Grammars of Progress and Pathology: A Recursive History of Africa, Cancer and 'Diseases of Civilization'

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Summary: The phrase "disease of civilization" and concomitant lexicons, such as "pathologies of modernization," frequently surface across public and global health discourses. This is particularly the case within the framework of cancer research in Africa. In this article the authors trace the emergence of these grammars of progress at the beginning of the twentieth century as a biomedical lens through which to analyze and frame cancer in Africa. Arguing with Ann Stoler for a recursive understanding of colonial and postcolonial history, the authors follow in detail the lexical shifts and recursions across the twentieth century, as these grammars move from diseases of civilization to development and modernization. In tracing these lexical shifts, they place them within the broader understandings of Africa and the African body as an other against which Euro-America frames itself.

Keywords: cancer, Africa, disease of civilization, colonialism, postcolonialism, recursive history, progress and pathology

When one listens to contemporary expert discourses about an emerging "cancer epidemic" in sub-Saharan Africa, one cannot fail to notice an influential, enduring presence: the grammars of progress that, in their different guises, from lexicons of civilization to vocabularies of modernization and development, powerfully shape how epidemiologists, aid donors, and policymakers imagine cancer in Africa today. Indeed, these experts usually frame their warnings about the growing cancer burden on the continent as part of a wider epidemiological transition from infections to noncommunicable diseases that, they believe, is fueled by changes in lifestyles associated with Africa's urbanization and economic development. Many historians and anthropologists have remarked how these "progress-and-pathology narratives," as historian Charles Rosenberg calls them, dominate and shape expert imaginaries on cancer in Africa.[1] But, for the most part, these scholars' engagement with the

[1] Charles E. Rosenberg, "Pathologies of Progress," *Bull. Hist. Med.* 72, no. 4 (1998): 714–30. See, for example, Jean-Paul Bado, *Que savait-on des cancers et du cancer primitif du foie en Afrique 19ème-20ème siècles?* (Paris: Editions Connaissances et Savoirs, 2021); Julie Livingston, *Improvising Medicine* (Durham, N.C.: Duke University Press, 2012); Marissa Mika, *Africanizing Oncology* (Columbus: Ohio State University Press, 2021); Lucas M. Mueller, "Cancer in the Tropics," *BioSocieties* 14, no. 4 (2019): 512–28; David Reubi, "Epidemiological Imaginaries of the Social," *Med. Anthrop. Quart.* 34, no. 3 (2020): 438–55; Robin Scheffler, *A Contagious Cause* (Chicago: University of Chicago Press, 2019); Megan Vaughn, Kafui Adjaye-Gbwenyo, and Marissa Mika, eds., *Epidemiological Change and Chronic Disease in Sub-Saharan Africa* (London: UCL Press, 2021). Historians and anthropologists have also noted the existence of such narratives beyond Africa, from Victorian England and Nazi Germany to postcolonial India and Brazil. See Luiz Araújo Neto

notion of cancer as a "disease of development" or a "pathology of civilization" has been a sidenote in writings concerned with other matters like the concept of environment in geographical pathological studies, the treatment of pain in Botswana's only oncological ward, or popular understandings of breast cancer in Abidjan. In contrast, our focus in this article is squarely on what we call the grammars or languages of progress—that is, philosophies and models of history and change, from notions of civilization to theories of modernization, with their specific logics, terminologies, and narratives—that shape imaginaries of cancer in Africa. Specifically, we pay attention to these grammars' remarkable tenacity and trace their long history in Anglophone medical writings on cancer in Africa from the early twentieth century onward. The story we tell is not one of Braudelian continuity, a repetition of the same. Rather, influenced by the work of Ann Stoler and other postcolonial scholars, we tell a "recursive history,"[2] where grammars of progress and malignancy, in conjunction with the political ideologies and scientific practices and technologies that make them possible, are endlessly reactivated, reconfigured, and recombined. Put differently, our story explores the "sedimented sets"[3] of languages of progress, with their "multiplicity of times, trajectories and

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and Luiz Teixeira, "From Disease of Civilization to Public Health Problem," *Boletim do Museu Paraense. Emilio Goeldi, Ciências Humanas* 12, no. 1 (2017): 173–88; Agnes Arnold-Forster, *The Cancer Problem* (Oxford: Oxford University Press, 2021); Robert Proctor, *The Nazi War on Cancer* (Princeton, N.J.: Princeton University Press, 1999); David Reubi, "Modernisation, Smoking and Chronic Disease," *Health Place* 39 (2016): 188–95; Kavita Sivaramakrishnan, "An Irritable State," *BioSocieties* 14 (2019): 529–52.

[2] Ann Laura Stoler, *Duress* (Durham, N.C.: Duke University Press, 2016), ix.

[3] Ibid., 30.

rationalities,"[4] that have shaped conversations about cancer in Africa—from the British Colonial Office's 1903 "Cancer Inquiry" to present-day epidemiological writings about the African cancer transition.

To write a recursive history of progress and cancer in Africa is to bring a "postcolonial sensibility" to the study of contemporary global health discourses and practices.[5] By tracing some of the "older colonial contours" of these discourses, a postcolonial approach is a way of "disconcerting conventional accounts"[6] of global health and "suggesting a more complicated and entangled state of affairs."[7] Stoler, in particular, encourages us to be attentive to the "durable presence" of the "political grammars of colonialism" in the present.[8] In other words, she suggests we pay attention to the old imperial terms that "tenaciously cling" to people and objects as they are mobilized for different agendas.[9] We start our postcolonial genealogy of grammars of progress and malignancy with the emergence of conversations about cancer in Africa in the British medical world in the early twentieth century, tracing how particular models of history have shaped these conversations over the century, from writings about the absence of malignancy in so-called

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[4] Achille Mbembe, *On the Postcolony* (Berkeley: University of California Press, 2001), 9.

[5] Warwick Anderson, "From Subjugated Knowledge to Conjugated Subjects," *Postcolonial Stud.* 12, no. 4 (2009): 389–400, 390.

[6] Warwick Anderson, "Postcolonial Technoscience," *Soc. Stud. Sci.* 32, no. 5/6 (2002): 643–58, 644.

[7] Anderson, "Subjugated Knowledge" (n. 5), 389–91.

[8] Stoler, *Duress* (n. 2), 9.

[9] Ibid., 30.

primitive societies to talk about how economic development fuels growing cancer rates. As Stoler recommends, our history pays particular attention to what endures over time in these conversations. Specifically, we examine how linear models of human progress, which have pervaded Western political thought since the Enlightenment and construe Africa as the "absolute other" and "permanently behind" Euro-America, have been repeatedly deployed in medical writings about cancer on the continent.[10] As many scholars have argued, "Western societies have [long] found in Africa a radical other for their own constructions of civilisation, enlightenment, progress, development [and] modernity," "a metaphor of absence—a dark [and backward] continent against which the lightness and whiteness of Western civilisation can be pictured."[11] In our story, we show how the shifting grammars of progress we unpack have constructed the malignant African body as "different"—from "primitive," "simple" and "uncivilized" to "traditional," "poor" and "underdeveloped"—throughout the century. We also show how these ideas about difference—these "durable dichotomies" as Warwick Anderson would put it[12]—continue to shape the biomedical gaze on Africa up to the present day.

While our story is concerned with what endures, it is not a repetition of the same. As Stoler reminds us, there are no "mimetic versions of early imperial incarnations," no "seamless continuation of colonial practices [in] the present."[13] Rather, Stoler argues for

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[10] Valentin-Yves Mudimbe, *The Invention of Africa* (Bloomington: Indiana University Press, 1988); Mbembe, *On the Postcolony* (n. 4).

[11] James Ferguson, *Global Shadows* (Durham, N.C.: Duke University Press, 2006), 2.

[12] Anderson, "Postcolonial Technoscience" (n. 6), 344.

[13] Stoler, *Duress* (n. 2), 5, 25, 30.

recursive histories of the postcolonial that "continuously fold back on [themselves]," recapturing, reforming, and recombining that which came before.[14] These are histories that "step back from epochal and totalizing diagnoses"[15] and seek instead to capture the entangled nature of the postcolony with its "multiple durées made up of discontinuities, reversals, inertias and swings that overlay one another, interpenetrate one another and envelope one another."[16] Building on these insights, our story pays attention to how the grammars of progress used to frame cancer in Africa have been repeatedly reactivated, reworked, and redeployed at three different levels. First, we are attentive to how the notion of progress itself is being continually reformulated. Specifically, we trace shifts in terminology, from civilization to Westernization to development to urbanization, and explore how certain forms of cancer, like bowel and breast, are repeatedly but always differently associated with traditional and modern ways of life. Second, we note the ways the scientific infrastructures and practices that undergird grammars of progress are constantly being reworked, from reports of colonial medical officers to imperial networks of cancer registries and pathological labs to internet-powered global surveillance grids. Third, we are also alert to how languages of progress are frequently repurposed for varying political and scientific projects. Concretely, we study how these languages are recombined with changing concerns—from fears about the disappearance of the African living laboratory to alarm about Africa's growing cancer epidemic—and mobilized for particular political projects—from promises of unlocking cancer etiology to aspirations of rationally managing oncological care.

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[14] Ibid., 6, 26.

[15] Stephen Collier, "Topologies of Power," *Theory Cult. Soc.* 26, no. 6 (2009): 78–108, 90.

