continuity across the missionary societies and over time, but often finds mentioning in the annual reports, as well.

I collected the annual reports for six missionary societies that were present in Cameroon between 1850 and 1958. Yearly reports from the Basel Evangelical Missionary Society (also: Basel Mission) were gathered from the Swiss Mission 21 archives (Basel Mission, 1888a-1961a) and the records of the foreign mission of the Presbyterian Church in the United States of America (also: American Presbyterians) were collected at the Presbyterian Historical Society in Philadelphia (USA)

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<sup>26</sup> Missions made a distinction between so-called main stations and outstations. Main stations refer to missions' regional spheres of influence that were usually based in a larger city and consisted of many smaller village posts (i.e., outstations) with their respective schools. For instance, in 1911, a single Basel Mission main station comprised of 46 outstations (see paper 3; Basel Mission, 1912b; Schlunk, 1914b, p. 96).

(American Presbyterians, 1878b-1940b). The reports compiled by the Catholic Society of the Catholic Apostolate, known as the Pallottines, were obtained from the archives in Limburg (Germany) (Pallottines, 1893a-1917a) and records of the German Baptists were collected at the Oncken archive near Berlin (Germany) (German Baptists, 1906-1939). The annual reports of the Société des Missions évangéliques de Paris, mostly referred to as the Paris Mission, were gathered at the Bibliothèque du Défap in France (Paris Mission, 1917-1941). Finally, the London Baptist Missionary Society (BMS) provides pre-colonial annual mission reports (BMS, 1843-1888).<sup>27</sup>

For these missionary societies, I geocoded the location of the main and (if available) outstation schools with their respective annual enrollment at each of the stations. This yields the annual, geocoded database of existing mission schooling location and the pupil number at these. While most important for paper 1's estimations of the determinants of mission schooling locations and their total enrollment, the statistical and geocoded information on mission schooling from the annual reports is also used throughout the dissertation when documenting the expansion of formal education (e.g., paper 3). Figure 5 shows an exemplary outstation-level school census for one of the smaller Basel Mission main station (Victoria; today's Limbé) in 1896.<sup>28</sup>

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<sup>27</sup> Further, I collected and digitized outstation schooling, staff, and member censuses with much more spatially detailed information, which the Basel Mission (1890b-1959b & 1890c-1914c) and the German Baptists (1930-1936) recorded for several years (see preceding footnote for main versus outstation distinction). Moreover, in addition to the annual overall reports (American Presbyterians, 1878b-1940b), I gathered (main) station-wise reports (American Presbyterians, 1894a-1912a & 1931a-1952a) from the American Presbyterians, as well. From the Pallottines' archive, monthly issues of the *Stern von Afrika* journal were also identified (1894b-1917b). Unfortunately, for the post-WWI period no annual information on the main station (enrollment) of the Catholic missionaries in British and French Cameroon (i.e., Mill Hill missionaries, Spiritans, and Sacred Heart Order) was obtainable.

<sup>28</sup> I purposely chose a smaller main station during the early years after establishment to limit the size of the illustration. A larger main station is displayed in Baumert & Bolt (2022) – Paper 2, Appendix B.1 in this dissertation.

Station	Victoria	C. Schulen.																
Berichtsjahr	1896																	
Ort	Art der Schule	Zahl der Klassen	Schüler in Erziehungsanstalten					In Gemein- de-schulen		In beiden- schulen		Gesamtchülerzahl am Jahreschluß				In Reichthums- schulen	In Sonntags-schulen	
			Prediger- seminar	Lehrer- seminar	Schüler- Anstalten	Knaben- anstalten	Mädchen- anstalten	In Gemein- de-schulen	In höheren Klassen	In Gemein- de-schulen	In höheren Klassen	Männlich		Weiblich				Zusammen
												Christen	Sekten	Christen	Sekten			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Victoria	Christliche Volksschule	1	-	-	-	-	-	-	-	15	-	-	15	-	-	15	-	20
Bonabille	"	1	-	-	-	-	-	-	-	45	-	40	40	5	45	-	50	-
Bola	"	1	-	-	-	-	-	-	-	8	-	-	8	-	-	8	-	-
Sikolo	"	1	-	-	-	-	-	-	-	13	-	-	13	-	-	13	-	-
Zwenga	"	1	-	-	-	-	-	-	-	12	-	-	12	-	-	12	-	-
										93			88	5	93		70	

Figure 5: Data sample – Basel Mission outstation-level school census for Victoria main station, 1896.  
Source: Basel Mission (1897b).

As a unique feature of this mission data with a high level of spatial detail, it also allows an analysis of the impact of competition or cooperation between missionary societies on their settlement choices and performance in Cameroon. Furthermore, medical statistics that were included in many of the missionary reports form part of the data employed in paper 2 to adequately represent the diffusion of institutionalized medical care.<sup>29</sup> Moreover, the staff censuses from the Basel Mission and the balance sheets of all missionary societies present in German Cameroon are employed extensively for paper 4. Figure 6 displays an exemplary Basel Mission staff census for the same missionary main station and year as in the school census shown in the preceding Figure 5 (Victoria, 1896).

<sup>29</sup> For instance, Hardiman (2006, p. 9) noted “that the mission archives contain a vast amount of material on medical work that has been greatly underutilised by scholars” thus far.

Zensus der Station <i>Victoria</i>							
Nach dem Stand vom 31. Dezember <i>1896</i>							
A. Arbeitspersonal.							
Vollständiger Name	Beruf	Arbeitsposten	Auf diesem Posten seit	Fürs eingedorene Personal.			Bemerkungen
				Alter	Ob ledig oder verhei- ratet	Kinder unter 14 Jahren	
1	2	3	4	5	6	7	8
<i>Gottfr. Genser</i>	<i>Missionar</i>	<i>Victoria</i>	<i>1896</i>				
<i>m. Fr.</i>							
<i>Jonas Sibree</i>	<i>Lehrer</i>		<i>1895</i>	<i>23</i>	<i>witw.</i>		
<i>Enoch Horrolo</i>	"	<i>Bongbile</i>	<i>1892</i>	<i>32</i>	<i>witw.</i>		
<i>Isack Makandala</i>	"	<i>Likolo</i>	<i>1895</i>	<i>22</i>	<i>ledig</i>		
<i>Jakob Ndumile</i>	"	<i>Bola</i>	<i>1896</i>	<i>21</i>	"		
<i>Franziso Ngo</i>	"	<i>Bnonga</i>	<i>1895</i>	<i>19</i>	"		

Figure 6: Data sample – Basel Mission staff census for Victoria main station, 1896.  
Source: Basel Mission (1897c).

Finally, the annual mission records include qualitative information from both general and personal reports sent in by the missionaries in the field, which are the main source of contextual evidence substantiating paper 4.

### *Colonial sources*

This dissertation also draws on data from a variety of colonial records – more of which were readily available online compared to the missionary reports. Still, the included quantitative and spatial information had to be extracted and geocoded to allow for the use of the data in this thesis.

Annual German colonial reports (1896-1912) and specific German medical reports (1903-12) were available at the State and University Libraries in Hamburg and Bremen (DE), respectively (Reichs-Kolonialamt, 1898a-1909a & 1911a-1914a; 1905b-1906b & 1907b-1915b). After the former German protectorate *Kamerun* was partitioned following WWI, the British and French colonial governments compiled LoN reports describing the economic, social, and political circumstances in each mandate territory. These annual reports were identified at the National Archives in Kew (UK) and (online) at the digital catalogue *Gallica* of the Bibliothèque nationale de France, respectively (Ministère des colonies, 1921-1939; Great Britain Colonial Office, 1922a-1939a). Additional medical reports issued by the British colonial administration in Nigeria, which was governing the LoN mandate of British Cameroon, were available online from the *British Online Archives* (Great Britain Colonial Office, 1922b-1941b).



From the German colonial reports, I extracted information on the location and enrollment numbers at pre-WWI government schools used to estimate the determinants of missionary education in paper 1 (complementing the missionary data). These reports also yielded qualitative evidence and statistics on the diffusion of colonial health care during the German period for paper 2.

