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Prof. dr. Hilde Bras

African Histories of Population and Health

A Plea for an Integrated Approach



Inaugural Lecture

26 May 2023

African Histories of Population and Health: A Plea for an Integrated Approach

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and Health:**

A Plea for an Integrated Approach

Inaugural lecture by

Prof. dr. H.A.J. Bras

26 May 2023

On acceptance of the post of professor of
**Economic and Social History, with special attention
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Dear Members of the University Board,
Dear colleagues, students, family, friends,

Introduction

In the Netherlands, we are increasingly confronted with the consequences of population decline. In many regions, the effects of depopulation are strongly felt: schools close because of a lack of children; shops and services disappear. We are witnessing a greying of the population.

Although Europe, the Americas, and much of Asia see their populations stabilize or shrink, from a global perspective, the picture is one of population growth. The world's population just passed a milestone of 8 billion people¹ and numbers will continue to rise until the last decades of this century, when a peak of around 10.4 billion people could be reached (UN 2022).

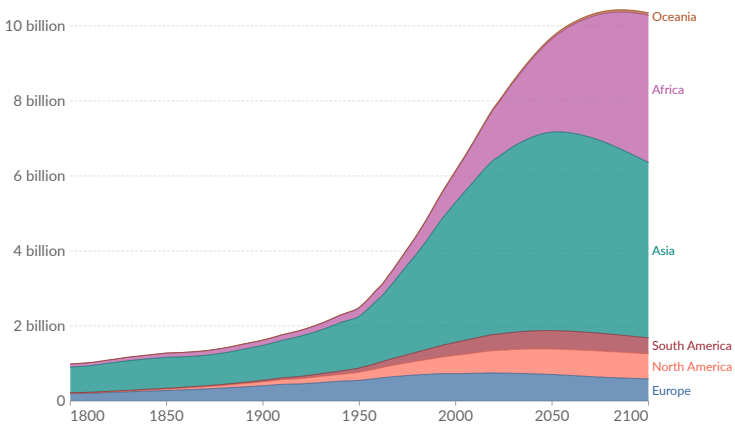
Most of this growth will take place in sub-Saharan Africa. The population there has increased from 179 million in 1950 to 1.2 billion in 2022. It is expected to double between 2022 and 2050, contributing more than half of the global population increase anticipated, and to grow to 3.4 billion in 2100, which amounts to a more than nineteen-fold increase in 150 years (UN 2022) (see Figure 1).

Population growth in Africa is contested. Some have associated it with innovation, economic development, and increased

¹ in November 2022.

Population by world region

Historic estimates with future projections based on the UN medium-fertility scenario¹.



Data source: HYDE (2017); Gapminder (2023); UN (2022)

Note: Historical country data is shown based on today's geographical borders.

[OurWorldInData.org/population-growth](https://ourworldindata.org/population-growth) | CC BY

1. UN projection scenarios: The UN's World Population Prospects provides a range of projected scenarios of population change. These rely on different (UN)

Figure 1. Population by world region Historical estimates with future projections based on the UN medium-fertility scenario

Source: Hannah Ritchie, et al. (2023). "Population Growth". Published online at Our-WorldInData.org. Retrieved from: '<https://ourworldindata.org/population-growth>' (cc by)

well-being. In others, it has triggered anxieties about overpopulation and accompanying problems like food insecurity, scarcity of clean water, lack of education and health care, as well as rises in (youth) unemployment, conflicts, epidemics, and migration flows (Groth & May 2017; Paice 2021; Sasser 2018).²

2 However, whatever the effects of continuing fast population growth, at present the African continent has a lower ecological footprint compared to other regions of the world (WFF 2022, 68).

Africa has been said to have a stalled demographic transition. Or more precisely, its fertility transitions are lagging behind those of other parts of the world (Bongaarts 2017; Schoumaker 2019). The demographic transition model, an influential model in the study of population, describes the staged process that societies undergo from a state of high mortality and high fertility to one of low mortality and low fertility. First, mortality falls, and in a later phase, fertility starts to drop (Davis 1945; Landry 1934; Notestein 1945).

Whereas in Europe this process took place in the second half of the nineteenth century and the first half of the twentieth century, and in large parts of Asia during the second half of the twentieth century, African countries have experienced a decline in mortality since the 1950s, but only a slow, and in various countries stalling, decrease in fertility (Tabutin & Schoumaker 2004). This discrepancy has resulted, for the coming decades at least, in large population increases, although it should be noted that there is considerable variation across the continent.³

Demographers have tried to explain Africa's fertility transitions with different variables: economic development, educational levels, availability of contraceptives, gender inequality, and

3 National and regional differences in total fertility rates (TFRs), i.e. the average number of children per woman, are large. Hence, we cannot speak of an 'African' demographic transition (Cf. Johnson-Hanks 2007).

family size preferences (Bongaarts 2017; Bongaarts & Casterline 2013). However, with the conventionally used indicators we cannot fully explain the persistence of high levels of fertility (Bongaarts & Casterline 2013; Mbacké 2017; Romaniuk 2011). The rapid growth of Africa's population, and the considerable variation therein, remain important open questions, not only for demographers, but also among policy makers and in the public debate.

In this lecture, I argue that to better understand current population developments in Africa, and possibly act upon them, a *historical perspective* is necessary.⁴ In taking a long-term approach, I argue that we particularly need to understand how demographic developments in Africa were influenced by the impact and legacies of the colonial era, the period starting in the late nineteenth century, when most African countries were subjected to European rule, up until the early 1960s, when most countries gained independence. How have the actions of a diverse set of actors, not only of colonial governments, but also of missionaries, firms, and Africans themselves, changed the course of subsequent demographic developments?

4 As Jo Guldi and David Armitage (2014) have argued in their *History Manifesto*, historians combine the capacity of long-term thinking with the ability to contextualize change and critically question received perspectives and alarmist narratives of impending doom (Jacobs 2016).

In order to arrive at a historical perspective on the impact and legacies of colonialism for African population growth, I argue that an integrated lens is necessary, an approach that combines the fields of historical demography on the one hand, and the history of medicine, health, and healing on the other.

Why these fields precisely? Mortality, fertility, and migration, the key phenomena of demography, are of course closely related to health.⁵ Think, for instance, of reproductive health and maternal and child health (Doyle et al. 2020; Kuhanen 2005; Larsen 2000). But other aspects of medicine, health and disease also affect population, and the other way around. Diseases, such as small pox and malaria, have exacted their toll on populations or triggered large migration flows, such as the large-scale resettlements as a response to sleeping sickness in East Africa in the 1920s and 1930s (Azevedo 2017; Headrick 2014). More recently, we have seen the devastating impact of HIV/AIDS on African mortality patterns (Lee 2021; Mboup et al. 2006). However, although closely related, the fields of African historical demography and the history of medicine, health, and healing in Africa have remained surprisingly detached (Doyle 2013a; Hunt 2013).