[16] Mbembe, *On the Postcolony* (n. 4), 14.

For heuristic purposes, to help convey what endures and what gets reworked, we have organized our empirical data into three chapters, with each chapter covering one key phase in our recursive history of grammars of progress and malignancy in Africa. The first chapter focuses on the early twentieth-century conversations about cancer and Africans, from the Imperial Cancer Research Fund's 1903 Cancer Research Scheme up to the 1920s medical writings on constipation, cancer, and civilization. The second chapter discusses the flurry of international research initiatives on cancer etiology and the establishment of cancer registries across Africa in the postwar period and around decolonization. The third and last chapter covers the post–Cold War development of global cancer surveillance networks concerned with the management of oncological care in the region. We show how each of the phases examined in these chapters is associated with a dominant constellation of models and lexicons of progress, narratives about malignancy in Africa, oncological knowledge practices, and scientific-political aspirations. More importantly perhaps, we trace the continuities and discontinuities between these different constellations, pointing out the elements that have endured and the ones that have been rearticulated and recombined. It is important to add that while we focus on the dominant constellations, they have not been uncontested and have existed alongside other ideas of progress and malignancy.

Before examining these different constellations, it is worth outlining the reasons why we focus our story on the work of British and, more widely, Anglophone expert networks. Of course, there have been many other expert networks studying and discussing cancer in Africa during the past century with which Anglophone researchers engaged, and vice versa. They include other imperial scientific networks, like that of the French, but also, to a lesser extent,

those of the Belgians and the Portuguese.[17] They also include international networks, from the International Union Against Cancer's (UICC) Sub-Committee on Geographical Pathology for Africa, which played a critical role in the flurry of cancer research in postwar Africa, to the WHO's International Agency for Research on Cancer (IARC), around which many of the post–Cold War surveillance efforts are articulated.[18] While we acknowledge the role of these other networks and engage with their work when relevant, we focus on British and Anglophone writings for the following reasons. To start with, at the dawn of the twentieth century Britain was the most geographically expansive colonial power in the world and one of the most significant colonial powers on the African continent. Its colonial relationship to large sections of the continent meant that British science played a pivotal role in the production of the medical imaginary of Africa.[19] Furthermore, with British scientists and British medical funding agencies featuring prominently in international efforts to study cancer, like those led by UICC and IARC, the narratives about cancer and Africa produced within the British medical world during that time profoundly shaped the discourses we see in circulation today.[20] The influence of these Anglophone narratives was cemented by the

[17] Bado, *Que savait-on des cancers* (n. 1).

[18] Mueller, "Cancer in the tropics" (n. 1); Scheffler, *Contagious Cause* (n. 1).

[19] David Cantor, "Cortisone and the Politics of Empire," *Bull. Hist. Med.* 67, no. 3 (1993): 463–93; Helen Tilley, *Africa as a Living Laboratory* (Chicago: University of Chicago Press, 2011).

[20] Mika, *Africanizing Oncology* (n. 1); Mueller, "Cancer in the tropics" (n. 1).

growing importance of American scientists and funding institutions like the National Cancer Institute (NCI) in cancer research in the second half of the twentieth century.[21]

Chapter One

The Early Twentieth Century: "Civilization" versus "Primitive" and the Emergence of African Cancer Research

Our story begins in 1903, when Colonial Secretary Joseph Chamberlain sent out a circular to the governors and high commissioners of all British colonies. In this circular, Chamberlain informed them of a remarkable health project: an empire-wide "Cancer Inquiry." This inquiry brought together the British Empire's administrative infrastructure, especially its network of colonial medical officers (CMOs), with the knowledge and tools that made up the growing field of cancer research. Until the end of the nineteenth century, cancer research in most of Europe had been a haphazard affair, done by a mix of well-funded researchers at prestigious institutions, such as Berlin's Charité, and enterprising doctors working in cellar-like laboratories during their spare time.[22] As cancer incidences began to rise at the beginning of the twentieth century, the "dread disease" became a burgeoning public health concern, generating increased investment and interest in cancer research.[23]

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[21] Scheffler, *Contagious Cause* (n. 1).

[22] Axel Bauer, ". . . Unmöglich, darin etwas Specifisches zu finden," *Medizinhistorisches Journal* 39, no. 1 (2004): 3–26; Siddhartha Mukherjee, *The Emperor of All Maladies* (London: Fourth Estate, 2010).

[23] Arnold-Forster, *Cancer Problem* (n. 1), 14.

In Britain, this led to the 1902 creation of the Imperial Cancer Research Fund (ICRF), the first large-scale privately funded research body in the United Kingdom dedicated solely to cancer.[24] At the time cancer was very poorly understood, with significant uncertainty about the causes and properties of this "incurable and unknown" disease.[25] The ICRF sought to change this by financing scientific research into the disease in order to defeat cancer through "experimental attack."[26] As the force behind one of the first major forays into cancer research, the ICRF was particularly hopeful that they would be able to find a cure for cancer by pinning down its etiology. Its superintendent, Ernest Bashford, decided to search for the causes of cancer through a "systematic . . . statistical investigation" of cancer across the British Empire. Enthused by the possibilities of comparative research, Bashford believed that the best way to discover the etiology of cancer would be through a "scientific investigation of cancer in communities where the conditions of life differ so widely as in the British Crown colonies."[27] Examining the incidences and types of cancer in these radically different communities would, he argued, pave the way to discovering the disease's causes.

With the launch of its empire-wide inquiry, the ICRF turned the British medical gaze onto the less well-researched parts of the empire, particularly those in Africa, where very little, if any, attention had been paid to cancer. As CMOs and governors sent back reports from the colonies, a remarkable picture of cancer in Africa seemed to emerge. Unlike the

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[24] Joan Austoker, *A History of the Imperial Cancer Research Fund: 1902–1986* (Oxford: Oxford University Press, 1988), 25.

[25] Arnold-Forster, *Cancer Problem* (n. 1), 1.

[26] Ibid., 2.

[27] *Lancet*, "The Colonies and Cancer Research" (March 11, 1905): 654–56, quotation on 656.

detailed statistical reports coming from places such as Australia, Ceylon, and South Africa, most sub-Saharan African colonies' reports were largely based on hearsay and anecdotal evidence from CMOs, many of whom were working in the urban centers of the colonies with little sense of the medical picture beyond these centers.

The principal medical officer (PMO) for East Africa (Kenya) and Uganda had "never had a case or seen any signs of cancer among the natives,"[28] and The Gambia claimed that they "cannot trace a single case of cancer" in the country and that "cancer is unknown among West African natives."[29] The commissioner of the British Central Africa Protectorate (Malawi) declared that he had "come to the conclusion that cancer . . . is a rare disease in this part of Africa,"[30] and the PMO in Nairobi wrote that there is a "unanimity of opinion" that "cancer is a rare disease among the aboriginal tribes of this country."[31] These reports all seemed to tell the same story—that cancer was "rare, and in some [cases] practically unknown . . . among aboriginal races more or less removed from contact from civilisation."[32]

For British researchers, the "interesting fact that in not a few of the Colonies cancer is rare"[33] opened up a "promising field of research."[34] From the earliest colonial encounters

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[28] Parliamentary Papers, *Correspondence Relating to Cancer Research* (London: Darling and Son, 1905),, 36.

[29] Ibid., 12.

[30] Ibid., 25.

[31] Ibid., 35–36.

[32] *BMJ*, "Cancer in British Colonies," 1, no. 2303 (1905): 362–63, quotation on 362.

[33] Ibid., 362.

[34] *Lancet*, "Colonies and Cancer" (n. 27), 655.

with the sub-Saharan regions of the continent, Africa has played a pivotal role in the European imaginary, presenting a quintessential other against which Europe could frame itself and a land of untapped discovery.[35] In this, Africa and its imagined differences were seen as fertile ground for medical exploration. Through this medical imagination, "Africa" offered a fascinating "living laboratory"[36] for medical research, one in which its vast differences of climate, geography, and culture seemed to offer endless possibilities for experimentation and analysis. As Bashford had argued when announcing the 1903 cancer inquiry, what was needed was research in "communities where the conditions of life differ so widely" from Britain—a difference Africa was seen to expansively offer.

In early iterations of arguments that were to resurface across the century, some writers turned to the age of the African population to explain the rarity of cancer in the colonies. The *British Medical Journal* (*BMJ*), for example, argued that "the absence of definite information . . . may be explained solely by the hypothesis that a very small percentage of aboriginal men and women attain or exceed the age of 45 years, below which age cancer is also rare in civilized peoples."[37] The "age factor"[38] gained such salience as a potential explanation that the ICRF committee sent a communique out to all the colonies stating that, as it seemed "cancer is less frequent in aborigines than it is in civilized races, [the committee] earnestly desire that the cause of the apparent rarity may be more fully investigated and they

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[35] Peter Pels, "What Has Anthropology Learned from the Anthropology of Colonialism?," *Soc. Anthrop.* 16, no. 3 (2008): 280–99; Vaughn et al., *Epidemiological Change* (n. 1), 6–7.

[36] Tilley, *Africa as a Living Laboratory* (n. 19).

[37] *BMJ*, "Cancer in British Colonies" (n. 32), 363.