The British and French LoN reports similarly yielded interwar government schooling locations with enrollment adding to the schooling database employed for paper 1. Importantly for paper 2, the medical information included in the LoN reports allowed for a detailed representation of the development of a colonial health care system after WWI and the construction of a novel database capturing the geocoded locations of colonial and missionary health care facilities in 1937. Figure 7 shows an excerpt of the information on medical facilities in French-administered Cameroon from the 1937 LoN report.

# RÉPARTITION PAR RÉGION DES FORMATIONS SANITAIRES

## 1° ÉTABLISSEMENTS DE MÉDECINE GÉNÉRALE

RÉGIONS	HÔPITAUX	NOMBRE DE LITS	CENTRES MÉDICAUX	NOMBRE DE LITS	INFIRMERIE	NOMBRE DE LITS	DISPENSAIRES
Adamaoua .....	"	"	Ngaoundéré	34	"	"	Tibati Banyo Meiganga
Mungo .....	"	"	Nkongsamba	60	Mbanga	10	"
Haut-Nyong .....	"	"	Aboug-Mbang Doumé	80 100	Lomé	20	Messamena
Logone .....	"	"	Maroua	56	Yagoua	5	Kaéli (SP)
M'Bam .....	"	"	Bafia	70	Ndikiniméki	5	Yoko
Wouri .....	Douala	350	"	"	New-Bell (prison)	6	Deido Bonabéri
Kribi .....	"	"	Kribi	50	"	"	Lolodorf Ebenvock Campo Bipindi
N'Kam .....	"	"	Yabassi .....	50	"	"	"
Lom et Kadeï .....	"	"	Batouri	180	Bétaré-Oya	53	Bertoua
Nyong et Sanaga .....	Yaoundé Ayos	225 240	Nanga-Eboko	50	Mbal Mayo	10	Efok (SP) Akonolinga Obala Nkonzok
N'Tem .....	Ebolowa	175	"	"	Sangmélima	10	Amban Djoum Nkan (SP) Egoulam (SP) Ngoulamakong (SP) Nsimi
Benoué .....	"	"	Garoua	35	"	"	Rei-Bouba (SP) Poli
Mandara .....	"	"	Mokolo	25	Guider	5	Mora
Sanaga-Maritime .....	"	"	Edéa	65	Eséka Ngambé (Babimbi)	20 4	Nkongé (SP) Ndongu (SP)
Noun .....	"	"	Dschang Foumban	155 20	"	"	Bafang Bafoussam Bangangté
Boumba-Ngoko .....	"	"	"	"	Yokadouma Moloundou	40 5	"
Chari .....	"	"	Fort-Foureaux	35	"	"	Logone Birni Goulfey
TOTAUX .....	4	990	16	1.015	13	193	33

SP = Dispensaires semi-permanents.

Figure 7: French League of Nations report (excerpt) with medical facilities in 1937. Note: Replicated from Baumert (2022a) – Paper 2, Appendix B.1 in this dissertation based on Ministère des colonies (1938, p. 112).

Paper 3 primarily draws on an educational survey for the German colonial empire in 1911 compiled by Schlunk (1914b), which includes detailed information on the location and enrollment at missionary stations – many of which further disaggregated into outstations (see footnotes 26 & 27) – that I geocoded and digitized in a new dataset for pre-WWI (i.e., 1911) schooling in German Cameroon. An excerpt of this data source is reproduced in Figure 8 showing the outstation-level information on enrollment for the Basel Mission main station Bombe in 1911.

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Lfd. No.	Schulort	Bezirk	Klassenzahl	Lehrkräfte				Vorbildung	Moni- toren	S c h ü l e r																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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Figure 8: Historical Data Sample – Educational Survey 1911, Basel Mission main station ‘Bombe’. Note: Replicated from Baumert (2022b) – Paper 3, Appendix B.1 in this dissertation based on Schlunk (1914a, pp. 88-9).

## Contemporary Data

Two of the four papers in this dissertation link the collected historical data to contemporary outcomes (papers 2 & 3). First, to test the potential existence of persistence in medical infrastructure, paper 2 employs a new, geocoded inventory of different types of public health care facilities provided by Maina et al. (2019). Second, paper 3 links historical schooling data to individual-level information from the 2005 Cameroon census sample of the Integrated Public Use Microdata Series (IPUMS), which captured 10% of the country’s population distributed over 325 birthplace clusters within Cameroon (Minnesota Population Center, 2019).<sup>30</sup> The IPUMS data records all three dependent variables (i.e., educational attainment level, literacy, and years of schooling) as well as several individual-level controls (i.e., age, gender, urban or rural birthplace) for each person included in the sample.

## Geographical and spatio-historical data

Throughout papers 1 to 3, I employ a diverse range of locational data that may have influenced and determined missionary and colonial settlements, historical and contemporary medical facilities, and today’s educational outcomes. Linking these geographical and spatio-historical indicators to the (pre-) colonial and contemporary schooling and health care data not only allows paper 1 to explore the locational

<sup>30</sup> For robustness tests of the estimated results in paper 3, I also use the 1987 and the 1976 IPUMS census samples for Cameroon.

determinants of mission schooling stations, but the use of these variables as spatial controls also enables paper 2 and 3 to account for the potential endogeneity biases that may be inherent to their findings. This applies particularly in light of the recent literature on the drivers of missionary settlements (see Jedwab et al., 2022). Therefore, the spatial controls aim to ensure that observed long-term effects of missionary (or colonial government) work in Cameroon are not merely due to the underlying spatial attributes.

Decennial, historical population densities were obtained from the HYDE database (v3.1; Klein Goldewijk et al., 2011) while contemporary population densities are derived from the WorldPop database (WorldPop, 2020).<sup>31</sup> I also gathered information on the location of large (pre)colonial settlements (Fon & Balgah, 2010), Muslim strongholds (Gwanfogbe, 2018, pp. 17-8; Sluglett and Currie, 2015), the historical existence of plantations at different points in time (Ardener & Ardener, 2003, p. 157; Bederman, 1966; Great Britain Colonial Office, 1938a), and the colonial railway in Cameroon (Defense Mapping Agency, 1992; Langaas, 1995). To account for the respective colonial identity post-WWI, I digitized the border separating the two respective mandate territories that were established after WWI. Based on this, I generated a dummy indicating the respective cell location within British or French Cameroon. Anthropological data on the political structure and the practice of polygamy among (pre)colonial societies is based on the Murdock Atlas (Gray, 1999; Murdock, 1967; Nunn, 2008). To capture the local disease environment, papers 1-3 employ the Malaria ecology index (Kiszewski et al., 2004) and the tsetse fly suitability index (Alsan, 2015). Geographical attributes such as the location of rivers, inland waterbodies, and the coast (FAO, 2000 & 2014; Central Intelligence Agency, 2006; Natural Earth, 2018) as well as information on annual precipitation (Legates & Willmott, 1990; Willmott et al., 1998), ruggedness (computed based on elevation data from Reuter et al., 2007), and the soil's average caloric suitability (Galor & Özak, 2016) are also incorporated in the quantitative analyses of this dissertation.

Further information on the nature of the geographical and spatio-historical indicators and a critical evaluation of their suitability and accurateness are found upon the data's use within papers 1-3<sup>32</sup>. The ensuing section explains how the historical, contemporary, and time-invariant locational data is linked and,

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<sup>31</sup> Several of the estimations in papers 1-3 also account for the location of the capital Yaoundé and Douala – the historical center commerce and slave trade (cf. Eckert, 1998).

<sup>32</sup> For instance, criticism revolves around the use of soil suitability maps (e.g., Bolt & Gardner, 2020; Millea, 2015, p. 1448; Showers, 2005, pp. 215-6) or the crude and oversimplified nature of the Murdock map as a proxy for pre-colonial traditions, norms, or habits (e.g., Cogneau, 2016; Cogneau & Dupraz, 2015). Yet, both data sources are widely used and represent the best available information on the suitability of the soil for agricultural production or the predominant African ethnic tribes, respectively.

subsequently, introduces the respective empirical strategies and methods employed to answer the specific research questions guiding each of the papers.