5 Demography is the quantitative study of human population. It is concerned with the size and distribution of populations and studies the three basic components of demographic change: childbearing (or fertility), mortality, and migration. Related characteristics, such as marriage, family composition, socioeconomic status, and religion are also considered. Historical demography examines all these aspects, but then for past populations (Livi-Bacci 2017; Weeks 2016).

In the next part of this lecture, I will briefly introduce these fields. I then sketch the outlines of an integrated approach, which I illustrate with an example of research on which I, and members of my team, have recently embarked.

Two fields, different perspectives

African historical demography

The ‘historical demography of Africa’ is a relatively young discipline, which started in the late 1970s (Fyfe & McMaster 1977). One of its founders, the eminent historian of Africa, John Iliffe (2017), has described Africa’s transition to rapid population growth as the most important development in the continent’s modern history. Understandably, the recent past of colonial rule figured large in the works of scholars in this emerging field. An early landmark, Cordell and Gregory’s *African Population and Capitalism. Historical Perspectives* (1987) introduced the field’s central but still unsettled debate, namely concerning the effects of colonialism on African populations.

In this debate, one group of scholars, the so-called ‘natalists’, argued that fertility and mortality had always been high on the African continent. Harsh ecological conditions and a heavy disease burden caused high rates of illness and death. As land was abundant and people were scarce, so they contended, African societies would have been profoundly pronatalist, meaning

that the reproduction of human life as an important objective of being human was promoted, and high birth rates were advocated (Caldwell 1985; Iliffe 1989, 2017).

Colonial rule would have primarily caused major decreases in mortality. Reductions in violence and famines, improved food quality, the introduction of biomedicine - in particular new remedies such as penicillin -, the expansion of infrastructure, and the incorporation into global markets, were thought to be the most important causes of mortality decline (Caldwell 1985; Doyle 2013a; Iliffe 2017; Mbacké 2017; Notkola et al. 2000). As fertility remained high, African populations started to grow, particularly since the 1940s.

By contrast, another group of scholars, the so-called 'anti-natalists' argued that fertility had not been uniformly high in pre-colonial Africa, but had varied regionally (Cordell et al. 1987; Turshen 1987, 2010). They held that colonial interventions such as cash-cropping, heavy taxation, and forced labour migration, as well as the spread of endemic and new diseases had detrimental effects on Africans' health and survival, heightening mortality rates at least during the early colonial period (Azevedo 2017; Maddox 2010). Driven by fears of underpopulation and labour shortage, colonial administrations would have instigated measures to boost women's reproduction (Andersen 2015; Hunt 1988; Ittmann et al. 2010; Turshen 2010; Van Beusekom

1999). This resonated with the Christian values brought by missionaries, who also encouraged marriage, domesticity, and childbearing in their health care and educational institutions (Guirkinger & Villar 2022; Hunt 1988; Likaka 2006; Muisi 1992).

So, while according to the ‘natalists’ colonial interventions led to a decline in mortality, which together with continuing high fertility, led to population growth, the ‘anti-natalists’ held that colonialism had equivocal effects on mortality, but stimulated birth rates, in this way boosting African populations.

Testing these partly competing hypotheses has been challenging, though. For most of the colonial era, let alone the pre-colonial period, the historical demographer’s standard sources, i.e. censuses, civil registrations of births, marriages, and deaths, population registers, and surveys are scarce, selective, and biased. The fact that we have at best scanty evidence has navigated the field into a decades-long deadlock (Fetter 1990; but cf. Cordell et al. 2017; Ittmann et al. 2010; Walters 2008).

History of medicine, health, and healing in Africa

The second field that is key to my integrated approach is the ‘history of medicine, health, and healing’ in Africa. Early twentieth century African medical history, itself a product of colonialism, centred on mapping and understanding prevalent diseases, and

advances in the emerging field of tropical medicine. It focused on the development of biomedicine, the system in which medical doctors and other healthcare professionals treat diseases using drugs, radiation, or surgery (Lee 2021; Tilley 2011).

Following independence in the early 1960s, critical scholarship started to question the adverse effects of colonial medicine on African bodies and communities (Fanon 1965). A critical lens exposed biomedicine as an instrument of empire with the aim of creating a healthy workforce, or, in the case of the missionaries, as a way to saving souls (Azevedo 2017; Hardiman 2006; Lyons 2002).

From the 1970s onwards, anthropologically-oriented medical historians, led by Steven Feierman and John M. Janzen, navigated the field from its initial focus on disease and biomedicine towards vernacular healing practices and the politics of health (Feierman 1985; Feierman & Janzen 1992). Janzen (1978) minted the concept of 'medical pluralism', which referred not only to the extant diversity of African health care systems and providers, including vernacular healers, therapeutic associations, and colonial biomedical clinics, but also to patients' simultaneous use of different kinds of health care providers.

The 1990s saw the influence of postmodernism and postcolonial theory. Megan Vaughan's *Curing their Ills* (1991) and Nancy

Rose Hunt's *A Colonial Lexicon* (1999) drew on Foucauldian analysis to critically analyse how colonial medicine operated and worked through medical texts, words, and practices. Their studies stimulated research into the history of colonial health institutions and health care workers in domains closely related to population: sexuality, reproduction, and maternal and infant health care.

African history of medicine and health was also closely related to yet another subfield, that of global health history, in which international and transnational institutions and connections, such as missionary, humanitarian, and voluntary organizations, and the politics of global health care are key (Hardiman 2006; Tilley 2011). Histories of global health, including those related to the African continent, have been important in incorporating postcolonial theory, bringing power relations and subaltern perspectives to the fore (Comaroff & Comaroff 1991; Fleishmann et al. 2013).

An integrated approach

When trying to understand population change in sub-Saharan Africa since the 1950s, we are facing the problem that we know little about the impact and legacies of European colonialism on demographic developments. At the same time, there is a body of knowledge on biomedical medicine and African health and healing, but we are at loss when trying to connect it to the big-

ger picture of shifting population figures. A perspective that not only studies the history of population and health together, but that also merges its concepts, theories, and methods could provide a more comprehensive understanding. What should such a joint perspective entail?

MUD: multi-paradigmatic, untapped, diverse

The integrated approach that I envision has three characteristics: it is ‘multi-paradigmatic’, ‘untapped’, and ‘diverse’, summarized by the acronym MUD. As mud is a blend of soil and water, merging solid and liquid substances, so this approach ‘mixes’ demography, one of the harder social sciences, with the more fluid and interpretative health humanities.⁶

A first characteristic of such an approach is the combination of multiple paradigms. Health and population in Africa, as elsewhere, are not only about patterns of disease and demographic outcomes, such as fertility and mortality rates, but also, more holistically, about how illness, health, and key life experiences such as giving birth, dying, and moving, were understood, practiced, and managed.⁷ The historical demography of Africa, and

6 Mud, by the way, is an important building material in Africa, while along its rivers, it is known for its fertile qualities.