[38] *BMJ*, "Cancer in the Colonies," 1, no. 2470 (1908): 1067–68, quotation on 1067.

wish in the first place that attention may be particularly directed to endeavoring to ascertain the ages of such natives as may be found suffering from cancer."[39]

Again prefiguring arguments across the century, other early commentators suggested the lack of cancer was a matter of data, rather than etiology, suggesting that the data coming from African medical officers were insufficient and unreliable and that better laboratory and statistical capacity would be needed for this apparent rarity to be "more fully investigated."[40] As the editors of *The Lancet* complained when reviewing the ICRF inquiry, these officers were giving "a general statement or even vague expression of opinion without statistics to support it" that "though interesting" were "valueless from the point of view of exact scientific investigation."[41] The struggle to gain statistically significant or accurate data was one that many of the medical men on the continent openly acknowledged, such as the PMO from Lagos, who ended his report by stating, "If 'science is measurement' [then] I must acknowledge that all this is not truly scientific."[42]

While many early cancer researchers in Britain looked to a lack of statistics and a young population as key reasons why cancer might be rare in indigenous communities, some turned toward more sociocultural arguments. Following on a small handful of earlier writers,[43] Henry Strachan, PMO in Lagos, argued in his report that it was "close contact with

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[39] Parliamentary Papers, *Correspondence* (n. 29), 81.

[40] *BMJ*, "Cancer in British Colonies" (n. 32), 656.

[41] *Lancet*, "Colonies and Cancer" (n. 27), 656.

[42] Parliamentary Papers, *Correspondence* (n. 29), 94.

[43] *BMJ*, "Cancer in Tropical Countries," 2, no. 2169 (1902): 273; Franck Madden, "Cancer in Tropical Countries," *BMJ* 2, no. 2175 (1902): 730.

Europeans" and "the effects of so-called 'civilization'" that caused cancer.[44] It was, he argued, indigenous Africans' limited exposure to these that made them still relatively cancer free. In a 1906 article, H. Hearsey, the PMO from British Central Africa, followed on Strachan's argument, suggesting that it would be most fruitful to look toward "social conditions" as well as hereditary, racial, and climatic factors to understand the absence of cancer in Africa.[45] Hearsey believed that African cultural practices were the most likely candidate for the lack of cancer, and one could therefore discover the causes of cancer and how to prevent it by observing these practices. An example of one of the most popular arguments at the time to show the influence of cultural practices on cancer incidences, propagated by Hearsey and others, was the argument that "aborigine" women were "immune" from breast cancer because they had their children younger, had more children, and weaned their children at a much older age.[46]

At the time, the idea that "civilization" might be carcinogenic was not wholly new. By the end of the nineteenth century, the idea had begun to emerge in British science that cancer might be a "marker of industrial and technological modernity," an unintended

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[44] Parliamentary Papers, *Correspondence* (n. 29), 92–93.

[45] H. Hearsey, "The Rarity of Cancer among the Aborigines of British Central Africa," *BMJ* 2, no. 2396 (1906): 1562–63.

[46] Ibid., 1562; see also F. P. Fouché, "Freedom of Negro Races from Cancer," *BMJ* (1923): 1116; Madden, "Cancer in Tropical Countries" (n. 43); W. Renner, "The Spread of Cancer among the Descendants of the Liberated Africans or Creoles of Sierra Leone," *BMJ* 2, no. 2592 (1910): 587–89.

consequence of progress and perhaps even a "disease of civilization."[47] For British doctors writing on these issues, the apparent lack of cancer in "primitive" Africa seemed to fully support this hypothesis. In 1910, for example, W. Renner, a CMO working in Sierra Leone, wondered "how far this apparent increase [in cancer in Africans] is due to causes which may be traced to the influences of European civilization and the adoption of the European mode of living."[48] For Renner, it was the European "mode of living, the food and dress, of the European" that caused cancer. This he placed in contrast to the "primitive" life of the indigenous Africans, a life that he believed kept them cancer free.[49]

The use of these grammars of civilization by Renner, Strachan, and Hearsey to explain the perceived absence of malignancies in Africa should perhaps not come as a surprise. Indeed, by the start of the twentieth century, when Renner and others were writing, these grammars had become central to how Europe imagined itself as scientifically, culturally, and politically superior to other societies around the globe. Starting in the Enlightenment and continuing in the nineteenth century, many scholars used the language of

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[47] Arnold-Forster, *Cancer Problem* (n. 1), 8, 192ff.

[48] Renner, "Spread of Cancer" (n. 46), 587.

[49] While dominant, the idea that cancer was absent in Africa and the languages of civilization used to explain it did not go uncontested. For example, in a response to Renner, John Randle, one of the first West Africans to qualify as a doctor in the United Kingdom, claimed that his lifetime spent living and working in West Africa made him sure that "malignant diseases are not a rarity amongst the aborigines in any part of West Africa" (see John Randle, "Correspondence: Cancer among the African Creoles," *BMJ* 2, no. 2598 [October 15, 1910]: 1193–94).

civilization to classify and make sense of the different cultures that Europeans encountered in their colonial expansion and in their own past.[50] Specifically, they produced a model of human history, in which all human societies were located and moved along a series of successive stages of progress—from primitive or savage, to barbarous, to civilized—in which Europe occupied the apex position.[51] Africa represented an archetype of the "primitive" or "barbaric" world against which Europe could articulate and imagine its own "civilization." From the outset of European colonial expansion into the continent, Africa as an idea served as a polemical argument for Europe's desire to "assert its difference from the rest of the world," and it was in relation to Africa, so Achille Mbembe argues, that the notion of "absolute otherness" was taken to its furthest point.[52] Partly a product of the colonial encounter, this model of history was entangled with a complex "logic of racialisation" that associated notions of primitive or savage with "racial differences," ranging from hair type to mental degeneration.[53] It was also, and importantly for the argument being made here, the foundation of a linear model of history and progress, from primitive or savage to barbarous, then to civilized, in which Africa was permanently located temporally behind Europe. Civilization, as contrasted to primitive life, therefore, constituted one of the key logics of sensemaking, through which the differences to Africa were understood.

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[50] Ayo Wahlberg, "Measuring Progress," *Distinktion* 8, no. 1 (2007): 65–82.

[51] Ibid.

[52] Mbembe, *On the Postcolony* (n. 4), 2.

[53] Walter Mignolo, "Geopolitics of Sensing and Knowing," *Postcolonial Stud.* 14, no. 3 (2011): 273–83, 275.

Furthermore, when Renner and others were writing about cancer in Africa at the start of the twentieth century, the language of civilization had become commonplace to explain pathologies in medical circles in Europe and North America. As historian Charles Rosenberg has argued, the contours of the argument were well established by the start of the nineteenth century, going something like this: "Change from savage to settled rural and then to urban life brought with it conditions increasingly inimical to the body's requirement for diet, exercise and stable emotional surroundings."[54] This narrative, with its emphasis on the role of civilization in causing certain diseases, had its roots in "traditional primitivistic notions" and "endless evocations of lost worlds in which humankind had not been corrupted by wealth and artifice—all versions and reiterations of the Garden of Eden's Faustian bargain recast in epidemiological terms."[55] The supposedly cancer-free "primitive" African landscape seemed to fully support this doctrine of a Faustian fall. Africa's apparent lack of cancer and its perceived primitiveness played perfectly into this imaginary and seemed to confirm the correlation between cancer and civilization.

Cancer, Constipation, and Civilization: Seeking Prevention and Cure

The 1920s saw a flurry of writings in which the contrasting conditions between "civilized" life in Europe and "primitive" life in the colonies were picked up to make extensive arguments about the nature of disease and ill health. The authors argued that there were particular "diseases of civilization" that afflicted the peoples of advanced, "civilized"

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[54] Rosenberg, "Pathologies of Progress" (n. 1), 717, 728

[55] Ibid., 716.

countries, such as the North American and European states, but not more "backward" and "primitive" peoples, such as those in Africa, the Americas, and the Pacific Islands. These diseases included diabetes, hypertension, cardiac arrest, and cancer. Of particular concern to several British researchers at the time were gastrointestinal diseases, which seemed to produce a remarkable fixation on constipation. As one writer put it, "Constipation is a disease of civilization. The most civilized nations are the most constipated."[56] This fixation led to the articulation of a gastric philosophy of civilization, in which "civilized" life was seen as one that created norms of food production and consumption that were toxic to the human body.[57] In a clear rendering of the nineteenth-century argument that progress generated pathologies, the toxic food culture of "civilized" life was contrasted to the "natural" food culture of "primitive" life. Cancer, it was argued here, was ultimately caused by the toxic, constipated food culture of civilized life. And the lack of cancer among Africans, who followed a "natural" food culture, was given as proof for this.

This gastric argument gained popularity in the early 1920s. Starting in 1923, Sir Arbuthnot Lane, a preeminent Edwardian surgeon and expert on intestinal illnesses, argued that British society's "food and habits" caused a "defect functioning of the gastro-intestinal tract . . . creating ulcerations of the bowels, inflammation, colitis and ultimately cancer."[58] Lane put this defective functioning right at the doorstep of "civilization," claiming that this

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[56] Ellis Barker, "The Solution of the Cancer Problem," *Fortnightly Rev.* 116, no. 693 (1924): 403–13, 406.

[57] James Whorton, "Civilisation and the Colon," *BMJ* 21, no. 7276 (2000): 1586–89.