### **1.4.2. Methods employed in this thesis**

This dissertation aims to contribute to recent literature on the long-term effects of the diffusion of Christianity, formal education, and institutionalized health care in SSA using a variety of different methods. Papers 1-3 take a quantitative perspective – using large newly constructed datasets for colonial Cameroon – but still remain carefully contextualized historically. In contrast, paper 4 takes a more qualitative approach and frames the early colonial missionary work in German Cameroon as subject to complex interdependencies with African agency, the colonial government, and the context-specific local conditions and circumstances.<sup>33</sup> Further, where paper 1 and 4 analyze developments through (parts of) the colonial period, papers 2 and 3 take a long-term perspective.

In addition, given its focus on influencing factors of missionary expansion with an emphasis on methodological considerations for the broader research fields, paper 1 (co-authored with Jutta Bolt) can be considered as “setting the stage” for papers 2 and 3. In turn, the final paper of this thesis further breathes life into the preceding articles by addressing dimensions of missionary work that are difficult to capture and may get left out of account in quantitative analyses by focusing more on a qualitative narrative. Therefore, paper 4 also forms a suitable closing chapter of the overall dissertation as it raises many new avenues of research on the impact of Christianity’s diffusion in SSA while highlighting the complexity underlying the study of missionary work in Africa.

Paper 1 estimates the determinants of mission schooling locations and their enrollment in Cameroon between 1850 and 1958. Therefore, the Cameroonian territory is divided into 4 x 4 km grid cells as the geographical unit of observation<sup>34</sup> before computing all geographical and spatio-historical variables for each of the cells using Geographical Information System (GIS) software.<sup>35</sup> Subsequently, we link the collected information on the historical existence of 682 geocoded mission

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<sup>33</sup> The aspiration of examining a complex issue in a holistic manner involving multiple perspectives and factors of influence is directly aligned with Creswell and Creswell’s (2018, p. 258) characteristics of qualitative research.

<sup>34</sup> Given that our database not only includes main, but also outstation schooling information, we employ a comparatively fine-grained level of spatial disaggregation with small grid cell dimensions.

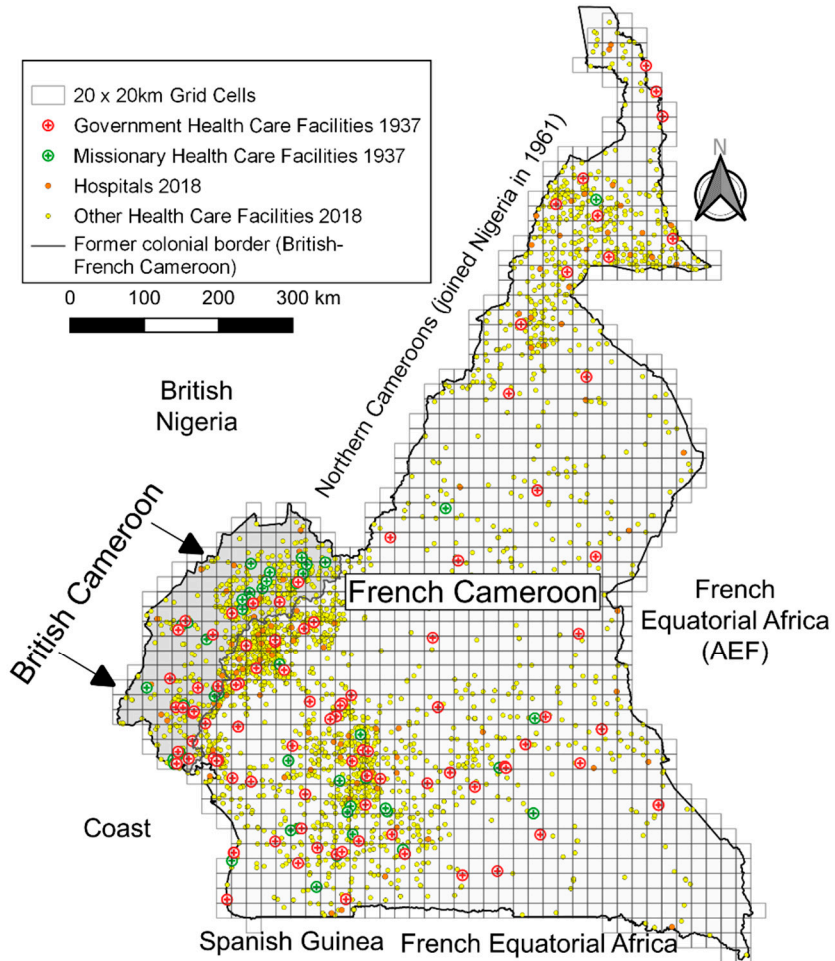
<sup>35</sup> In most cases, these variables either reflect an average for the cell’s covered area (e.g., caloric suitability, historical population density, or Malaria ecology index), the distance to relevant locations (e.g., log distance to coast or inland water), or categories and dummies (e.g., predominant society’s jurisdictional hierarchy, existence of plantation, or former British vs. French Cameroon).

schooling locations and 66 colonial government as well as *Native Authority* schooling stations to these cells. This leaves us with a dataset of 30,451 grid cells in each of the 109 observed years. To incorporate the information on the missions' performance in attracting pupils, we focus exclusively on cells with mission main stations and regard these stations' reported school enrollment. Our first estimated model – examining the determinants of the spatial expansion of mission schooling – is a repeated cross-sectional logit regression for several years during German rule, the interwar times, and the post-WWII period with a binary indicator representing the new establishment (or lack thereof) of a schooling station in a given cell as the dependent variable.<sup>36</sup> Secondly, we estimate two panel regressions (i.e., pre- versus post-WWI) with logged total main station enrollment as the dependent variable and the same control variables as in the first model for the period 1850-1958.

Paper 2 analyzes the persistence of medical infrastructure lasting from interwar mission and government medical facilities to today's health care infrastructure in Cameroon. It also investigates if this persistence differs across the identity of the historical provider of health care (i.e., mission or government). Therefore, the spatial unit of observation is, as in paper 1, a set of grid cells dividing Cameroon up into multiple parts, which either contain no, one, or multiple historical and/or contemporary health care facilities. Given the longer distance that patients are willing to travel for medical treatments compared to (daily) schooling, paper 2 draws on larger (20 x 20 km) grid cells resulting in 1,317 overall cells dividing up the Cameroonian territory (cf. Doyle et al., 2020). To illustrate the approach of linking historical and contemporary data to grid cells as the common unit of observation, Figure 9 shows Cameroon partitioned into grid cells with the reported health care facilities in 1937 and 2018. However, as discussed, it is also possible to link the presence of past schooling (as in paper 1) to grid cells as the spatial units of examination.

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<sup>36</sup> This initial model exclusively regards cross-sectional years during the colonial period to focus primarily on years with rather consistent data coverage and available outstation information. Yet, the results for 1890 control for the existence of schooling stations in 1885 (i.e., when the BMS, which was present since 1850, still reported schooling stations in Cameroon).



**Figure 9: Health Care Locations in Cameroon linked to grid cells, 1937 versus 2018.**

Note: Replicated from Baumert (2022a) – Paper 2, Figure 6 in this dissertation based on Maina et al. (2019), Ministère des colonies (1938), Great Britain Colonial Office (1938a, 1939b), and annual reports of respective missionary societies (American Presbyterians, 1938a, 1938b; Basel Mission, 1938a; German Baptists, 1938).

The employed econometric model in paper 2 is a negative binomial regression – suitable for counting data (Coxe et al., 2009) – with the total number of contemporary medical facilities (or, alternatively, hospitals and other medical facilities) in a cell as the dependent variable. To understand the persistence in health care infrastructure more profoundly, I test different specifications with either the total number of interwar medical facilities in a cell, or a categorical variable indicating the identity of the historical health care provider in a cell as the respective main explanatory variable. Finally, all specifications include other geographical or spatio-historical control variables that have been identified as potential determinants

of missionary settlements and public good provision in paper 1 or other related research (e.g., Chiseni, 2022; Jedwab et al., 2022).