7 In her excellent recent introduction to the field of health, healing and illness in African history, Rebekah Lee (2021, 2) has argued that “health is constitutive of a process, a set of relations, rituals and practices, of institutions in action and interaction, with the potential for conflict, negotiation and – most important for historians – change. Therapeutic practices are also embedded and evocative of struc-

demography in general I would say, needs to encompass processes, practices, discourses, and the institutional contexts, hierarchies, and power relations in which population processes took place (e.g. Ittmann et al., 2010).⁸

Conversely, the history of medicine, health, and healing may benefit from the interaction with the quantitative record, with patterns and drivers of disease, health, and illness across various contexts. It is the explicit combination of interpretative perspectives and quantitative approaches that will lead both fields forward.⁹

ture – a system or a set of systems, with hierarchy and roles. That structure can only be fully discerned through attention to wider social, political, and economic contexts, and their particular historical trajectories. Finally, the study of health, healing and illness is also about perception, representation and language”.

- 8 Ittmann et al. (2010) address how postcolonial and postmodernist scholarship since the 1990s has criticized the validity of serial colonial sources such as censuses and parish registers, emphasizing their role in constructing hierarchies and categories. This has stimulated a generation of studies focusing on colonial population discourses, hegemonic relations, processes of othering and subaltern perspectives that could be more closely integrated in historical demographic studies (but cf. Allman 1994; Hunt 1988; Summers 1991; Turshen 2010; Vaughan 1991).
- 9 With a similar objective, Sarah Walters (2021) has recently proposed a moral demography approach to African population history. Decisions around reproduction should be seen as comprising a ‘dynamic set of values that continually inform people’s perceptions and accommodations to their often changing conditions and are affected by and interact with contingent circumstances.’ According to Walters (2021, 184-185), ‘finding, understanding and foregrounding the arguments within which moral demographies were created brings a reflexive and dialectic approach to the quantitative record, including its formation, meanings, as well as its formal evaluation.’

Second, an integrated approach would want, and probably need, to unearth *untapped* histories. Untapped, first of all, in the sense of giving voice to ‘unheard’ or ‘muted’ voices. Previous research has mainly focused on colonial state medicine, and on medical doctors (Iliffe 1998) while the perspective of missionary health care (but cf. Doyle et al. 2020; Jennings 2006), and particularly of missionary nurses, has remained largely unstudied (but cf. Hokkanen 2013; Sweet 2013; Sweet & Hawkins 2015). We know very little yet about how African nurses in biomedical institutions combined, hybridized, and thereby affected biomedical and vernacular healing practices (Azevedo 2017; Johnson & Khalid 2011; Kalusa 2011). Similarly, how were different aspects of biomedicine experienced, given meaning, and appropriated in African communities, by patients? Interesting to know is also how hospital nurses and midwives, in their turn, integrated knowledge and skills from indigenous midwives and healers.

‘Untapped’ also denotes the creative analysis of new or under-explored sources, for instance oral history interviews (e.g. Smythe 2006), hospital maternity records (e.g. Doyle et al. 2020; Kuhanen 2005), missionary diaries (e.g. Smythe 2007), colonial and mission photography (e.g. Thompson 2012), vital registration (e.g. Sevdalakis et al. 2023), parish registers (e.g. Walters 2008, 2016), and data from health and demographic surveillance systems (e.g. Bras et al. 2023). These are compli-

cated sources that need careful analysis but have the potential to shed new light on Africa's demographic and health pasts, particularly when analysed jointly.

Third, an integrated approach would need to focus on *diversity*. Africa may be considered a continent, whose countries are in the popular imagination often lumped together, but the internal variation is immense. Unearthing, historicizing, contextualizing, and explaining *diverse* local and regional African *histories* – not *the* history – of African population and health needs to be key. Similarly, explanations would involve various perspectives. How did histories of population and health vary according to ecological and disease environments (Maddox et al. 1996, Maddox 2010), customary and statutory laws (Turshen 2010), lineage and caste systems (Goody 1990; Lesthaeghe 1989; Tamari 1991), systems of slavery and war (McCurdy 2010), and gender and generational relations (Bras & Smits 2022; Dodoo & Frost 2008; Turshen 2010)? How did diversity result from interaction with different types of imperial rule, diverse missionary congregations, and distinct postcolonial states? Finally, yet importantly, how did the agency of various actors, among others Africans themselves, relate to variation in demographic and health pasts?

Multi-paradigmatic, untapped, and diverse; the *MUD-approach* that I advocate may perhaps still seem a bit abstract. In the

next part of this lecture, I will illustrate it with an example from recent research in which I, together with colleagues from the Economic and Social History group in Groningen and a number of African universities, have started to explore this approach in order to shape a research agenda that will be developed further in the future.

Nursing practices and reproductive health in East Africa

With colleagues from Makerere University (Uganda), the University of Dar es Salaam, and the University of Malawi, we recently started the research project, ‘White Sisters, nursing practices, and reproductive health in East Africa, 1890s-present’.¹⁰ The aim is to understand variation and changes in maternal and child health care nursing and the impact thereof on reproductive health and demographic developments, such as maternal mortality, infant mortality, birth spacing, and fertility in colonial and post-colonial East Africa.

¹⁰ The project is funded by the Foundation Nurse Vernède [*Stichting Zuster Vernède*], which stimulates research into the history of nursing in the Netherlands. We collaborate with Dr. Stephen Wandera (Department of Population Studies, Makerere University), Dr. Gift Kayira and Dr. Hendrina Mazizwe (Department of History, University of Malawi), and Dr. Oswald Masebo and Prof. Fred Kajjage (Department of History, University of Dar es Salaam). The ESH-group also hosts another project on African historical demography and health conducted by PhD-student Dinos Sevdalakis, which examines mortality and fertility transitions in West Africa.



Figure 2. Villa Maria Hospital, Uganda. The first maternity ward, built in 1924.
Source: photo author

The project employs a comparative regional history approach in which we start by studying ‘histories from below’ contrasting six (former) mission hospitals and their surrounding communities: Villa Maria and Nkozi in Uganda, Likuni and Mua in Malawi, and Bukumbi and Ndala in Tanzania. The hospitals were founded by the congregation of the Missionary Sisters of Our Lady of Africa, also called the White Sisters for the colour of their habit, established in 1869 by the French archbishop of Algiers, Charles Lavigerie, who previously had founded the Missionaries of Africa, or White Fathers. While the Fathers focused on catechesis and the education of priests, the Sisters were responsible for health care, home visits, community work,

and the education of children (Bouniol 1927; Van Dongen 2017). Figure 3 shows the congregation's dioceses and mission stations, mostly situated in North Africa, West Africa, and East-Central Africa, and the six study locations.