[58] William Arbuthnot Lane, "Chronic Intestinal Statis and Cancer," *BMJ*, October 27, 1932, 745–47, quotation on 745.

defection did "not exist in those leading the simple life of the native."[59] Chronic intestinal stasis, Lane argued, "runs parallel with civilization," which "because of the variation from the diet and habits of primitive man, meant constipation" and thus cancer.[60] The "virgin communities" of "primitive" peoples, however, "eat proper food and have natural habits," and therefore "constipation is anathema [to] the native."[61] This led Lane to conclude that, in order to prevent cancer, one needed "a complete revolution in our diet and in our habits of life"[62] that must be assimilated "to those of the native [and] the conditions of primitive life."[63]

Following on Lane's work, two further books on cancer and civilization were published in England, one by J. Ellis Barker on *Cancer: How It Is Caused, How It Can Be Prevented* (1924), with an introduction by Lane, and one by Ernest H. Tipper on *The Cradle of the World and Cancer: A Disease of Civilisation* (1927). Unlike Lane and Tipper, who were members of the medical establishment, Barker was a naturopath who based the arguments in his books on extensive reviews of medical texts.[64] Barker dedicated an entire chapter of his book to proving that "cancer is a disease of civilisation . . . almost unknown

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[59] Ibid., 745.

[60] Ibid., 746.

[61] William Arbuthnot Lane, *The Prevention of Diseases Peculiar to Civilization* (London: Faber and Faber, 1929), 55, 65.

[62] Arbuthnot Lane, "Chronic Intestinal Statis" (n. 58), 747.

[63] Arbuthnot Lane, *Prevention of Diseases* (n. 61), vii.

[64] "Naturopath" is an umbrella term for people who believe that disease and sickness can be cured without medication, from techniques such as homeopathy to psychotherapy and diet.

amongst primitive tribes."[65] Like Lane, Barker believed cancer was caused by the "devitalized, doped, embalmed and mummified food" of civilization. Cancer caused by constipation was, therefore, "particularly prevalent in the most industrialised, the most urbanised and the richest districts,"[66] but "almost unknown among the primitive peoples which lead primitive lives."[67] Tipper, a medical officer in the West African Medical Services for twenty years, focused specifically on Africa in his text, using the Bene people he had worked with as his point of comparison. In his work he claimed that cancer was caused by "the conventionalism and bad feeding of civilization."[68] With the "sobering and saddening effects of [this] civilisation" would come "excessive meat-eating" and "constipation."[69] To blame were foods such as imported wheat flour, cow's milk, and meat, which, he argued, constipate and poison the gut, until cancer can flourish. Africans, Tipper argued, lived a more "natural" life, had "never lost touch with the first principles of feeding, and [therefore] there is no such thing as constipation—there is NO cancer."[70]

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[65] J. Ellis Barker, *Cancer: How It Is Caused, How It Can Be Prevented* (London: John Murray, 1924), 58.

[66] Ibid., 406.

[67] Barker, "Solution of the Cancer Problem" (n. 56), 404.

[68] Ernest Tipper, *The Cradle of the World and Cancer: A Disease of Civilisation* (London: Charles Murray, 1927), 9.

[69] Ibid., 10, 32.

[70] Ibid., 10.

The end of the long nineteenth century was a time of heated concern around the degree to which human waste was "a rich store of pathology."[71] As knowledge of bacteriology grew, the spread of "excremental colonialism" turned the minutiae of the internal biochemistry of both colonized and colonizer into an arena of increasing fascination and concern as well as a space in which difference could be effectively articulated.[72] "Civilization," with its orifical control and poor eating habits, was strained and constrained, blocking itself up with the toxins of its own body, a slow poisoning of the biological body and the body politic. "Primitive" peoples, on the other hand, ate "natural" foods and followed natural rhythms, shedding themselves of potential toxins and closed-up gastric systems.

As the works of Lane, Tipper, and Barker indicate, the stakes of putting cancer at the door of "civilization" were embedded in the hope for a cancer-free life that this offered. If it could be shown that cancer was caused by the unnatural, industrial food consumed by Euro-Americans, then altering this diet offered the hope of defeating cancer. In their writings, these authors took up the hope of biomedical difference and the clues it offered for prevention or cure. In pegging African difference, in this case an absence of cancer, onto what they believed were "primitive" African food habits, the authors were able to use this difference to present their readers with a culprit for cancer causation, civilization, and thereby a strategy for cancer prevention—to revert to more "natural" habits.

Chapter Two

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[71] Warwick Anderson, *Colonial Pathologies* (Durham, N.C.: Duke University Press, 2006), 274.

[72] Ibid.

Pathological Studies in Africa: Contesting Rarity

By the 1930s, approaches to researching cancer in Africa began to shift. Earlier writings on the disease had rested heavily on hearsay and anecdotal evidence from CMOs. In contrast, in the 1930s, a small group of pathologists and doctors, particularly in East and South Africa, focused on systematically collecting tissue samples and examining them for malignancy in their laboratories.[73] While this work was cut short by the advent of World War II, it laid the groundwork for the type of African cancer research that was to take place after the war.

The studies carried out by F. W. Vint, a pathologist in the British colonial administration working at the Medical Research Laboratory in Nairobi, who also dabbled in eugenics and phrenology and wrote deeply racist articles on the "native brain," are typical of this early cancer work.[74] Working with James Sequeira, a retired British doctor who edited

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[73] For example, A. Sutherland Strachan, "Observations on the Incidence of Malignant Disease in South African Natives," *J. Pathol. Bacteriol*. 39 (1934): 209–11; M. Des Ligneris, "Cancer in South African Natives," *South African Med. J.* 11 (1936): 478–85.

[74] For example, James Sequeira and F. W. Vint, "Malignant Melanoma in Africans," *Brit. J. Dermatol. Syphilis* 46, no. 8–9 (1934): 361–67; F. W. Vint, "The Brain of the Kenya Native," *J. Anat.* 68, no. 2 (1934): 216–23; F. W. Vint, "Malignant Disease in the Natives of Kenya," *Lancet* 226 (1935): 628–30. In 1924, W. H. Kauntze, head of the laboratory in Nairobi, had already remarked that the "increasing number of malignant tumours from natives" being seen in the laboratory represented valuable observations "in view of recent statements both in England and America that 'cancer' is a disease of civilisation, brought about by modern food

the *East African Medical Journal*, Vint used the laboratory's facilities to carry out histological analyses of thousands of "native tissues" that he received from the "Native Hospital in Nairobi" and "medical officers in all parts of the Colony."[75] Based on these analyses and correspondence with medical officers in Dar es Salaam and Kampala, Vint's publications contained tables with the numbers and types of tumors found in the tissues, the sites where they occurred in the body, and, where available, the age, sex, and provenance of the patients. These pathological studies showed that, unlike what many early twentieth-century British doctors had believed, cancer was in fact not rare in Africa. Vint and Sequeira made this clear in a 1934 paper where they argued that while "it has been frequently observed that malignant disease is extremely rare in the African in his normal environment," their data showed that "this view must be modified."[76] In fact, they argued that their analyses showed that some cancers, like malignant melanoma, were even "commoner [among Africans] than in the population of Great Britain."[77] These pathological, lab-based studies helped lead to the refutation of the idea that cancer was a disease of civilization. This view became so accepted that by 1939, the British Empire Cancer Campaign, then the largest cancer research fund in the United Kingdom, was able to claim in its public communiqué, "The Road to Victory,"

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and that it is unknown in primitive tribes." National Public Health Laboratory Services Research Library, "Colony and Protectorate of Kenya, Annual Medical Report" (Nairobi: National Public Health Laboratory Services Research Library, 1924).

[75] Sequeira and Vint, "Malignant Melanoma" (n. 74), 361.

[76] Ibid., 361.

[77] Ibid., 362.

that the notion that cancer was "a disease of civilisation" was a "myth."[78] But, as we suggest below, even though the idea that cancer was a disease of civilization gradually lost much of its appeal, the grammars of progress upon which it rested proved more durable and continued to inform medical conversations on cancer in Africa in the postwar and decolonization periods.

Cancer after the War: Fearing the Loss of Diversity

While the Second World War brought international cancer research almost to a halt, the postwar period saw an intensified interest in medicine in Africa as Britain consolidated its colonial presence on the continent. Indeed, in the last decades of empire, faced with widespread anti-imperial mobilizations, the British colonial administration sought to regain its hold over the continent by moving toward "an imperialism of knowledge" heavily embedded in "developmental colonialism."[79] Policies such as the establishment of the Colonial Development and Welfare Act (1940), led to a surge in medical research in Africa, with the building of universities, field stations, and hospitals as well as the availability of better funding opportunities.[80] It also brought about an extension of the road, rail, and postal

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[78] F. Le Gros Clark, "The Road to Victory" (London: British Empire Cancer Campaign, 1939; GC/145/D39, Wellcome Collection, London).

[79] Frederick Cooper, *Africa since 1940* (Cambridge: Cambridge University Press, 2002), 36–37.

[80] L. A. Reynolds and E. M. Tansey, eds., *British Contributions to Medical Research and Education in Africa after the Second World War*, Wellcome Witnesses to Twentieth Century

networks upon which much scientific work relied. Although the primary focus of Anglophone medical research efforts in Africa remained infectious diseases, there was a growing interest in chronic diseases in general and cancer, especially from the 1950s onward.[81]

The heightened postwar interest in African cancer research extended beyond the British Empire, with important research work happening in other imperial realms, such as the work on aflatoxins in Francophone Africa and international bodies like the UICC coordinating cross-continental research.[82] Founded in 1933, the UICC in 1951 established a Committee for Geographical Pathology, whose aim was to promote cancer research across different geographical settings. At the time, geographical pathology was emerging as an influential discipline in cancer research.[83] Championed by some of the biggest names in the field, it purported to "contribute to the knowledge of the causes of cancer" by comparing populations living in "different geographical circumstances and exposed to widely varying

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Medicine, vol. 10 (London: Wellcome Trust Centre for the History of Medicine at UCL, 2001).