Paper 3 aims to assess the long-term implications of missionary education prior to WWI for contemporary schooling levels and gender equality. Therefore, the dependent variable of interest is one of three regarded individual-level educational outcomes (i.e., educational attainment level, literacy, or years of schooling) of roughly 600,000 persons included in the IPUMS 2005 survey for Cameroon. The area in direct proximity (i.e., within 25 km) of the respective individual's birthplace cluster location is used as the geographical unit of observation and the main explanatory variable is the total 1911 enrollment of all mission schools within this area – proxying for historical mission school exposure with its religious influence and formal education provision.<sup>37</sup>

Figure 10 illustrates the approach of linking historical school enrollment (and other locational geographical as well as spatio-historical controls) to 25 km radii around survey respondents' birthplace location.

To explore the broader long-run effects of historical exposure to mission schooling, I use various individual level educational outcomes as dependent variables. As these outcome variables are differently structured, they require a diverse set of econometric models. Educational *attainment level* is a categorical variable with a clear hierarchical order (ranging from no primary to completed tertiary schooling) prompting an ordered logit regression, *literacy* is a binary outcome best estimated with a regular logit regression, and *years of schooling* reflects counting data that I incorporate in a negative binomial and an Ordinary Least Squares (OLS) regression.<sup>38</sup> Finally, disaggregating the total 1911 enrollment into Catholic and Protestant pupil numbers and interacting the historical enrollment with the gender of today's survey respondents also allows the analysis to identify differential effects of historical schooling exposure by mission denomination or by respondent gender.<sup>39</sup>

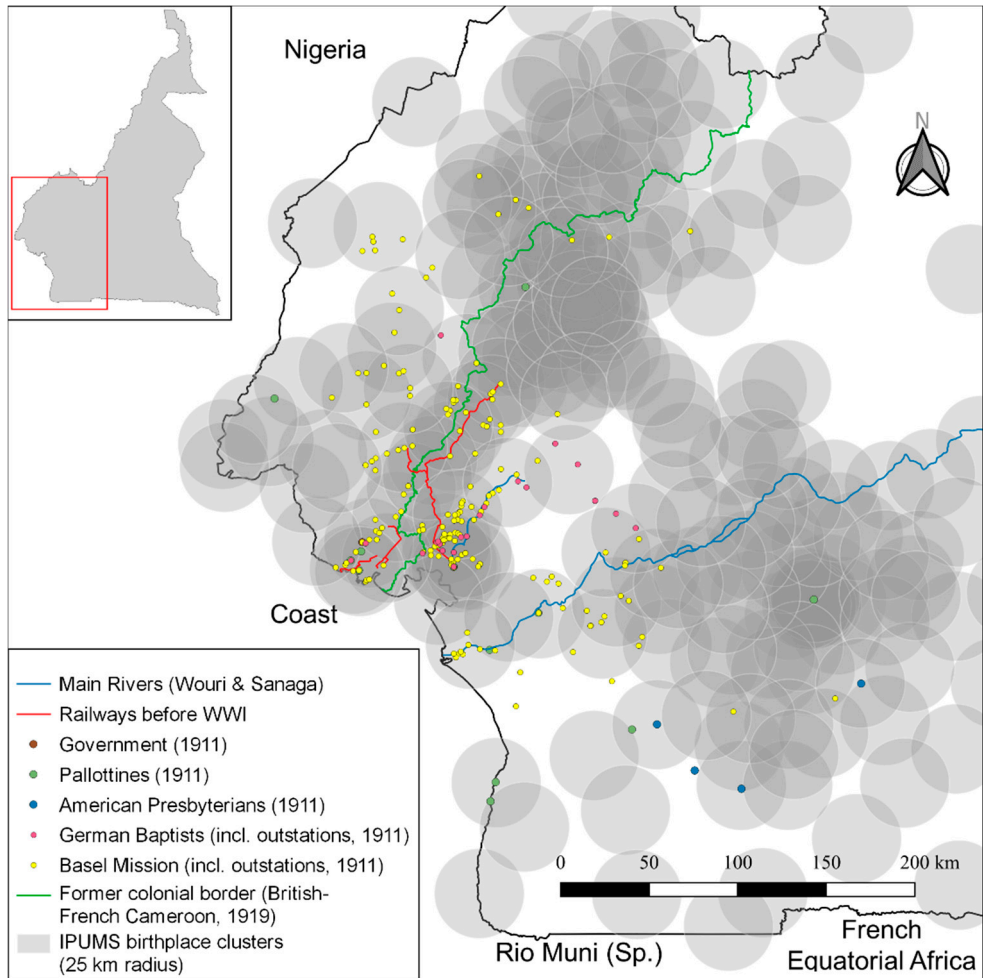
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<sup>37</sup> A radius of 25 km around individuals' birthplace has previously been employed in related studies to capture mission schooling exposure (e.g., Montgomery, 2017; Nunn, 2014b). In 1913, the average distance between a Basel Mission main and outstation in Cameroon was around 24 km as found in the first paper of this dissertation (Baumert & Bolt, 2022). The dataset for paper 3 includes both main and outstations. Further, some of the quantitative analyses in the third paper also test for the robustness of the results by replicating the analyses with main station data only. These characteristics of the dataset and its included variables suggest 25 km as an adequate radius for the analyses in paper 3. Nonetheless, I also test for the robustness of the results when using a smaller (15 km) or larger (30 and 50 km) radius.

<sup>38</sup> The *years of schooling* indicator is primarily used as a robustness check given its use in relevant previous literature (e.g., Montgomery, 2017; Nunn, 2014b).

<sup>39</sup> I further test whether these effects are robust to the inclusion of the impact of the post-WWI colonial identity (i.e., French versus British) on educational gender equality given that such a colonizer effect has similarly been identified for female empowerment by Guarnieri & Rainer, (2021).





**Figure 10: Schooling locations in 1911 & IPUMS 2005 birthplaces with 25 km radius.**

Notes: Replicated from Baumert (2022b) – Paper 3, Figure 2 in this dissertation based on Schlunk (1914a) and Minnesota Population Center (2019).

Aside the econometric analyses of the first three articles in this dissertation, papers 1-3 also use the quantitative and qualitative data from missionary and colonial sources for statistics and narratives documenting and describing the advent of formal schooling and health care in colonial Cameroon – a non-trivial contribution to the literature on the development of human capital-generating institutions in SSA by itself.

Paper 4's qualitative approach is distinctly different from the three articles preceding it. While also grounded in primary missionary sources, the variety of collected personal diaries, censuses, and balance sheets from annual reports are employed to systematically analyze the role of African agency and the interdependent factors of influence determining the functioning of missionary societies in German Cameroon through a qualitative narrative with pronounced depth.<sup>40</sup> The missionary reports include qualitative evidence and statistical records on missionary staff and financing, which quantify the extent of African involvement in the mission labor force, provide information on the personnel's wages, indicate the labor division within a mission, and offer insights on Africans' financial contributions. Therefore, the approach of paper 4 compares a variety of different aspects of missionary work to paint a holistic picture of the realities of the missions' operations. It also forms a complement to papers 1-3 by looking "behind the curtain" of the missionary societies and using the plethora of largely unexplored qualitative evidence in the missionary archives. Finally, paper 4 – with its emphasis on the interplay between missions and local African societies – also brings the thesis full circle in line with Reid & Parker (2013, p. 9) stating that "[w]hereas the history of European empire was once about what Europeans did – or was at best a simple dichotomy between the alien colonizer and the indigenous colonized—it is now very much focused on the agency of Africans [...] and their role in the making of the modern world".