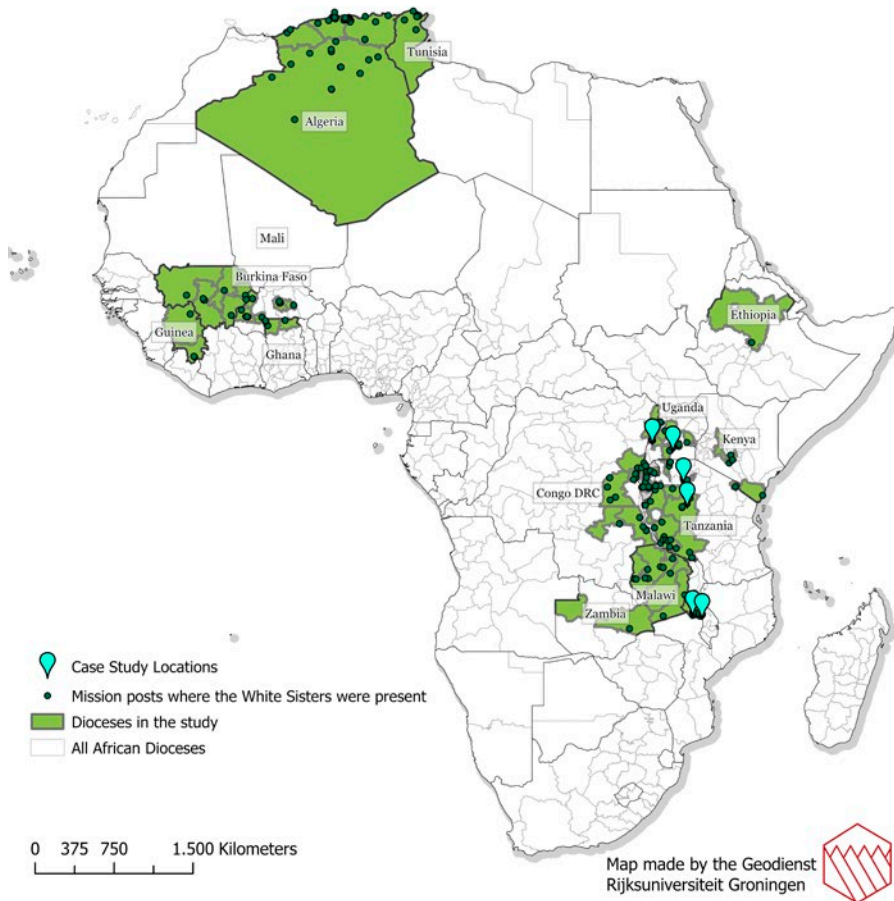


Figure 3. Dioceses, mission posts, and case study locations of the White Sisters in Africa

Source: Annual statistics, 1944-1972, White Sisters Archives, Rome. Map: Geodienst rug.

The project consists of two subprojects and combines concepts, theories, and approaches from the history of medicine, health, and healing, and historical demography.

Medical pluralism in maternal and child healthcare practices

A first subproject focuses on historical changes in medical and nursing practices related to maternal and infant health care in three hospitals and their surrounding communities between the 1900s and the 1980s.¹¹ The study explores the ways in which biomedical practices were adopted, adapted, and resisted by local communities, how different practices - biomedical and indigenous - intertwined and were modified over time, and the role that different groups, among others White Sisters nurses, African nurses, so-called traditional birth attendants (TBAs), and female patients played in this process.

The project re-examines the concept of *medical pluralism* (Janzen 1978), understood not as the simple dichotomy of ‘colonial-introduced biomedicine’ versus ‘traditional healing’, but denoting the partly overlapping multiplicity of health care practices and systems (Ernst 2002), as well as other aspects related to health, such as the meaning of health and illness in daily life, economic interests, and religious dimensions (Bruchhausen

¹¹ The project is conducted by Ivana Zečević as her PhD research. In this study three of the six hospitals and their surrounding communities were chosen as case studies: Villa Maria (Uganda), Mua (Malawi), and Bukumbi (Tanzania).

2010). To do so, a praxiographic approach is taken. First introduced by Annemarie Mol (2002), *praxiography* as a method is primarily interested in understanding practices and their configurations in different contexts and settings. It focuses, to put it simply, on how people did things, in this case, on how childbirth, maternal and infant nursing, hygiene, and domesticity were done.

How can we reveal and interpret medical pluralism and seemingly everyday nursing practices that took place in the past, sometimes more than a century ago? One way is through thematic and critical discourse analysis of archival documents and published literature, such as missionary diaries, mission histories, annual reports, and contemporary medical and nursing handbooks and guidelines. Another way is through oral history interviews.

Archival materials and interviews can be analysed ‘along’ the grain, studying their content in the historical context of the time, particularly focusing on the preoccupations of those who created the archive,¹² or ‘against the grain’, looking for instances of agency, experimentation, and adaptation, and ‘listening’ to silences and resistances of those who were ‘othered’

¹² Doing so, information about medical personnel, the organization and management of the mission’s health care, perceived reactions from the local communities, financial relations with the English colonial administration, and numbers of hospitalized and births are unearthed.

(Mbembe 2002; Stoler 2010; Zumthurn 2020). We encounter for instance this short remark in a missionary diary from 1914 in Villa Maria:

“Our Baganda use a number of effective native remedies, but they do not know how to dose them judiciously. Also, for years we have deplored the many deaths of children, caused by the clumsiness of the parents, or due to their bad habit of using Kiganda remedies simultaneously with ours. To put an end to these disastrous customs, the R. F. Superior, at the Sunday mass, invites mothers to act with more common sense by not giving any indigenous remedy to small children.”

(Diary of Villa Maria, 18 January 1914)

The fragment shows a number of interesting things. First of all, we observe the agency of the local population in actively making use of different health care systems. The diary entry also suggests that the Sisters did not completely object to local remedies. It was mostly their dosage and their use in combination with biomedical medicine that caused indignation.

The same ideas regarding indigenous medicine arose from recently conducted interviews with the Bannabikira Sisters. The Bannabikira (Daughters of Mary) are a Catholic congregation co-founded by the White Sisters in 1910 in Villa Maria, who continued the religious work, education and health care

started by the White Sisters.¹³ The Bannabikira Sisters said that the two main problems they encountered when it came to indigenous medicines were that women took too much of it and that they would mix it with the medicines from the hospital, which could have negative effects on their health or that of the baby. However, it became also apparent that indigenous medicines, as well as the work of traditional birth attendants (TBAs), were more tolerated after independence.

During the 1970s and 1980s, even before the administration of the hospital was handed over to the Bannabikira Sisters, many Bannabikiras investigated and used traditional medicines themselves (*Bannabikira Health Magazine* 2010). Furthermore, some kind of cooperation between the TBAs and the nurses and midwives from the hospital was formed after independence – the TBAs were given basic training in hygiene during the delivery (using gauze, gloves, etc.) and would send mothers to the hospital if they noticed problems during the pregnancy or delivery.¹⁴

13 The White Sisters handed over the post of the Senior Nursing Officer and the administration of the hospital to the Bannabikira Sisters in 1975 and 1979 respectively (*Villa Maria Hospital Magazine* 2002).

14 These are preliminary findings that arose from the first interviews in Villa Maria. Further explanations of patterns and their changes over time are only possible after further transcription and analysis of the diaries, annual reports, and interviews.



Figure 4. Interview by Ivana Zečević (left) with traditional birth attendant Maria Frances Namaganda (middle) and Bannabikira Sister Sr. Restituta (right)
Source: Photo author

Reproductive health and demographic diversity

In a second project, variations and shifts in maternal and child health care practices are the point of departure to explore changes in reproductive health and demographic diversity.