[81] Martin Moore, "Harnessing the Power of Difference," *Soc. Hist. Med.* 29, no. 2 (2015): 384–4.

[82] Noémi Tousignant, "Toxic Residues of Senegal's Peanut Economy," *Anthrop. Today* 36, no. 6 (2020): 5–8.

[83] Jennifer Fraser, "Rendering Inuit Cancer 'Visible': Geographical Pathology and Nosology in Artic Cancer Research," *Sci. Context* 33 (2020): 195–225; Mueller, "Cancer in the Tropics" (n. 1).

nutritional, social, economic and other environmental factors."[84] This increased support for and interest in cancer research on the continent. In 1956, this interest led to the formation of a UICC Sub-Committee on Geographical Pathology for Africa. While spearheaded by Anglophone researchers, with Joseph Gillman and James Murray, both from South Africa, as chair and secretary, respectively, the sub-committee included researchers from other colonial territories in Africa, such as M. D. Prates in Lusophone Mozambique, A. R. Thys in the Belgian Congo, and Maurice Payet in French West Africa.

In Anglophone Africa, the growing interest in cancer was supported by an influx of funding from bodies such as the British Colonial Medical Research Committee and the British Empire Cancer Campaign.[85] This led to an expansion of research infrastructures and technical capacities, from the construction of pathology laboratories and cancer registries to the training of lab technicians and the purchasing of microscopes.[86] It also led to the implementation of medico-social surveys, which sought to map local cancer patterns through a combination of histological analyses, examinations of hospital records, and interviews with patients in places like Johannesburg, Kampala, Nairobi, and Ibadan.[87] The work done by Jack

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[84] R. Doll, "Foreword," in *Tumors in a Tropical Country*, ed. A. C. Templeton (Berlin: Springer, 1973), v–vi; M. Hutt and D. Burkitt, "Geographical Distribution of Cancer in East Africa," *BMJ* 2 (1965): 719–22.

[85] Cantor, "Cortisone" (n. 19); Moore, "Harnessing the Power of Difference" (n. 81).

[86] Reynolds and Tansey, *British Contributions* (n. 80).

[87] E.g., J. N. P. Davies, B. A. Wilson, and J. Knowelden, "Cancer in Kampala," *BMJ* 2 (1958): 439–43; J. Higginson and A. G. Oettlé, "Cancer Incidence in the Bantu and 'Cape Colored' Races of South Africa," *J. Nat. Cancer Inst.* 24, no. 8 (1960): 589–671; C. A.

Davies and his colleagues at Makerere College and the adjacent Mulago Hospital in Kampala, Uganda, is illustrative of these efforts to study cancer in Africa during the postwar and decolonization periods.[88] Davies, a professor of pathology at Makerere, and his colleagues were the driving force behind some of the most important cancer research taking place on the continent in the mid-twentieth century. They pushed cancer research as an agenda at Makerere and Mulago, established Africa's first population-based cancer registry in 1951, conducted some of the first cancer surveys in the region, and published prolifically in international medical journals, turning Kampala into a flourishing research hub that led efforts to study cancer incidences on the continent in relation to geography, the environment, and cultural practices.

Davies and his colleagues partly valued Africa as a place to study cancer because of its imagined radical otherness. Indeed, like Bashford and the physicians involved in the 1903 cancer inquiry, postwar medical researchers like Davies saw Africa as a land whose differences of climate, geography, and culture offered the promise of a productive "living laboratory" with infinite opportunities for experimentation.[89] In his writings, Davies called for more attention to "be paid to the problems of cancer in Africa," arguing that this would

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Linsell and R. Martyn, "The Kenya Cancer Registry," *East African Med. J.* 39, no. 11 (1962): 640–48; G. M. Edington and C. M. U. Maclean, "A Cancer Rate Survey in Ibadan," *Brit. J. Cancer* 19, no. 3 (1965): 470–81.

[88] Mika, *Africanizing Oncology* (n. 1).

[89] Moore, "Harnessing the Power of Difference" (n. 81); Tilley, *Africa as a Living Laboratory* (n. 19).

"extend considerably our knowledge of [cancer's] aetiological factors."[90] Drawing on his work in Kampala, he explained that you see a "curious collection of cancers" among "the native African people"—whom he described as living in "largely preliterate," "peasant" societies "not exposed to urbanisation and industrialisation"—that is, "quite unlike" those you see in Euro-America.[91] Specifically, he noted that, in Africa, "there is a great lack of cancer of the whole gastro-intestinal tract below the oesophagus, of breast cancers [and] of lung cancers" and there is, instead, a "gross excess" of "primary liver cancers, carcinoma of the penis, tumours of the jaws [Burkitt's lymphomas]" and "Kaposi's sarcoma[s], which are extreme rarities in Britain."[92] It was "these differences," in terms of both "cancer patterns" and possible "environmental causes" like "soils, climates, diets [and] tribal customs," that made "Africa such a valuable field for studies in the aetiology of cancer."[93]

These ideas were repeated in a 1967 editorial of *The Lancet* on "Cancer in Africa": "For a student of cancer epidemiology, Africa is unique" because "the pattern of cancer in Africa," where "Kaposi sarcoma, Burkitt's lymphoma [and] primary hepatomas" dominate, is "very different from that in Europe and North Africa."[94] "Studies of tribal habits, climate and insect distribution," the editors continued, will offer "clues" about the "carcinogens involved"

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[90] H. J. Croot and J. N. P. Davies, "Cancer in Africa," *Lancet*, January 19, 1952, 502158.

[91] J. N. P. Davies, "Cancer in Africa," *Bristol Med.-Chirurg. J.* 78, no. 1 (1963): 12–17, quotations on 12.

[92] Croot and Davies, "Cancer in Africa" (n. 90), 15.

[93] J. N. P. Davies, "Some Aspects of the Cancer Situation in Uganda," *Proc. Roy. Soc. Med.* 56, no. 7 (1963): 532–34, 534.

[94] *Lancet*, "Cancer in Africa," February 18, 1967, 371–72.

and can provide "opportunities for testing theories about cancer which are important in [the United Kingdom]."[95] Aside from the local cancer surveys carried out by Davies and others, the promise of Africa as a productive cancer lab led to some of the first large international studies of possible etiological factors for African cancers. One such study was a project conducted by IARC, which had just been established, on the link between liver cancer and aflatoxins, a type of toxin generated by a fungus found on agricultural crops like maize and peanuts. First carried out in Kenya and later extended to the Ivory Coast and Swaziland, the study was led by Allen Linsell, a pathologist who had joined IARC after having worked for the colonial Medical Research Laboratory where Vint had carried out his research, and involved collecting samples from people's daily meals and transporting them to IARC's Nairobi Regional Centre, where they were analyzed.[96] Another example was IARC's joint research project with the NCI's Special Virus Leukemia Program on the link between the Epstein-Barr virus and Burkitt's lymphoma—a study that began cementing the association between Africa and viral cancers.[97] Building on the work of Denis Burkitt, a surgeon who had worked with Davies at Mulago and first hinted that a mosquito-borne virus could cause the eponymous lymphoma, this project involved a large serological survey among children in Uganda's West Nile district using new molecular technologies like DNA hybridization and

[95] Ibid., 371–72.

[96] Mueller, "Cancer in the Tropics" (n. 1).

[97] Scheffler, *Contagious Cause* (n. 1).

was coordinated by Ted Williams, a British missionary doctor who had worked with Burkitt.[98]

While Tipper and other early twentieth-century British physicians had imagined Africa as forever stranded in the past, postwar scientists like Davies and Burkitt feared that the continent's environmental and cultural diversity, which made it such a promising place for research, was rapidly disappearing with industrialization, decolonization, and international integration. This led these scientists to call for urgent efforts to bring this "vanishing Africa" into the fold of cancer research before "evolution, industrialisation and urbanisation" changed the conditions of this "living laboratory" to such a degree that the proffered potential of scientific discovery would be lost forever.[99] In an article written for *The Lancet* in 1952, in which he outlined the enormous potential of doing cancer research in Africa, Davies warned his readers that "time presses" to carry out this research for "African countries are going through a stage of rapid evolution. Industrialisation and urbanisation, rising living standards, and all other associated changes will alter the patterns [of cancer on the continent]; and when these changes are well advanced, we may regret that we did not make full investigations earlier."[100] These fears were echoed in a 1953 editorial in the *BMJ* titled "Disease, Race and Civilisation." After reiterating the living laboratory argument that "the study of little-known races living in primitive environments" can "prove important in the general advance of knowledge," the authors urged that this study needed to "be done now,

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[98] Ted Williams' Papers, WTI/EHW/B/8, WTI/EHW/J/1, WTI/EHW/F/2, Wellcome Library, London.

[99] Tilley, *Africa as a Living Laboratory* (n. 19).