### **1.4.3. Limitations of this thesis**

This dissertation and the included individual papers are subject to several limitations that should be taken into account when interpreting the results of the individual studies. Some of these limitations apply to the research field of African Economic History more broadly whereas others relate to the data or the methods employed within the different papers specifically. Nonetheless, it is worth emphasizing that many of these limitations translate rather directly into opportunities for future research providing an even better understanding of the history of former colonies in SSA and its effect on subsequent development. Further, the newly collected data – despite its limitations as described below – constitutes a step forward in understanding the expansion of missionaries, formal education, and institutionalized health care. Acknowledging the limitations of this dissertation also clarifies which questions are addressed within this thesis and which may remain for future research. Finally, it may highlight room for improvement and, thereby, allows for an informed assessment of the reliability of the contained findings for the reader.

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<sup>40</sup> Creswell & Poth (2018, p. 227) explicitly emphasize personal documents, organizational documents (such as reports), and public documents (e.g., records and archival information) as potential documents to be investigated as part of qualitative research.

Fundamentally, while much of the previous literature referred to in this thesis is based on findings for other parts of SSA (or even beyond) and while the individual papers aim to contribute to broader debates relevant for Africa more generally, this dissertation and its findings are grounded in the country-specific, Cameroonian historical context and the data substantiating it. Therefore, although the insights obtained in papers 1-4 can be indicative and may be interesting to be examined for other former colonies in SSA, generalizing them beyond the Cameroonian case is not necessarily warranted. Yet, the case study approach also makes this dissertation a reference point for future comparisons with other studies similarly investigating the historical evolution and long-term effects of Christian influence as well as missionary education and health care in different countries.

When it comes to the historical data used for this dissertation, it is undeniable that missionary (and colonial) records tend to present a Western-centric perspective on the realities of colonial Cameroon without much emphasis on and understanding for local Africans' ways of life. This dissertation also primarily relies on data from the colonial period, which gives "little account [...] of the people living on the continent before colonization, or their activities and organizing principles" (Bolt, 2010, p. 43). Although this thesis argues that missionary and colonial education and health care showed a higher degree of formalization, treating the arrival of missionaries as the beginning of education and health care largely ignores indigenous and Muslim forms of knowledge transmission and medicine prior to the missionaries' arrival. It cannot be ruled out that educational and medical efforts preceding missionary settlements may have created favorable attitudes to mission education or health care that were inductive to their expansions. Therefore, this dissertation is not able to counteract the general criticism of the research field of African History that "there is a sense across the discipline that anything much before 1900 tells us little about where Africa is today" (Reid & Parker, 2013, p. 10). Consequently, African pre-colonial accomplishments and their agency may be underreported or neglected in records from the colonial period. Yet, although colonial-era reports "introduce their own biases" (Fourie, 2016, 2019, p. 120) by focusing on or even glorifying foreigners' achievements, this dissertation aims to alleviate such reporting imbalances by drawing on a variety of different data sources and a pronounced methodological diversity. In the future, given the dearth of written records from (pre)colonial times that were not issued by missionaries or colonial officers, alternative data sources – such as oral histories – may provide additional insights on African economic, educational, and medical circumstances when compiled and interpreted by scholars familiar with indigenous languages and cultural proverbs or metaphors (Fourie, 2019; Mlambo, 2018).

The main data source of this dissertation – missionary archives – carries with it several source-specific problems and room for improvement in future research. As Kwast (1971, p. 135) pointed out, church statistics from different denominations or missionary societies are not always comparable. Terminologies and categories for

reported converts, occupational titles, income sources, etc. often differ. Therefore, this dissertation mainly either elaborates on relative levels and growth of the indicators included in mission statistics without comparing across different societies (e.g., wages, incomes) or focuses on categories that are less likely to be misinterpreted (e.g., number of pupils and overall staff members). In addition, for certain periods and missionary societies, no mission reports could be identified (e.g., Catholic records post-WWI) or the coverage was limited and discontinuous (e.g., Paris Mission).<sup>41</sup> In turn, only some of the missionary societies reported outstation schooling data as used for papers 1 and 3 (i.e., the Basel Mission and the German Baptists). This may decrease the comparability of the various mission records; however, these potential flaws are addressed with several methodological strategies (e.g., focusing on pupil number or replicating the analysis while using only main station data in paper 3).

Similarly, for paper 2, limited data availability (despite complementing the dataset with colonial reports) hindered comparing the different historical medical facilities with a more precise measure of health care efforts (e.g., treatment or patient numbers) and led to the analysis of the long-term effects of the mere existence of interwar health care facilities – something that may be improved upon in future research. While beyond the scope of this thesis, future research investigating missionary education and health care may also analyze the differences in the type of schools or medical facilities (e.g., primary, secondary, girls' school) although the availability of suitable data will continue to restrain the possibilities to capture this dimension adequately. Similarly, due to data constraints, this dissertation cannot fully account for the (effects of) school tuition and medical fees. Nonetheless, given their potential suitability to proxy for African demand for missionary services, such fees form a promising avenue for future studies. Finally, the manual identification of missionary and government locations as well as the deciphering of statistics when digitizing and geocoding the historical data introduces potential errors. As Cogneau and Moradi (2014) pointed out, this applies particularly in the African context with duplicate village names, variant spellings in the local language as compared to the spellings of colonial officers (of differing colonizers), and when handling handwritten statistics (as was realized for papers 1 & 4).

With regard to other data sources aside missionary and colonial archives, not all potential flaws of the geographical and spatio-historical variables can be assessed in detail here. These individual sources of information are useful, though not central to the overall thesis. Therefore, they are not discussed in-depth here, but an overview of the respective data issues forms part of each of the papers in which these variables are used. Turning to the contemporary datasets, the spatial accuracy of these outcome variables may be compromised by, first, the clustering of individuals' birthplaces to retain their anonymity in the IPUMS surveys used for paper 3 and,

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<sup>41</sup> Similarly, our dataset in paper 1 does not include government locations after World War II.

second, by the online data assembly process of the health facility database (see Maina et al., 2019) employed in paper 2. Future research may also link the historical database on medical facilities directly to health outcomes today instead of the density of contemporary health facilities investigated in paper 2.

Methodologically, despite a large variety of analytical approaches within the dissertation and careful selection of the suitable models, papers 2 and 3 draw on insights from a cross-sectional analysis that links an early colonial situation to contemporary data while neglecting – at least quantitatively – the developments and fluctuations in between (and before)<sup>42</sup>. This is of particular relevance for African countries (such as the Cameroonian case in this thesis) given the recent findings of recurring growth periods throughout SSA and the debate on the “compression of history” in African economic history (Austin, 2008; Hopkins, 2009). Therefore, throughout the dissertation, the establishment of formal education and health care is understood as an ongoing process of (subsequent) institutional development rather than a mere link between two points in time. This process is substantiated in all papers with qualitative evidence to adequately represent the historical context of colonial Cameroon. Finally, the methodological contributions of paper 1 and the interdependencies underlying missionary work as highlighted in paper 4 are further conducive to the insights derived in papers 2 and 3 on the long-term implications of colonial-era missionary work for contemporary outcomes.

## 1.5. Summaries of included papers

This dissertation consists of four individual papers – one of which (paper 1) is co-authored with Jutta Bolt.<sup>43</sup> Papers 2-4 are single-authored. While all four presented studies are framed as part of the overall dissertation, they also represent separate standalone papers that may be regarded individually. Therefore, occasional redundancies and repetitions across the individual articles may occur.

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<sup>42</sup> For instance, as explained above, indigenous and Muslim forms of knowledge transmission may have preceded the missions’ expansion examined in paper 3. In turn, medical work existed (albeit limited) even before the year, for which it was captured as an independent variable in paper 2.

<sup>43</sup> I was responsible for the collection, digitization, and documentation of the information in the dataset employed for paper 1. Further, the overall framing of the paper as well as the sections on previous literature and the historical background were my sole responsibility whereas Jutta Bolt contributed to the analysis. The discussions of the findings and the conclusions were a collaborative effort.