What were the effects of shifting pluralistic medical and nursing practices on reproductive health and demographic developments since the end of the 19th century?¹⁵

¹⁵ Reproductive health comprises perinatal mortality (abortions, stillbirths, neonatal mortality), infant health (weight, prematureness, gestation), maternal mortality, pregnancy histories, gravidity, types of delivery (e.g. caesarians), surgical

In this project, novel historical data from maternity hospitals in Africa are examined alongside more often-used historical demographic sources such as parish registers, blue books, censuses, surveys, and demographic surveillance data.

First, using unexplored archival information on all White Sisters' maternities in sub-Saharan Africa, located in the archives in Rome, patterns of reproductive health from the mid-colonial to the postcolonial period can be reconstructed.¹⁶ For instance, the form in Figure 5 records rich information on Villa Maria's maternity hospital for the year 1958/59. Documented are numbers of European and African nurses with and without qualification, numbers of beds, out-patients, in-patients, births, infant deaths, maternal deaths, and women's prenatal visits during the year.

The lower part records the activities of the *goutte de lait* (milk depot) and mother and baby clinic where babies were regularly weighed, cared for when they fell ill, and issued with pasteurized milk.¹⁷ We find information on the numbers of White Sis-

interventions, breastfeeding and bottle feeding. Demographic outcomes include parity or completed fertility, birth intervals, age at first birth.

16 It also enables us to gauge the representativeness of the six case study locations in broader patterns of diversity and change.

17 At the end of the 19th century, particularly in France and Belgium, 'gouttes de lait' (milk stations) were set up to reduce infant mortality in the working classes. In the 20th century, the institution was exported to colonial Africa through a collaboration between voluntary women's organizations and missionary movements (Hunt 1988).

8

POSTE *Villa Maria* } du 1^{er} Juillet 1958
 au 30 Juin 1959

MATERNITE

	Diplômées	Non diplômées				
Sœurs Blanches affectées à l'Œuvre	1					
Sœurs Africaines	1					
Sages-femmes } européennes						
du Infirmières } africaines	2	4				
Nombre de lits	60					
Journées de présence des femmes	7890					
	Maternité	À domicile				
Femmes traitées dans l'année	1193					
Naissances	1080					
Décès	<table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Mères</td> <td style="text-align: center;">2</td> </tr> <tr> <td>Enfants</td> <td style="text-align: center;">22</td> </tr> </table>		Mères	2	Enfants	22
Mères	2					
Enfants	22					
Nombre de femmes suivies à la consultation prénatale	3708					

GOUTTE de LAIT

ŒUVRE des MERES et NOURRISSONS

(Rayer la mention inutile)

Sœurs Blanches affectées à l'Œuvre	2				
Sœurs Africaines					
Auxiliaires	<table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">européennes</td> <td></td> </tr> <tr> <td>africaines</td> <td></td> </tr> </table>	européennes		africaines	
européennes					
africaines					
Nombre d'enfants inscrits dans l'année	681				
Nombre de séances par mois	4				
Moyenne des présences par séance	30				
Nombre d'enfants vus par le médecin dans l'année					

Figure 5. Annual summary reports of White Sisters' maternities: Villa Maria 1958/59
 Source: White Sisters Archives, Rome. Photo: author

ters and African Sisters, and on European and African auxiliaries attached to the clinic, as well as numbers of registered children, consultations, children present, and children seen by a doctor. Geographic differences, as well as changes over time, can be analysed and related to imperial, national, church provincial and diocesan, and local contexts and conditions.¹⁸

Another rich but rarely used source for the history of reproductive health and historical demography in Africa are maternity registers and maternity charts from hospital archives (but cf. Doyle et al. 2020; Doyle 2013b; Kuhanen 2005; Petit and Van Ginneken 1995). The image in Figure 6 is from a maternity register, with entries dating from 1953.

The register provides, in the national language Luganda, basic information on all women who delivered in the hospital's maternity ward. Dates of admission and delivery, the child's name and sex, the village and county of residence of the mother, the names of the father and mother, the parity (number of children) of the mother, and the date of discharge are given.

Figure 7 shows pages from a maternity chart that records a delivery, which took place in 1976 in the Villa Maria hospital.

¹⁸ The information is available from 1944 to 1972. Information later than 1972 was not accessible due to internal regulations of the White Sisters Archives. For earlier periods similar information can be found in the annual reports of the White Sisters' mission hospitals.

cause of death. This case chart recorded a normal delivery (N/D) and a healthy child.

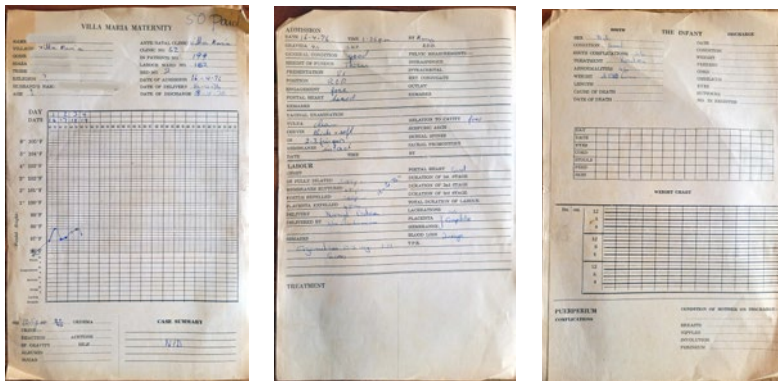


Figure 7. Maternity chart (1976)

Source: Hospital Archives Mission Hospital Villa Maria (Uganda). Photos: author.

The format of maternity registers and charts differed between hospitals and over time. Most recorded the birthweight and sex of the baby, as well as the number of full-term births (parity) and/or the number of pregnancies (gravidity) of the mother. Moreover, socioeconomic status, ethnicity, religion, and community of birth or residence were also often mentioned.¹⁹

19 The richer registers also record the outcome of the mother's previous births (her miscarriages, stillbirths, and neonatal deaths), the survival of her previous children, and whether or not she or her husband had or ever had syphilis. Some registers record whether herbal medicines had been used to strengthen contractions, and whether surgical interventions were used, such as the use of forceps, and cesarean section. Occasionally, a full narrative of a woman's reproductive history is also provided on the back side of the file.

Such serial maternity information is of course selective. It concerns only in-hospital births and deaths, overlooking those that took place in the communities with or without the help of TBAs. Moreover, it most likely comprises the more difficult deliveries and, because maternal services were not free, attracted women who were able to pay for it, and likely those who felt comfortable coming to the mission hospital and receiving biomedical care, for instance because they or their spouse or family had received missionary education (Vaughan 2013).

Moreover, the information itself is biased in the sense that categories were constructed from a colonial and missionary frame. However, when critically analysed in conjunction with other sources such as local parish registers or surveillance data and a careful qualitative historical analysis of changing medical and nursing practices they offer a unique window into the history of reproductive health and population in Africa.

Conclusion

The world's population has recently passed 8 billion people. Although growth is slowing, numbers will continue to rise at least until the end of this century. Most of this growth will take place in sub-Saharan Africa. Not only this remarkable growth must be explained, but also the considerable variation therein across different parts of the continent.