[100] Croot and Davies, "Cancer in Africa" (n. 90).

since primitive ways of life . . . are in danger of dying out."[101] A decade later, the editors of *The Lancet* repeated these fears, warning their readers that the "unique situation" in Africa, with its different cancer patterns and etiological factors, "will not exist much longer"; it was therefore essential that "Britain . . . exploit now a field situation the like of which is not likely to be seen again."[102]

These anxieties were not exclusive to Africa but rather part of what historian Joanna Radin has called a wider "salvage agenda."[103] Many scientists in the mid-twentieth century thought that indigenous communities around the world, from the Amazon to the Australian Outback, were critical comparative tools for research on the effects of environments and cultures on health.[104] This was coupled with a fear that the survival of these indigenous peoples was endangered, making research urgent and prompting efforts to collect and salvage "bits of bodies," blood and tissue for "future analysis."[105] Within the African context, these

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[101] *BMJ*, "Disease, Race and Civilisation," June 13, 1953, 1320–21.

[102] *Lancet*, "Cancer in Africa" (n. 94).

[103] Joanna Radin, "Ethics in Human Biology," *Annu. Rev. Anthrop.* 47 (2018): 263–78, quotation on 266.

[104] Ricardo Ventura Santos, Carlos E. A. Coimbra Jr., and Joanna Radin, "'Why Did They Die?': Biomedical Narratives of Epidemics and Mortality among Amazonian Indigenous Populations in Sociohistorical and Anthropological Contexts," *Cult. Anthrop.* 61, no. 4 (2020).

[105] Emma Kowal, Joanna Radin, and Jenny Reardon, "Indigenous Body Parts, Mutating Temporalities, and the Half-Lives of Postcolonial Technoscience," *Soc. Stud. Sci.* 43, no. 4 (2013): 465–83, 467.

fears were wrapped into various other fears circulating at the time, such as the fear of a "disintegration" of "traditional" structures of African societies, which would lead to a loss of colonial social control,[106] or the fear felt by medical researchers themselves that they would lose their power, positions, and research access when African countries became independent. Although the feared, and promised, urbanization and industrialization of the postindependence era did not emerge as swiftly or resolutely as expected,[107] anxieties at the loss of Africa as a living laboratory continued well into the 1970s. Denis Burkitt and Paula Cook, for example, wrote in their 1971 review on "Cancer in Africa" that "it is of particular importance that the patterns of cancer frequency in Africa and other developing countries are established as quickly as possible, since the close contacts with the environment have already begun to be broken and local cultural differences are fast disappearing."[108]

Decolonization: Grappling with Grammars

As outlined above, the postwar era saw a reworking of the languages of progress that had framed conversations about cancer in Africa in the early twentieth century. While the notion of cancer as a disease of civilization that is rare among primitive people progressively lost traction, the idea of Africa as other and backward and, therefore, offering a productive laboratory for cancer research endured. Africa's otherness and backwardness, however, were

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[106] Megan Vaughn, *Curing Their Ills* (New York: Polity, 1991), 108.

[107] See, for example, Cooper, *Africa since 1940* (n. 79).

[108] Denis Burkitt and Paula Cook, "Cancer in Africa," *Brit. Med. Bull.* 27, no. 1 (1971): 14–20, quotation on 14.

reimagined from the absence of malignancy to different patterns of cancer, which increasingly included viral cancers. Likewise, what was understood as a lab shifted and was upgraded from anecdotes and reflections from afar to pathologists, microscopes, medico-social surveys, and cancer registries. This also became a lab that was now increasingly under threat from industrialization, urbanization, and decolonization. Another shift taking place at the time, and which is the object of the remainder of this chapter, was the reworking of the terminology in which progress was narrated. Indeed, as civilization lost traction as an acceptable language of progress and difference, researchers began to grapple with other grammars. Where "civilized" and "primitive" had been common parlance until the 1940s, in the 1950s and 1960s researchers were turning to a larger variety of terms to articulate the differences they saw between Euro-America and Africa. Terms such as "industrialization," "urbanization," "development," "rural" living, "natural" living, "Western" society, "modern life," "westernization," "Western culture," and "African culture" began to appear.[109]

Burkitt offers a good example of how the lexicon of civilization progressively gave way to terms like "economic development," "industrialization," and "Western ways of life." In the heyday of African cancer research, primarily during the 1960s, Burkitt emerged as one of the leading figures in cancer research, not only on the continent but globally. As mentioned, Burkitt worked at Mulago hospital with Davies when he was credited with the so-

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[109] See Denis Burkitt, "Some Disease Characteristics of Modern Western Civilisation," *BMJ*, February 3, 1973, 274–78; Davies, Wilson, and Knowelden, "Cancer in Kampala" (n. 87); George Oettlé, "Cancer in Africa, Especially South of the Sahara," *J. Nat. Cancer Inst.* 33 (1964): 383–439; H. C. Trowell and Denis Burkitt, *Western Diseases: Their Emergence and Prevalence* (Cambridge, Mass.: Harvard University Press, 1981).

called discovery of Burkitt's lymphoma, a childhood cancer of the jaws, in the early 1960s. Driven by a missionary zeal and colonial adventurer spirit, Burkitt rose to fame through his work on this cancer, in particular the possibility that the cancer may have a viral vector—the first cancer to be linked to a virus. Interestingly, in studying a cancer possibly caused by a virus, Burkitt's research mapped on to a medical imaginary that saw, and often still sees, Africa as primarily marked as a continent of infectious (rather than noncommunicable) diseases.[110]

Like many of his contemporaries, Burkitt was worried about the changes that were taking place on the African continent in the 1960s. In discussing these concerns, he did not shy away from using the terminology of primitive and civilized. In a 1970 letter that he wrote to the British Tropical Medicine Research Board (TMRB), for example, Burkitt stated that he felt there was an urgent need to study "the few remaining communities [in Africa] little influenced by Western civilisation."[111] In another letter written to the TMRB that same year, he insisted that it was vitally important that "the incidence of certain western diseases should be determined in the few remaining really primitive areas of Africa before the opportunity is lost forever."[112]

Burkitt carried this language with him into his early writings in the 1970s, where in a resurfacing of ideas that had been en vogue in the 1920s, he became increasingly interested in the possibility that there were certain diseases and, indeed, specific cancers like the cancer of

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[110] Livingston, *Improvising Medicine* (n. 1).

[111] Letter from Burkitt to Brandon Lush, April 23, 1970, External Staff, Burkitt, FD 12/801, National Archives at Kew, NA.

[112] Letter from Burkitt to Murray Baker, 1970, FD 12/801, NA.

the gut that belonged to "civilization." In a 1970 report to the MRC, "An Examination of Disease Distribution with Particular Reference to Ills of Economic Development," Burkitt wrote on noninfectious diseases that "all these diseases of civilization appear to be rare or absent in African communities which are least influenced by western civilisation."[113] Recalling the early twentieth-century fascination with constipation and the gut as key loci for civilizational diseases, Burkitt wrote in a 1969 article, "Epidemiological studies in Africa and elsewhere indicate that many large-bowel diseases which are universally prevalent in the so-called civilized world are almost or totally unknown throughout rural Africa," and therefore the most "widespread and major diseases of the Western world," including cancers of the colon, rectum, and bowel, were due, in large part, to questions of diet.[114]

Although he used terms such as "civilised" in his earlier writings, in his later book *Western Diseases: Their Emergence and Prevalence* (1981), coauthored with H. C. Trowell, Burkitt informed the reader that although the book "attempts to discuss the commoner 'diseases of civilisation,'" he and Trowell chose not to use the term "civilization" because "it proved obnoxious" to tell Africans that they had lower incidences of disease "because they were uncivilized."[115] In these later writings one can thus see Burkitt shying away from "primitive" and "civilized" and circulating through a varied collection of expressions, speaking of the "pattern of life associated with economic development,"[116] "the way of life

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[113] Report to the MRC by Burkitt, 1970, FD 12/801 NA.

[114] Denis Burkitt, "Hypothesis: Related Disease—Related Cause?," *Lancet* 7632 (December 6, 1969): 1229–31, 1230.

[115] Trowell and Burkitt, *Western Diseases* (n. 109), xiii, xiv.

[116] Letter from Burkitt to Lush (n. 111).

associated with affluent societies of the west,"[117] "economically advanced countries,"[118] and "the Western World,"[119] versus "less developed rural communities,"[120] "less economically developed communities," and a "traditional way of life."[121] Although Burkitt grappled with alternative terms through which to express similar concepts of progress and difference, as his work makes clear, the terminology of civilized and primitive, and the modalities of difference and temporality upon which they rest, endured, remaining ever present, leaving Burkitt struggling to fully move away from them linguistically and conceptually.

Burkitt and Trowell's 1981 book was reviewed by the English physician and historian Thomas McKeown in the *London Review of Books* in 1981. McKeown was very sympathetic to Burkitt and Trowell's argument that "the pattern of disease" changes "with economic development" and that, of the "multiple influences responsible" for this transformation, "dietary changes are probably the most important."[122] McKeown was impressed with the "evidence [they had] assembled," which he felt clearly demonstrated that when "hunter-gatherers and peasant agriculturists" changed their traditional ways of life to those of "developed countries, they begin to exhibit the Western pattern of disease."[123] Perhaps

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[117] Letter from Burkitt to Baker (n. 112).

[118] Burkitt and Cook, "Cancer in Africa" (n. 108).

[119] Burkitt, "Some Disease Characteristics" (n. 109).