### **1.5.1. Paper 1: Breaking new ground: The expansion of formal education in Cameroon, 1850 – 1958 (co-authored with Jutta Bolt)**

Understanding the advent of formal education is crucial to comprehend the historical origin, diffusion, and long-term effects of education in Sub-Saharan Africa. Moreover, since missionaries may have consciously chosen their settlement locations, studies examining the link between missionary activity and current development levels could embody an endogeneity bias resulting from the (favorable) spatial characteristics of historical mission locations (cf. Acemoglu et al., 2014; Jedwab et al., 2022; Johnson, 1967). Given the occupation by three different colonial powers and a diverse history of missionary influence, Cameroon represents a unique case to study the dynamics and locational influencing factors affecting the inception and expansion of a formal school system under colonial rule. This study provides a comprehensive depiction of the diffusion of education in Cameroon before independence and estimates spatial determinants for the locational choice of schooling stations as well as their total enrollment. Therefore, we geocode and combine information from previously unexplored missionary reports containing annual data on the specific locations and total enrollments of nearly all missionary societies in Cameroon between 1850 and 1958 with yearly records of the three colonial administrations.

We find that certain geographical characteristics (e.g., access to freshwater and water transportation or rainfall patterns) influenced the choice for schooling locations throughout the colonial period whereas other variables only mattered initially (e.g., ruggedness) or seem to have played no important role in determining the spatial expansion of formal schooling (e.g., soil suitability or elevation). Further, mission schools were preferably established in the vicinity of other societies, suggesting that cooperation with neighboring schooling provider was more important than competition for the same areas. We also find that schooling stations were more likely to be established in relatively highly populated and urbanizing areas. Our results suggest further that British rule after WWI was more conducive to missionary settlement than French control and that railway lines became important determinants of schooling locations after these lines were completed. The characteristics of traditions and norms that prevailed among the different African societies that missionaries encountered were not strong predictors of schooling locations.

Turning to the locational determinants of stations' performance in attracting pupils in colonial Cameroon, the number of pupils was promoted by competition (or cooperation) among the providers as the presence of other schooling stations in the vicinity was positively related to overall enrollment.

Economic prospects in more urban areas seemed to have increased the opportunity costs of education initially, leading to lower enrollment. Over time however, with the emergence of new urban and administrative centers and more

widespread knowledge of the benefits of education for work opportunities, more urbanized areas also became the most educated areas. Finally, we find that the compatibility of the Christian value system with traditions and customs (e.g., polygamy) of African societies prevalent in the vicinity of a schooling station was important in determining the performance in attracting pupils.

In conclusion, geographical and spatio-historical factors were important in determining schooling locations and their enrollment. Therefore, it is important to account for these influencing factors related to the schooling expansion in (pre)colonial Cameroon when assessing the impact of mission exposure for subsequent development. Previous studies, which did not adequately consider potential endogeneity effects, may have judged these lasting effects of missionary activity for long-run development overly optimistically. Creating an understanding of the spatial determinants of mission locations therefore sets the stage for studies on the long-term impact of mission work on contemporary outcomes in this dissertation (papers 2 & 3) and in future research.

### **1.5.2. Paper 2: On a mission for public health – The historical roots of institutionalized health care in colonial Cameroon**

Paper 2 represents the first of two studies in this dissertation that empirically estimate long-term implications of public good provision in Cameroon during colonial times for contemporary outcomes. It assesses whether the current distribution of medical infrastructure in Cameroon may have been driven by early mission and government facilities established during the colonial era.

First, the paper chronologically traces the development of an (initially rudimentary) health care sector in the country through the era of German rule and the subsequent League of Nations (LoN) mandate period with separate administrations by the French and British colonizers, respectively. Second, I create a novel dataset with geocoded information on medical facilities in interwar Cameroon based on British and French LoN reports as well as newly gathered missionary records. Third, by linking this new historical dataset to recently available information on contemporary public health care locations (Maina et al., 2019), this paper analyzes the persistence effects in health care infrastructure lasting until today while differentiating between the impact across the identity of the historical provider of medical services (i.e., government or mission).

In doing so, the empirical analysis of the paper aligns itself with previous literature stressing the importance of religious institutions (e.g., Bai & Kung, 2015; Becker et al., 2021; Cagé and Rueda, 2020; Gallego & Woodberry, 2010; McCleary & Barro, 2019; Woodberry, 2004) and colonial governments (e.g., Banerjee & Iyer, 2005; Cogneau & Moradi, 2014; Dupraz, 2019; Grier, 1999; Lee & Schultz, 2012) for the long-term development of public good provision and economic, medical, or

educational outcomes in developing countries. The paper complements existing research identifying a persistence in public good provision in various historical settings (e.g., Chen et al., 2017; Dalgaard et al., 2018; Huillery, 2009). It is most closely related to recent literature on the long-term implications of colonial-era health care efforts and investments for contemporary outcomes (e.g., Cagé & Rueda, 2020; Huillery, 2009; Lordemus, 2021; Lowes & Montero, 2021).

As a first contribution, this paper substantiates the literature on the early beginnings of institutionalized medical care in Cameroon during German rule and the early interwar period with so far largely unexplored colonial (medical) reports. I find that the major expansion of health care provision in Cameroon did not take place before the late LoN mandate era.

Next, controlling for other spatial determinants that may have influenced current (and past) settlement locations (cf. paper 1 in this dissertation), the impact of the subsequent expansion of medical efforts by missionary societies and the colonial governments for the modern distribution of public health care facilities is estimated. The study finds clear evidence for a persistence of medical infrastructure that lasts until the present. Higher densities of public health care facilities are found in areas that were exposed to medical infrastructure during the LoN period already. The identified link – particularly strong for areas where both missions and government operated health care facilities historically – suggests that the historical roots of medical efforts carry importance for the diffusion and density of public health care infrastructure still today. Demand factors – for instance the disease environment and population density – or (post)colonial neglect of the Anglophone territory also appear to play a role in explaining the current distribution of medical facilities in Cameroon.

Moreover, paper 2 finds that the strength of the persistence effects in medical infrastructure over time differs between the historical provider of health care (i.e., government versus mission) and across the various types of today's medical facilities. The association between the historical presence of health care operated by the colonial government and the density of contemporary public hospitals is especially strong. In turn, areas exposed to missionary medical services during the interwar period are particularly likely to contain a higher number of other health care facilities today.

Finally, the paper argues that the observed legacy in medical infrastructure may have been influenced by the physical persistence of immobile health care facilities based on sunk costs and the spatial coordination of health care investments in later periods. Other mechanisms may include the (intergenerational) creation and transmission of more favorable attitudes towards Western medicine or early human capital accumulation of Africans gaining a stronger political voice and demanding further public good allocations.



### **1.5.3. Paper 3: On a mission for education – The legacy of colonial-era missionary education in Cameroon**

This paper focuses on the potential long-term associations of pre-WWI mission education in colonial Cameroon with schooling outcomes and educational gender equality in the country today. Examining the historical drivers of contemporary schooling outcomes in SSA is crucial since education constitutes a precondition of economic development (cf. Glaeser et al., 2004; Lucas, 2015; Romer, 1989). Further, despite recent progress, schooling outcomes grew relatively slowly and unequally in Africa during the past century (Baten et al., 2021; Lee & Lee, 2016, p. 163; Psaki et al., 2018; UIS, 2019, p. 4). Educational inequalities across gender are also particularly pronounced in SSA (e.g., Psaki et al., 2018).

Throughout most of colonial SSA, Christian missionary societies provided the lion share of formal schooling to Africans while the colonial governments often showed little interest or ability to advance the education of indigenous populations (De Haas & Frankema, 2018; Etherington, 2005, pp. 261-2; Meier zu Selhausen, 2019; Montgomery, 2017; Woodberry, 2004). Emphasizing the importance of missionaries in shaping the formal education system in the case of the former German protectorate Cameroon before WWI, paper 3 assesses the legacy and long-term effects of such schooling efforts during early colonial times for the country's current levels of educational attainment and gender inequality in schooling. Based on the Weber hypothesis arguing that the spread of Protestantism may have promoted economic development (Weber, 1905), previous literature has linked the expansion of Christian missionaries and their schooling efforts during colonial times to long-term educational and economic progress in SSA (e.g., Becker et al., 2021; Jedwab et al., 2022; Gallego & Woodberry, 2010). Further, the exposure to missionary work in SSA has recently been associated not just with benign effects on long-term educational advances per se, but also with positive effects on educational gender equality specifically (Baten et al., 2021; Montgomery, 2017; Nunn, 2014b).