In this lecture, I argued that a long-term vision is essential to better understand population developments in Africa in all their variation. Examining the influence and legacies of colonial governance and the Christian mission, which roughly concerns the period between the end of the nineteenth century and the beginning of the 1960s, when most African countries were under European rule, is necessary to explain African demographic developments.

I advocated a perspective that joins the fields of historical demography and the history of medicine, health, and healing. More specifically, I made a case for an integrated approach that mixes multiple, i.e. interpretative and quantitative, paradigms, integrates a variety of untapped voices and sources to lay bare changes in medical pluralism and demographic diversity during the colonial and post-colonial period.

I illustrated this with current research on East Africa that intends to show how shifting pluralistic maternity and child health care practices may have had continuing effects on regional patterns of change and difference in population and health that we may still witness today (Abimbola et al. 2021; Bump & Aniebo 2022; Keller 2006).

Much of our thinking about long-term demographic change is explicitly or implicitly influenced by demographic transition

models with their emphasis on unilinear change towards an endpoint of very low fertility. These models have been critiqued in that their search for developmental stages and irreversible transitions may be wrongheaded (Thornton 2001; Zaidi & Philip Morgan 2017).

Instead of trying to fit African pathways of transformation into such evolutionary models, they need to be interpreted by their historical anchoring in diverse colonial, national and transnational institutions, by their embedding in regionally varying cultural, religious, socioeconomic, and environmental contexts, and by the agency of various actors.

According to Edward Paice (2021), historian and director of the *Africa Research Institute* in London, Africa remains marginalized in the western media and in the imaginations of most western citizens. In the same vein, Catherine Coquery-Vidrovitch, eminent historian of Africa, recently stated that ‘there is still a certain rejection of African history in the West’ (Richard & Schulte Nordholt 2022).

There is a solid chance that by 2050 more than a quarter of the world’s people will be African; by the end of the century this will likely be close to 40 percent (Paice 2021; UN 2022). Africa is key; why is it still so neglected? This question is important as ignorance feeds alarmism. Hence, more attention for Africa

and its history, including its histories of population and health, is badly needed. Not only because of the future of global population growth, but in and of itself.

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I am honoured to hold a chair named after such an eminent female predecessor. I hope that the field that I help to give shape through this chair, the history of global demography and health, resonates with some of her ideas. I want to thank the University Board and the Faculty Board for their trust in me and the opportunity that I have been given to become one of the Aletta Jacobs Professors.

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References

- Abimbola, S., Asthana, S., Montenegro, C., Guinto, R. R., Jumbam, D. T., Louskieter, L., et al. (2021). Addressing power asymmetries in global health: Imperatives in the wake of the COVID-19 pandemic. *PLOS Medicine*, 18(4), e1003604.
- Allmann, J. (1994). Making mothers: Missionaries, medical officers and women's work in colonial Asante, 1924-1945. *History Workshop Journal*, 38, 23-47.
- Andersen, M. C. (2015). *Regeneration through empire: French pronatalists and colonial settlement in the Third Republic*. Lincoln: University of Nebraska Press.
- Azevedo, M. J. (2017). *Historical perspectives on the state of health and health systems in Africa, Volume I. The pre-colonial and colonial eras*. [African histories and modernities series]. Cham: Palgrave Macmillan.
- Bannabikira Health Magazine* (2010). Kampala: B. K. Trading Company Ltd.
- Bongaarts, J. (2017). Africa's unique fertility transition. *Population and Development Review*, 43(S1), 39-58.
- Bongaarts, J., & Casterline J. (2013). Fertility transition: Is sub-Saharan Africa different? *Population and Development Review*, 38(S1), 153-168.
- Bouniol, J. (Ed.). (1927). *The White Fathers and their missions*. London: Sands & Co.
- Bras, H., Remund, A., & Delaunay, V. (2023). Childbearing trajectories in a West African setting: A sequence analysis approach. *Demography*, 60(3), 891-913.

- Bras, H., & Smits, J. (2022). Contexts of reproduction: Gender dynamics and unintended birth in sub-Saharan Africa. *Journal of Marriage and Family*, 84(2), 438-456.
- Bruchhausen, W. (2010). Medical pluralism as a historical phenomenon: A regional and multi-level approach to health care in German, British, and independent East Africa. In W. Ernst, A. Digby, & P. B. Mukharji (Eds.), *Crossing colonial historiographies: Histories of colonial and indigenous medicines in transnational perspective* (pp. 99-113). Newcastle upon Tyne: Cambridge Scholars Publishing.
- Bump, J. B., & Aniebo, I. (2022). Colonialism, malaria, and the decolonization of global health. *PLOS Global Public Health*, 2(9), e0000936.
- Caldwell, J. C. (1985). The social repercussions of colonial rule: Demographic aspects. In A. Adu Boahene (Ed.), *UNESCO General history of Africa: Vol. vii. Africa under colonial domination, 1880-1935* (pp. 458-486). London: Heinemann; Berkeley: University of California Press.
- Comaroff, J., & Comaroff, J. (1991). *Of revelation and revolution: Vol. 1. Christianity, colonialism, and consciousness in South Africa*. Chicago, Illinois: The University of Chicago Press.
- Cordell, D. D., Gregory, J. W. & Piché, V. (1987). African historical demography: The search for a theoretical framework. In D. D. Cordell & J. W. Gregory (Eds.), *African population and capitalism: Historical perspectives*. Boulder: Westview Press.
- Cordell, D.D. & Gregory, J. W. (Eds.). (1987). *African population and capitalism: Historical perspectives*. Madison: The University of Wisconsin Press.
- Cordell, D. D., Omoluabi, E., & Stiegler, N. (2017). Historical demography on sub-Saharan Africa (1975-2010). In A. Fauve Chamoux, I. Bolovan & S.

- Sogner (Eds.). *A global history of historical demography: Half a century of interdisciplinarity* (pp. 67-85). Bern: Peter Lang.
- Davis, K. (1945). The world demographic transition. *Annals of the American Academy of Political and Social Science*, 237, 1-11.
- Dodoo, F. N.-A., & Frost, A. E. (2008). Gender in African population research: The fertility/reproductive health example. *Annual Review of Sociology*, 34, 431-452.
- Doyle, S. (2013a). Demography and disease. In J. Parker & R. Reid (Eds.). *The Oxford handbook of modern African history* (pp. 38-55). New York: Oxford University Press.
- Doyle, S. (2013b). *Before HIV: Sexuality, fertility and mortality in East Africa, 1900-1980*. Oxford: Oxford University Press.
- Doyle, S., Meier zu Selhausen, F. & Weisdorf, J. (2020). The blessings of medicine? Patient characteristics and health outcomes in a Ugandan mission hospital, 1908-1970. *Social History of Medicine*, 33(3), 946-980.
- Ernst, W. (2002). *Plural medicine, tradition, and modernity, 1800-2000*. London, New York: Routledge.
- Fanon, F. (1965). Medicine and colonialism. In F. Fanon, *A dying colonialism* (pp. 121-145). New York: Grove Press.
- Feierman, S. (1985). Struggles for control: The social roots of health and healing in modern Africa. *African Studies Review*, 28(2/3), 73-147.
- Feierman, S. & Janzen, J. M. (Eds.). (1992). *The social basis of health & healing in Africa*. Berkeley, Los Angeles, London: University of California Press.
- Fetter, B. (Ed.). (1990). *Demography from scanty evidence: Central Africa in the colonial era*. Boulder: Lynne Rienner Publishers.