[120] Burkitt and Cook, "Cancer in Africa" (n. 108).

[121] Burkitt, "Some Disease Characteristics" (n. 109).

[122] Thomas McKeown, "The Burden of Prudence," *London Rev. Books* 3, no. 24 (1981): xxx, 1–2.

[123] Ibid., 1–2.

McKeown's sympathy for Burkitt and Trowell's argument was to be expected, as he was known for discussing the effects of environment and diet in his own work, and particularly for his argument that while the transition from nomadic to pastoralist to industrialized lifestyles brought relief from aspects of poverty, it also brought with it the "ill effects of affluence."[124] If anything, McKeown was not convinced by Burkitt and Trowell's use of the term "Western." While he agreed that the expression of "Western diseases" was better than "diseases of civilisation," he found "diseases associated with industrialisation" more accurate.[125] In McKeown's review, we can see the crystallization of many of the themes that were to gain prominence in African cancer research in the post–Cold War period, particularly the concept of transitions and the move toward "industrialisation" and "modernisation" as key elements of rearticulated grammars of progress.

Chapter Three

1980s Onward: Cancer Transitions and Modernization Theory

From the mid-1980s onward, a new type of epidemiological and medical literature about cancer in Africa began to develop.[126] Unlike the earlier work of Burkitt and others, the main

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[124] Rosenberg, "Pathologies of Progress" (n. 1), 725.

[125] McKeown "Burden of Prudence" (n. 121), 1.

[126] For example, Donald Maxwell Parkin, ed., *Cancer Occurrence in Developing Countries* (Lyon: IARC, 1986); Richard Feachem and Dean Jamison, eds., *Disease and Mortality in Sub-Saharan Africa* (Washington, D.C.: World Bank, 1991); Henry Wabinga, S. Nambooze,

concern of this literature was not to study cancer in Africa to shed light on its etiology and improve prevention and treatment, especially back in the metropole, but to measure the current and future burden of cancer in Africa to help policymakers and hospital administrators on the continent decide what health issues to prioritize and how best to invest their limited resources.

This new literature was the product of partially reconfigured international research and funding networks and infrastructures. Many of the networks that had supported the likes of Burkitt and Davies had unraveled by the early 1980s. The British Empire, with its network of medical officers and funding opportunities, had dissolved. Geographical pathology had progressively fallen out of fashion, with the UICC's Sub-Committee on Geographical Pathology for Africa eventually disbanded.[127] Moreover, postindependence political crises, Africanization policies, and structural adjustment programs led to the closure of most African cancer registries and the departure of many British researchers. The situation was so dire that the fifth volume of IARC's *Cancer Incidence in Five Continents* published in 1987 did not include any data from Africa. New cancer research networks would progressively be rebuilt around two major nodes—one at IARC, in Lyon, where British epidemiologists Max Parkin, Freddie Bray, and others would set up a new web of African cancer registries in the service

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P. M. Amulen, C. Okello, L. Mbus, and D. M. Parkin, "Trends in the Incidence of Cancer in Kampala, Uganda, 1991–2010," *Int. J. Cancer* 135 (2014): 432–39; E. Chokunonga, M. Z. Borok, Z. M. Chirenje, A. M. Nyakabau, and D. M. Parkin, "Trends in the Incidence of Cancer in the Black Population of Harare, Zimbabwe 1991–2010," *Int. J. Cancer* 133 (2013): 721–30.

[127] Mueller, "Cancer in the Tropics" (n. 1).

of a Global Cancer Observatory; and another one at the World Bank, in Washington, D.C., and, later, at the Gates-funded Institute of Health Metrics & Evaluation (IHME) in Seattle, where American economists Dean Jamison, Chris Murray, and their colleagues ran the Global Burden of Disease project. Cancer registries and the data they collected remained critical to these new groups of researchers, with Parkin and his team at IARC rebuilding a web of African registries, now led by African scientists like Eric Chokunonga in Harare and Henry Wabinga in Kampala, out of the ruins of the old ones established by Davies and others. At the same time, registries and registration practices were now augmented by ever more complex IT systems, which allowed for the rapid collection and transfer of large datasets to centralized Euro-American repositories, and increasingly sophisticated modeling techniques, helping researchers to estimate the existing cancer burden and future trends where data were missing.

In contrast to Burkitt, the likes of Parkin and Jamison fully embraced the postwar languages of development and modernization, refolding earlier imaginaries of cancer as a disease of civilization into the notion of cancer as a pathology of modernity. These languages, which first emerged in the last decades of colonial rule, came to dominate African politics during the decolonization period.[128] At the time, they were embraced as languages of hope that offered a "new sense of possibility for the people of the colonized world."[129] Indeed, unlike

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[128] Frederick Cooper, "Development, Modernisation and the Social Sciences in the Era of Decolonisation," *Revue d'Histoire des Sciences Humaines* 1, no. 10 (2004): 9–38.

[129] Ibid., 20, 32. On the languages of development and modernization in British colonial and postcolonial Africa, cf. also Joseph Hodge, Gerald Hold, and Martina Kopf, eds., *Developing Africa* (Manchester: Manchester University Press, 2014); Stephan Miescher, *A Dam for*

most colonial officers who tended to view Africans as immutably fixed in race and tradition, postwar development experts and modernization theorists believed that Africans could, through economic growth and industrialization, free themselves from tradition and become, in the words of economist Gunnar Myrdal, "new," "modern men."[130]

It would take some time before these languages of change and progress were taken up by international health experts, starting with discussions on population control before extending to other issues.[131] One of the most cited examples is Abdel Omran's 1971 paper, "The Epidemiological Transition,"[132] where he argued that nations across the world were moving through a series of developmental stages associated with particular demographic, socioeconomic, and disease profiles and that would become central to epidemiological imaginaries of cancer in Africa from the 1980s onward.[133] Critically for us, these languages of development and modernization led to a reworking of the grammars of progress that had

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Africa (Bloomington: Indiana University Press, 2022); Tilley, *Africa as a Living Laboratory* (n. 19).

[130] Cited in H. W. Arndt, *Economic Development* (Chicago: University of Chicago Press, 1987): 53.

[131] Kavita Sivaramakrishnan, *As the World Ages* (Cambridge, Mass.: Harvard University Press, 2018).

[132] Abdel Omran, "The Epidemiological Transition," *Milbank Memorial Fund Quart.* 49, no. 4/1 (1971): 509–38.

[133] Vaughn et al., *Epidemiological Change* (n. 1); George Weisz and Jesse Olzynko-Gryn, "The Theory of Epidemiologic Transition," *J. Hist. Med. Allied Sci.* 65, no. 3 (2010): 287–326.

dominated until then.[134] Specifically, there was a shift in terminology from primitive/civilized to traditional/modern as well as a move from a concern with race and culture to one with industry and wealth.[135] But, at the same time, there were important continuities. To start with, like the old histories of human progress from primitive to barbarian to civilized, the "path from tradition to modernity" led from "the backwardness of Africa," which continued to stand as "the epitome of traditional," to the "industrial society" of Euro-America.[136] Moreover, resonating with earlier concepts of the primitive, the notion of tradition in languages of modernization was often associated with "subsistence economies," "rural society," "religious ideologies," and "extended family."[137]

The influence of these reworked grammars of progress was particularly evident in the way Parkin and others spoke of cancer in Africa as undergoing "a transition." Jamison and his collaborators, for example, noted that current "patterns of cancer occurrence . . . differ greatly between developing and industrial countries," with the majority of cancer deaths in the latter due to tumors of the colorectum, lung, breast, pancreas, and prostate, whereas in the former stomach, esophagus, liver, and cervical tumors predominated.[138] However, they argued that "cancer trends" characteristic of "industrial countries," with "population growth

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[134] Wahlberg, "Measuring Progress" (n. 50).

[135] Michelle Murphy, *The Economization of Life* (Durham, N.C.: Duke University Press, 2017).

[136] Cooper, "Development, Modernisation" (n. 127), 21–25.

[137] Ibid., 25–26.

[138] Dean Jamison, W. H. Mosley, A. R. Measham, and J. L. Bobadilla, eds., *Disease Control Priorities in Developing Countries* (Oxford: Oxford University Press, 1993), 530.

at older ages," were starting to "be repeated in developing countries," with an attendant rise in cancer-related mortality even in "the lowest-income countries of Africa."[139] Drawing on Omran, they believed that this emerging shift in cancer trends in Africa was part of a wider "epidemiologic" and "health care transition" taking place across the developing world and driven by "the general process of industrialization, urbanization and modernization."[140] Similarly, Bray and his colleagues argued that "a cancer transition," characterized by an "increasing burden" and a "changing spectrum of common cancers," was "clearly underway" in African "countries transiting to high levels of income and development."[141] Like Jamison, they posited that "economic progress" and the "Westernization of lifestyle" would lead to a "reduction" of "types of cancer more commonly associated with infection and poverty" (e.g., stomach and liver cancer) that would be "offset by increases in cancers" associated with lifestyle and affluence (e.g., breast and colorectal cancer).[142] This was echoed by Parkin, Eric Chokunonga, and Henry Wabinga in their work on cancer in Harare and Kampala. As they explained, the "lifestyles" in the two capital cities were, like in "much of urban Africa," "changing rapidly,"[143] as their populations were transforming from "one comprising

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[139] Ibid., 529, 531.

[140] Ibid., 51–53.