Using colonial and missionary archival sources, I create a novel, georeferenced dataset on the number of pupils at mission schools before World War and find a positive long-term effect of exposure to mission schooling in Cameroon on today's educational achievement. In line with the existing literature, I argue that this long-run association may be due to the missionaries' emphasis on literacy and the value of education, which may have been transmitted from one generation to the next. The physical persistence of schooling facilities with their sunk costs and impact on the spatial coordination of subsequent educational investments may have contributed to this long-term association, as well.

In line with the most recent literature (Baten et al., 2021), exposure to both Protestant and Catholic schooling during the early colonial period in Cameroon also show a more pronounced positive association with the educational attainment of

females compared to males – thereby potentially contributing to a smaller gender gap in schooling outcomes today. Yet, while previous research has often considered Protestant education as unique in its favorable effect on female empowerment (e.g., Nunn, 2014b), the results for the Cameroonian case – exceptional in both missionary and colonial influence – show more nuance and highlight the importance of the historical and country-specific context when assessing the legacy of mission schooling in Sub-Saharan Africa.

While historical Protestant schooling shows a positive link with the education of both males and females today, Catholic education is only positively associated with the educational outcomes of females. I show that these findings differ drastically from results based on a conventional data source that is commonly used to assess the lasting impact of mission work in SSA – highlighting the importance of adequate and detailed historical data suitable for the respective case study. Further, the findings of my study also hold when accounting for the positive link between British colonial rule after WWI (as opposed to French) and gender equality in Cameroon.

Explorative analyses suggest the longevity of missionary exposure as a potentially vital driver of the missionary legacy in the educational development of Cameroon. Finally, the paper closes by emphasizing the importance of African agency, a better understanding of the mechanisms linking past mission work to contemporary outcomes, and individual characteristics of missionary societies as proposed avenues for future research.

#### **1.5.4. Paper 4: Africans on a mission – Evidence from Missionary Reports in German Cameroon**

Based on primary sources from missionary archives and focusing exemplary on the German protectorate *Kamerun* before WWI, paper 4 explores the complex interdependencies and influencing factors affecting the nature and scope of mission work in SSA during the early colonial period with pronounced depth. While recent research has begun to appreciate the transformative impact that the missionary expansion in colonial Africa from the late 19<sup>th</sup> century has had for the subsequent cultural, religious, and economic development of SSA, the crucial importance of African contributions to the missionary expansion (i.e., the Africanization of mission work) often remains understated or poorly understood (cf., Meier zu Selhausen, 2019).

In fact, much of the literature attributing the exposure of African societies to mission presence with long-term implications for the subsequent religious, economic, educational, health care, or political development (see Becker et al., 2021 and Jedwab et al., 2022 for extensive lists) may insufficiently account for the multifaceted interplay with indigenous communities. Further, such studies assessing the lasting legacy of mission work in SSA often use historical atlases, which are

Eurocentric, suffer from omissions, and carry a racial bias based on colonial-era ideology.

Deepening our understanding of the diverse interdependencies between mission work and African agency, Paper 4 examines largely unexplored annual reports and censuses from missionary societies in Cameroon under German rule to explore the influencing factors underlying missionary work during the early colonial period. The paper presents qualitative and quantitative insights showing how African agency – in the form of local communities’ reception of Christianity, Africans’ direct engagement in the mission workforce, or their demand for missionary services – was crucial to the operations and expansion of missions in Cameroon before WWI.

Particularly in the immediate period after their initial arrival, missions depended on the tolerance and goodwill of local chiefs. Indigenous acceptance of missionary societies not only had an impact on their spatial expansion, but also affected the social costs that Africans had to bear when converting to Christianity and renouncing indigenous faiths and practices. I argue that these costs were carefully weighed against the opportunities for socio-economic upgrading that were associated with a mission affiliation and the participation in the formal wage sector. The gradually increasing control of the territory by the German administration emphasized the benefits of formal schooling for Africans, created a demand for educated indigenous personnel, and, thus, further enhanced missionary expansion.

Furthermore, I find that the share of indigenous staff in the overall mission workforce was increasing throughout the German period and rose to around 75% before WWI – highlighting the importance of African evangelists and teachers for the missions’ functioning. This *Africanization* of the mission work was important as the indigenous personnel represented a cost-efficient way of expanding the scale and scope of the missionary societies’ outreach. The African staff was also less susceptible to local diseases and well-suited to mediate conflicts between missionaries and indigenous communities.

Further, as Africans were primarily involved in the missions’ core tasks – preaching and teaching – foreign missionaries were able to take on more organizational, administrative, or supervisory tasks. Yet, even though most of the indigenous workforce was involved with proselytization and educational duties at outposts, staff censuses suggest that the salaries of African workers could still vary substantially depending on their respective responsibilities.

Africans also contributed to the missionary societies’ finances, although the majority of mission funds – at least before WWI – was donated from the European or American homelands. Instead, indigenous populations showed their commitment to Christianity through conversion and their demand for missionary services such as education and health care. This demand was dynamic and differed over the course of German colonial rule.

Overall, this study clearly illustrates the importance of African agency for the functioning of missionary societies in a colonial setting. Finally, while the historical context of Cameroon under German administration is unique, the insights on the crucial influence of African agency on the success of mission work in SSA may inform research on the role of missionary societies for the cultural and economic development of former African colonies in the future.

## 1.6. Concluding remarks

This dissertation set out to study the dynamics, determinants, and long-term implications of Christian missionaries' work in Cameroon on individual educational achievement and the health care system development. Contributing to the broader notion that *history matters* (cf. Huillery, 2009; Jenkin, 2018, p. 15; Nunn, 2014a), it joins the ranks of the recently emerged and rapidly growing research field investigating the importance of historical episodes for contemporary outcomes. This strand of literature has increasingly examined the presence and work of Christian missionaries in former colonies outside of Europe for their potentially transformative “shadow of history” (Michalopoulos & Papaioannou, 2017, p. x) (cf. Nunn, 2009).

Studying the historical case of Cameroon, this dissertation has advanced the existing research on the work and implications of missionary societies in SSA in three important dimensions that build upon one another.

First, by collecting and using diverse and comprehensive historical data sources, this dissertation contrasts incomplete and biased historical atlases, which have extensively been employed in existing research on the long-term impact of mission work in Africa. This highlights the advantages of detailed quantitative and qualitative information, which helps to adequately represent the process of missionary expansion in SSA. The analytical approaches and contextual depth in this dissertation would not have been feasible without the use of these largely unexplored sources of data indicating the advent of formal education, the expansion of institutionalized health care, and the diffusion of Christian missionaries. This information also allowed for a more dynamic depiction of the nature of mission work in Cameroon over time. When combined, different types of information – statistics and censuses in mission records, government reports summarizing the economic progress in the colony more broadly, or personal accounts of foreign missionaries documenting the influencing factors and interactions that determined their work – offered a unique perspective on the historical context of Cameroon under colonial rule. This wealth of qualitative and quantitative data allowed me, to a larger degree than previous studies, to counteract the “compression of history” (Austin, 2008) that is common to the research field by regarding the missionary

expansion and the development of formal schooling and modern medicine as a process rather than a mere event. Further, the information included in the employed data sets of this dissertation may be of use for future research studying the interdependencies and implications of the work of Christian missions in Cameroon.