- Fleischmann, E., Grypma, S., Marten, M. & Okkenhaug I. M. (Eds.) (2013). *Transnational and historical perspectives on global health, welfare and humanitarianism*. Kristiansand: Portal Academic.
- Fyfe, C. & McMaster, D. (Eds.). (1977). *African historical demography* [Proceedings of a seminar held in the Centre of African Studies, University of Edinburgh, 29th and 30th April 1977.] Edinburgh: Edinburgh University Press.
- Goody, J. (1990). *The Oriental, the ancient, and the primitive: Systems of marriage and the family in the pre-industrial societies of Eurasia*. Cambridge: Cambridge University Press.
- Groth, H. & May, J. F. (Eds.). (2017). *Africa's population: In search of a demographic dividend*. Cham: Springer.
- Guirkinger, C. & Villar, P. (2022). Pro-birth policies, missions, and fertility: Historical evidence from the Congo [Working paper. Version: December 2022]. <https://liraes.u-paris.fr/pro-birth-policies-missions-and-fertility-historical-evidence-from-the-congo/>
- Guldi, J. & Armitage, D. (2014). *The history manifesto*. Cambridge: Cambridge University Press.
- Hardiman, D. (Ed.). (2006). *Healing bodies, saving souls: Medical missions in Asia and Africa* [The Wellcome series in the history of medicine, Clío medica (80)]. Amsterdam, New York: Rodopi.
- Headrick, D. R. (2014). Sleeping sickness epidemics and colonial responses in East and Central Africa, 1900–1940. *PLOS Neglected Tropical Diseases* 8(4), e2772.
- Hokkanen, M. (2013). Missions, nurses and knowledge transfer: The case of early Malawi. In E. Fleischmann et al. (Eds.), *Transnational and historical*

perspectives on global health, welfare and humanitarianism (pp. 110-136).

Kristiansand: Portal Books.

Hunt, N. R. (1988). "Le bébé en brousse": European women, African birth spacing and colonial intervention in breast feeding in the Belgian Congo.

The International Journal of African Historical Studies, 21(3), 401-432.

Hunt, N. R. (1999). *A colonial lexicon: Of birth ritual, medicalization, and mobility in the Congo*. Durham NC: Duke University Press.

Hunt, N. R. (2013). Health and healing. In J. Parker & R. Reid (Eds.). *The Oxford handbook of modern African history* (pp. 378-395). New York: Oxford University Press.

Iliffe, J. (1989). The origins of African population growth. *The Journal of African History*, 30(1), 165-169.

Iliffe, J. (1998). *East African doctors: A history of the modern profession*.

Cambridge: Cambridge University Press.

Iliffe, J. (2017). *Africans: The history of a continent*. [Third Edition.] Cambridge: Cambridge University Press.

Iltmann, K., Cordell, D. D. & Maddox, G. H. (Eds.). (2010). *The demographics of empire: The colonial order and the creation of knowledge*. Ohio: Ohio University Press.

Jacobs, N. (2016). Summary of the history manifesto. *Isis*, 107(2), 311-314.

Janzen, J. M. (1978). *The quest for therapy: Medical pluralism in lower Zaire*.

Berkeley, Los Angeles, London: University of California Press.

Jennings, M. (2006). "A matter of vital importance": The place of the medical mission in maternal and child healthcare in Tanganyika, 1919-39. In D.

Hardiman (Ed.), *Healing bodies, saving souls: Medical missions in Asia and Africa* (pp. 227-250). Amsterdam: Brill.

- Johnson, R. & Khalid, A. (Eds.). (2011). *Public health in the British empire: Intermediaries, subordinates, and the practice of public health, 1850-1960*. Milton Park, UK: Taylor and Francis.
- Johnson-Hanks, J. (2007). Natural intentions: Fertility decline in the African demographic and health surveys. *American Journal of Sociology*, 112(4), 1008-1043.
- Kalusa, W. (2011). Medical training, African auxiliaries, and social healing in colonial Mwinilunga, Northern Rhodesia (Zambia), 1945-1964. In R. Johnson & A. Khalid (Eds.), *Public health in the British Empire: Intermediaries, subordinates, and the practice of public health, 1850-1960* (pp. 154-170). Milton Park, UK: Taylor and Francis.
- Keller, R.C. (2006). Geographies of power, legacies of mistrust: Colonial medicine in the global present, *Historical Geography*, 34, 26-48.
- Kuhanen, J. (2005). *Poverty, health and reproduction in early colonial Uganda* [University of Joensuu Publication in the Humanities 37]. Joensuu: University of Joensuu.
- Landry, A. (1934). *La révolution démographique*. Paris: Sirey.
- Larsen, U. (2000). Primary and secondary infertility in sub-Saharan Africa. *International Journal of Epidemiology*, 29(2), 285-291.
- Lee, R. (2021). *Health, healing, and illness in African history*. London: Bloomsbury.
- Lesthaeghe, R. J. (Ed.). (1989). *Reproduction and social organization in sub-Saharan Africa*. Berkeley: University of California Press.
- Likaka, O. (2006). Colonial response to population depletion in early Congo, ca. 1890-1936. *Anthropos*, 101(2), 403-412.

- Livi-Bacci, M. (2017). *A concise history of world population*. Hoboken, NJ: John Wiley & Sons, Inc.
- Lyons, M. (2002). *The colonial disease: A social history of sleeping sickness in Northern Zaire, 1900-1940*. Cambridge: Cambridge University Press.
- Maddox, G., Giblin, L. & Kimambo, I. N. (Eds.). (1996). *Custodians of the land: Ecology & culture in the history of Tanzania*. Oxford: James Currey.
- Maddox, G. H. (2010). Disease and environment in Africa: Imputed dynamics and unresolved issues. In K. Ittmann, D. D. Cordell & G. H. Maddox (Eds.), *The demographics of empire: The colonial order and the creation of knowledge* (pp. 198-216). Ohio: Ohio University Press.
- Mbacké, C. (2017). The persistence of high fertility in sub-Saharan Africa: A comment. *Population and Development Review*, 43(S1), 330-337.
- Mbembe, A. (2002). The power of the archive and its limits. In C. Hamilton, V. Harris, J. Taylor, M. Pickover, G. Reid & R. Saleh (Eds.), *Refiguring the archive* (pp. 19-26). Dordrecht: Springer.
- Mboup, S., Musonda, R., Mhalu F., et al. (2006). HIV/AIDS. In D. T. Jamison, R. G. Feachem, M. W. Makgoba, et al. (Eds.), *Disease and mortality in sub-Saharan Africa* (pp. 237-246). [2nd edition.] Washington (DC): The International Bank for Reconstruction and Development / The World Bank. <https://www.ncbi.nlm.nih.gov/books/NBK2289/>
- McCurdy, S. (2010). Disease and reproductive health in Ujiji, Tanganyika: Colonial and missionary discourses regarding Islam and a “dying population”. In K. Ittmann, D. D. Cordell & G. H. Maddox (Eds.), *The demographics of empire: The colonial order and the creation of knowledge* (pp. 174-197). Ohio: Ohio University Press.