Second, drawing on this unique combination of different sets data for the historical case of Cameroon, I was able to evaluate the suitability of common approaches and data sources for the study of missionary work in the colonial context of SSA. For instance, the first paper in this dissertation (co-authored with Jutta Bolt) was able to identify geographical and spatio-historical features as well as local characteristics of indigenous African societies that may have influenced – to varying degrees over time – the spatial diffusion and performance of the (educational) work of missionaries. These findings of paper 1 speak directly to the first research question (RQ) in section 1.1.2. on the drivers and determinants of the missionary expansion in Cameroon. Nonetheless, the results in paper 1 also constitute a methodological contribution to the research field as existing literature on the lasting impact of mission presence in Africa for contemporary outcomes may not have sufficiently accounted for these spatial determinants and could be subject to endogeneity bias.

The fourth paper in this dissertation also highlights the inaccurate, incomplete, and Eurocentric nature of the information based on historical atlases that are often used to capture the diffusion of missions in colonial-era Africa. Yet, it defies the simplified depictions of the missionary operation in a different manner than paper 1. To this end, paper 4 explores qualitative evidence, financial records, and staff censuses to deepen our understanding of the interdependencies determining the mission's functioning. In particular, the paper focuses on the complex role of African agency for the expansion and success of missionary societies in Cameroon before WWI. In doing so, paper 4 argues that Africans' willingness to welcome and accept Christianity and the Africanization of the mission workforce were indispensable prerequisites for the rapid diffusion of missionary activity in Cameroon under German rule. Further, once the colonizer's grip on the Cameroonian interior became firmer, paired with a commercial expansion in-land, Africans realized the potential for socio-economic upgrading and the demand for mission education increased. Since the existing literature has only rarely acknowledged how and to what extent missions depended on the goodwill and contributions of the indigenous population, identifying and emphasizing the vital importance of African agency in the missionary sphere appears long overdue. Insofar, paper 4 not only further complements the findings regarding drivers and determinants of the missionary expansion (RQ 1), but it also directly addresses how mission work was shaped by African agency and interactions with the colonial government (RQ 2).

Third, papers 2 and 3 analyze the long-term association between, on the one hand, mission education and medical care during the colonial era, and, on the other hand,

schooling achievements, educational gender equality, and the access to health care in Cameroon today. In doing so, these papers take on board some of the main messages from papers 1 and 4 while directly contributing to the body of research investigating missionary legacies for contemporary outcomes. They draw on detailed and comprehensive data while accounting for potential determinants of mission settlements (as suggested by paper 1) and realize a careful historical contextualization beyond the exclusive use of mission atlases (in line with paper 4).

Based on this, paper 2 presents evidence for a persistence of medical infrastructure lasting from the expansion of health care during the interwar period until today. The contemporary density of public health facilities is higher in areas, which had already been exposed to medical care before WWII. Comparing the legacy of missionary and government health care, the paper shows how both providers of medical care may have complemented each other, but also differed in the strength of their persistence effects across various types of contemporary facilities. Thereby, paper 2 also provides part of the answer to RQ 2 as it deals with the interaction between missions and the colonial administration.

Paper 3 also identifies evidence for a legacy of initial, colonial-era public good provision that continues to affect Cameroon until today. Further, I demonstrate denominational differences (i.e., Catholic versus Protestant) in missions' long-run link with contemporary education and show that my results drastically change when instead using a historical atlas with less spatial detail to proxy mission education during the interwar period (as predominantly done in the recent related literature). In line with papers 1 and 4, this constitutes further evidence for the importance of adequate data that provides a more accurate, comprehensive, and detailed representation of mission work during colonial times compared to historical atlases. Finally, with these affirmative and nuanced findings regarding a long-term effect of mission work for contemporary outcomes in education and health care access, respectively, papers 2 and 3 directly speak to RQ3 (see section 1.1.2.)

With regards to possible mechanisms underlying this association, I argue that the missionary expansion in pre-independence SSA – bringing in its wake the onset of formal education and institutionalized health care – set in motion momentous shifts in the cultural norms, beliefs, and the value system of the indigenous communities that were exposed to the ideas and workings of missionaries. Further, I contend that the early educational and health care investments represented by the establishment of schools and medical locations sustainably endowed certain regions with a higher stock of human capital promoting facilities. This initial advantage may have had a lasting impact on long-term development as the sunk costs of existing facilities and the coordination of spatial investments in subsequent periods still benefited these same regions over time and, as I reason, until today. An ample amount of qualitative and quantitative evidence from missionary and colonial reports points to the important role that missionary societies took on for the formation of a school and health care system.

The findings of this dissertation emphasize the impact of the “spectacular cultural transformation” (Meier zu Selhausen, 2019, p. 26) that was heralded with the arrival and expansion of missionaries in Africa from the 19th century onwards. The individual papers document the extent to which missionaries were able to step into the lives of many indigenous Cameroonian societies, spread their ideas to their populations, and make a long-lasting mark on the subsequent development process beyond the colonial period. Yet, studying the relevance and implications of missionary work in SSA – and Cameroon specifically – for outcomes today continues to yield numerous possibilities for future research. Henceforth, I summarize the main avenues for future studies that embody most room for improvement in the research field based on my findings.

First and foremost, while this dissertation focuses specifically on Cameroon, missionary archives contain an abundant wealth of records documenting the diffusion of Christianity, education, and health care in other former African colonies, as well. This constitutes large potential for comparative studies contributing to our understanding of the impact that Christian missions had on subsequent development – especially considering the importance of historical contextualization when assessing missionaries’ long-lasting impact. Nonetheless, oral histories and local Church records in situ may also help complementing our understanding of missionary work further.

Furthermore, disentangling and quantifying the respective mechanisms underlying the long-term associations between the initial exposure to formal schooling or institutionalized health care during (pre)colonial times and educational achievement or health care access today may further improve our understanding of the nature of such persistent relationships in SSA.

Whereas this dissertation focuses on the impact, which missionaries had on educational achievement and medical infrastructure in Cameroon, future research could investigate the missionaries’ potential imprint on other related indicators (e.g., contemporary health outcomes) or entirely different facets of life (e.g., religiosity) that might have been affected by their presence. Other dimensions of missionary work (e.g., missionary finances) deserve more in-depth analyses, as well.

In closing, this dissertation highlights that episodes in the past manifest themselves in subsequent development. Historical predispositions spawn cultural and social changes that may reproduce in the shaping of communities. Indeed, *history matters* and with thorough study and careful contextualization we are able to recognize today’s societies as products of their diverse past.

## 1.7. References

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# For God's Sake – The Work and Long-Term Impact of Christian Missionaries in Cameroon 1844-2018

A growing body of literature attributes Christian missionary expansion in former African colonies since the mid-19th century with having a transformative and primarily positive impact on public goods provision. Missionary societies were crucial for the initial establishment of formal education and institutionalized health care during the colonial era. This thesis examines the interdependencies, dynamics, and long-term implications of mission work in Cameroon from their arrival during the 19th century until today. Drawing on largely unexplored data from annual mission reports, I create novel historical databases documenting the temporal and spatial extent of missionary expansion in Cameroon and link these to data on individual-level educational achievement and health care infrastructure today. In doing so, I move beyond previous research that relied on inaccurate and biased historical atlases and often insufficiently accounted for the determinants of mission locations. Qualitative evidence from the mission reports allows for a deeper understanding of the interdependencies of colonial-era mission work with the indigenous population.

I find that the expansion of formal schooling was influenced by geographical and spatio-historical features as well as characteristics of the local indigenous societies. Further, I identify a persistent and positive impact of colonial-era mission education and health care on Cameroonians' schooling achievements, educational gender equality, and access to health care today. This lasting impact may be due to cultural shifts regarding the value of education and Western medicine as well as the persistence of schooling and health care physical infrastructure. The magnitude of these effects differs by missionary denomination for educational outcomes, and between missions and the colonial government for health care access. Finally, I highlight the crucial role of Africans in the functioning of missionary work in Cameroon before World War I. Missions relied on the local acceptance of indigenous chiefs and a high share of African personnel to facilitate a cost-efficient expansion of their work. Africans' willingness to accept Christianity and their demand for missionary services ultimately determined the success of missions in Cameroon.