- Mol, A. (2002). *The body multiple: Ontology in medical care*. Durham: Duke University Press.
- Musisi, N. B. (1992). Colonial and missionary education: Women and domesticity in Uganda, 1900-1945. In K. Tranberg Hansen (Ed.), *African encounters with domesticity* (pp. 172-194). New Brunswick: Rutgers University Press.
- Notestein, F. W. 1945. Population—The long view. In T. W. Schultz (Ed.), *Food for the World* (pp. 36-57). Chicago: University of Chicago Press.
- Notkola, V., Timaeus, M. & Siiskonen, H. (2000). Mortality transition in the Ovamboland region of Namibia, 1930-1990. *Population Studies*, 52(2), 153-167.
- Paice, E. (2021). *Youthquake: Why African demography should matter to the world*. London: Bloomsbury.
- Petit P. L. & van Ginneken, J.K. (1995). Analysis of hospital records in four African countries, 1975-1990, with emphasis on infectious diseases. *The Journal of Tropical Medicine and Hygiene*, 98(4), 217-227.
- Richard, A.-I. & Schulte Nordholt, L. (2022). "There is still a certain rejection of African history in the West": An interview with Catherine Coquery-Vidrovitch. *Itinerario*, 46(1), 1-13.
- Romaniuk, A. (2011). Persistence of high fertility in tropical Africa: The case of the Democratic Republic of the Congo. *Population and Development Review*, 37, 1-28.
- Sasser, J. S. (2018). *On infertile ground: Population control and women's rights in the era of climate change*. New York: New York University Press.
- Schoumaker, B. (2019). Stalls in fertility transitions in sub-Saharan Africa: Revisiting the evidence. *Studies in Family Planning*, 50(3), 257-278.

- Sevdalakis, D., Bras, H., & Remund, A. (forthcoming). At the roots of Niger's population growth: Estimating fertility trends in colonial Niger, 1910-1970. *Afriche e Oriente*.
- Smythe, K. R. (2006). *Fipa families: Reproduction and Catholic evangelization in Nkansi, Ufipa, 1880-1960*. Portsmouth, N.H.: Heinemann.
- Smythe, K. R. (2007). African women and White Sisters at the Karema mission station, 1894-1920. *Journal of Women's History, 19*(2), 59-84.
- Stoler, A. L. (2009). *Along the archival grain: Epistemic anxieties and colonial common sense*. New Jersey: Princeton University Press.
- Summers, C. (1991). Intimate colonialism: The imperial production of reproduction in Uganda, 1907-1925. *Signs, 16*(4), 787-807.
- Sweet, H. (2013). Mission nursing in the South African context: The spread of knowledge during the colonial and Apartheid periods. In E. Fleischmann et al. (Eds.), *Transnational and historical perspectives on global health, welfare and humanitarianism* (pp. 139-157). Kristiansand: Portal Books.
- Sweet, H. & Hawkins, S. (2015). Introduction: Contextualizing colonial and post-colonial nursing. In H. Sweet & S. Hawkins, *Colonial caring: A history of colonial and post-colonial nursing* (pp. 1-17). Manchester: Manchester University Press.
- Tabutin, D. & Schoumaker, B. (2004). The demography of sub-Saharan Africa from the 1950s to the 2000s: A survey of changes and a statistical assessment. *Population-E, 59*(3-4), 457-555.
- Tamari, T. (1991). The development of caste systems in West Africa. *Journal of African History, 32*, 221-250.

- Thompson, T.J. (2012). *Light on darkness? Missionary photography of Africa in the nineteenth and early twentieth centuries*. Grand Rapids, Cambridge, UK: William B. Eerdmans Publishing Company.
- Thornton, A. (2001). The developmental paradigm, reading history sideways, and family change. *Demography*, 38(4), 449-465.
- Tilley, H. (2011). *Africa as a living laboratory: Empire, development, and the problem of scientific knowledge, 1870-1950*. Chicago, London: The University of Chicago Press.
- Turshen, M. (1987). Population growth and the deterioration of health: Mainland Tanzania, 1920-1960. In D. D. Cordell & G. H. Maddox (Eds.), *African population & capitalism* (pp. 187-200). Boulder: Westview Press.
- Turshen, M. (2010). Reproducing labor: Colonial government regulation of African women's reproductive lives. In K. Ittmann, D. D. Cordell & G. H. Maddox (Eds.), *The demographics of empire: The colonial order and the creation of knowledge* (pp. 217-244). Ohio: Ohio University Press.
- United Nations Department of Economic and Social Affairs, Population Division. (2022). *World Population Prospects 2022: Summary of Results*. [UN DESA/POP/2022/TR/NO. 3, 2022.] Retrieved from: <https://www.un.org/development/desa/pd/content/World-Population-Prospects-2022>
- Van Beusekom, M. M. (1999). From underpopulation to overpopulation: French perceptions of population, environment, and agricultural development in French Soudan (Mali), 1900-1960. *Environmental History*, 4(2), 198-219.
- Van Dongen, I. (2017), *Dragers van hoop: Een leven lang missie: Verhalen van Nederlandse Witte Zusters in Afrika en Europa*. Boxtel: MZOLA Nederland.

- Vaughan, M. (1991). *Curing their ills: Colonial power and African illness*. Oxford: Polity Press.
- Vaughan, M. (2013). Maternal mortality in Malawi: History and moral responsibility. In W. T. Kalusa & M. Vaughan (Eds.), *Death, belief and politics in Central African history* (pp. 293-326). Lusaka: Lembani Trust.
- Villa Maria Hospital Magazine*. (2002). Kampala: B. K. Trading Company Ltd.
- Walters, S. (2008). Fertility, mortality and marriage in northwest Tanzania, 1920-1970: A demographic study using parish registers. PhD Thesis, King's College, London.
- Walters, S. (2021). African population history: Contributions of moral demography. *The Journal of African History*, 62(2), 183-200.
- Weeks, J.R. (2016). *Population: An introduction to concepts and issues*. [12th Edition.] Boston: Cengage Learning.
- wwf. (2022). *Living Planet Report 2022 – Building a nature-positive society*. In R.E.A. Almond, M. Grooten, D. Juffe Bignoli, & T. Petersen (Eds.). Gland: wwf.
- Zaidi, B. & Philip Morgan, S. (2017), The second demographic transition theory: A review and appraisal. *Annual Review of Sociology*, 43, 473-492.
- Zumthurn, T. (2020). *Practicing biomedicine in Albert Schweitzer hospital, 1913-1965*. Leiden: Brill.



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