[141] Freddie Bray and Isabelle Soerjomataram, "The Changing Global Burden of Cancer," in *Cancer, Disease Control Priorities*, 3rd ed., vol. 3, ed. H. Gelband, P. Jha, R. Sankaranarayanan, and S. Horton (Washington, D.C.: World Bank, 2015), 23–44, 23, 40.

[142] Ibid., 23, 27.

[143] Donald Maxwell Parkin, S. Nambooze, F. Wabwire-Mangen, and H. Wabinga, "Changing Cancer Incidence in Kampala, Uganda, 1991–2006," *Int. J. Cancer* 126 (2009): 1187–95.

relatively recent immigrants from village life, to one of second-generation inhabitants, engaged in wage-earning or the informal economy, and purchasing foodstuffs and other necessities, rather than producing themselves."[144] It was, therefore, "not surprising" to measure a "steady increase in the incidence of cancer" in both cities.[145] In an echo of Renner's words about European lifestyles one hundred years earlier, this increase was argued to be due to "rises in cancers of affluence" associated "with the Westernization of lifestyles"[146] but also, in ways that did not fit neatly with Omran's model, to the emergence of "AIDS-related cancers" and the persistence of "cancers linked to poverty and malnutrition."[147]

These ideas about economic development and epidemiological transition were often associated with particular types of cancers in ways that were reminiscent of earlier writings on cancer and civilization in Africa. For example, echoing the work of Hearsey and other early twentieth-century doctors, Parkin and his colleagues speculated about the reasons for the "rapid increases in the incidence of breast cancer in sub-Saharan Africa," believing that these "included increases in the prevalence of risk factors" that were "associated with urbanization and economic development" like "early menarche, late childbearing [and]

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[144] Chokunonga et al., "Trends in the Incidence of Cancer" (n. 125), 727–28.

[145] Ibid., 727–28.

[146] Parkin et al., "Changing Cancer Incidence" (n. 142), 1187.

[147] Wabinga et al., "Trends in the Incidence of Cancer" (n. 125), 438.

having fewer children."[148] Another much discussed type of malignancy was colorectal cancer. In striking parallels to the work of Tipper in the 1920s and of Burkitt in the 1970s, Parkin and his collaborators argued that "cancers of the large bowel" are "positively associated with the level of socioeconomic development"[149] and can be considered to be a "robust marker of the extent of [an epidemiological] transition in a given population."[150] Pointing to the "increasing rates of colorectal cancer in Africa,"[151] they suggested that "Western lifestyles and changes in dietary patterns from plant-based and fiber-rich food to animal-based and caloric-dense food [had] largely contributed to [this increase]."[152] Also increasingly talked about were "infection-related cancers"—a novel category that had grown out of Burkitt's work on Burkitt's lymphoma and had become increasingly prominent with the focus on Kaposi's sarcoma during the HIV epidemic and, later, the development of a

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[148] Freddie Bray, A. Jemal, N. Grey, J. Ferlay, and D. Forman, "Global Cancer Transitions According to the Human Development Index (2008–2030)," *Lancet Oncol.* 13 (2012): 790–801, 798.

[149] Donald Maxwell Parkin, A. Jemal, F. Bray, A. R. Korir, B. Kamate, E. Singh, W. Y. Joko, M. Sengayi-Muchengeti, B. Liu, and J. Ferlay, *Cancer in Sub-Saharan Africa*, vol. 3 (Geneva: UICC, 2019), 956.

[150] Ibid., 959.

[151] Donald Maxwell Parkin, F. Bray, J. Ferlay, and A. Jemal, "Cancer in Africa 2012," *Cancer Epidemiol. Biomarkers Prevent.* 23 (2014): 953–66, quotation on 959.

[152] Parkin et al., *Cancer in Sub-Saharan Africa* (n. 148), 233.

human papillomavirus (HPV) vaccine against cervical cancer.[153] In contrast to breast or colorectal cancer, infection-related cancers—which were mostly viral cancers, from cervical cancer to Kaposi's sarcoma to liver cancer—were associated with countries with low levels of development and, in particular, sub-Saharan Africa. As Bray and his colleagues reported, the "proportion of cancers associated with chronic infections" is "higher in low-and-middle income countries . . . than in high-income countries," varying from "33.2 percent in sub-Saharan Africa to 3.3 percent in Australia and New Zealand."[154]

The African Cancer Epidemic as Crisis for Policymakers

The primary aim of studying cancer in Africa for the likes of Burkitt and Davies had been to further our knowledge of the disease's etiology and, by doing so, to improve treatment and prevention, especially at home in the colonial metropole. In contrast, the aim for Parkin and others was to provide a picture of current and future cancer burdens in countries across Africa to guide the making of national health care policies and programs. In doing so, Parkin and his colleagues were building on a body of work that developed after decolonization and purported to advise health ministries in newly independent African

[153] For example, D. M. Parkin, H. Wabinga, S. Mambooze, and Fred Wabwire-Mangen, "AIDS-Related Cancers in Africa," *AIDS* 13 (1999): 2563–70; Bray and Soerjomataram, "Changing Global Burden" (n.140); D. M. Parkin, L. Hammerl, J. Ferlay, and E. Kantelhardt, "Cancer in Africa 2018: The Role of Infections," *Int. J. Cancer* 146 (2020): 2089–2103.

[154] Bray and Soerjomataram, "Changing Global Burden" (n.140), 36.

nations on how to set up and run their health care services.[155] Carried out by British and American doctors with funding from philanthropists like Ford and Rockefeller, this work covered a range of topics, from the "organization of health services" to "health education" and "manpower management."[156] Crucially, this work also stressed the importance of collecting data, from "patient records" and hospital "ledgers" to "epidemiologic tables" and "maps," to enable "ministries of health" to "know the prevalence of diseases in the country" and help them make a "judgment on how best to spend their limited resources."[157]Parkin and others' shift from etiology to policy is best illustrated with the realignment of the research priorities of IARC's Descriptive Epidemiology Unit under Parkin's leadership from the mid-1980s onward. During the first two decades after IARC's creation in the mid-1960s, one of the unit's key publications was the *Cancer Incidence on Five Continents* monographs, which came out every five years. Started by Richard Doll and informed by geographical pathology, these publications were a tool for cancer researchers such as Burkitt who sought to identify the causes of cancer by comparing its incidences and types across regions of the world. Shortly after Parkin took over the unit, its direction of travel began to alter. Indeed, for Parkin, a trained doctor who had specialized in public health in Scotland and Michigan before joining IARC, "cancer statistics" were not just a research strategy for "elucidating the causes of cancer" but also a policymaking device to guide "the planning of health care

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[155] See, for example, John Bryant, *Health and the Developing World* (Ithaca, N.Y.: Cornell University Press, 1969); Maurice King, ed., *Medical Care in Developing Countries* (Nairobi: Oxford University Press, 1978).

[156] Bryant, *Developing World* (n. 154), 109; King, *Medical Care* (n. 154), 11–12.

[157] Bryant, *Developing World* (n. 154), viii; King, *Medical Care* (n. 154), 1, 9–10.

programmes."[158] Building on this belief, he and his team started new lines of publications—from IARC's *Global Cancer Maps* to its *Cancer in Sub-Saharan Africa* reports—that provided African "policymakers" with estimates of "cancer incidence" and "cancer mortality" in the region to assist them with the "prioritization and evaluation of [their] national cancer control plans."[159] Jamison and his colleagues' work on the Global Burden of Disease project is another example of this move from etiology to policy. The aim of their work was to "rationalize" policymaking in developing countries by setting up "health information systems" and ensuring that the "planning and implementing" of health care were based on "valid data."[160] This, they believed, was especially urgent in the African region, where "the absence of current, reliable information is perhaps the most serious handicap to developing and managing health services."[161]

It is as part of this concern with policymaking that one needs to read Parkin and others' warnings about a cancer transition taking place across the African region. To speak about how the development of the continent was leading to a growing cancer burden is, as anthropologists Carlo Caduff and Cecilia Van Hollen have suggested, to deploy a "rhetoric of

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[158] Parkin, *Cancer Occurrence in Developing Countries* (n. 125), 1.

[159] Sebastien Antoni, I. Soerjomataram, B. Moller, F. Bray, and J. Ferley, "An Assessment of GLOBOCAN Methods for Deriving National Estimates of Cancer Incidence," *Bull. World Health Organ.* 94 (2016): 174–84, 182; Jacques Ferlay, I. Soerjomataram, R. Dikshit, S. Eser, C. Mathers, M. Rebelo, D. M. Parkin, D. Forman, and F. Bray, "Cancer Incidence and Mortality Worldwide," *Int. J. Cancer* 136 (2015): E359–86, E360, E384.

[160] Feachem and Jamison, *Disease and Mortality* (n. 125), vi.

[161] Ibid., v.

crisis" to draw the attention of policymakers, international donors, and health administrators and push them into action.[162] So, for example, at a 2007 conference in London organized by IARC and others to "raise the profile of the cancer problem in Africa," experts spoke about the cancer "epidemic" in Africa as a looming "catastrophe" that was driven by rising "obesity," "alcohol," and "smoking rates" and could "claim a vast number of lives."[163] Similarly, Parkin and his colleagues described cancer in Africa as an "emerging public health problem," warning their readers that, with the "ageing and growth of the population" and because of the "increased prevalence of risk factors associated with economic transition," the numbers of new cancer cases and cancer deaths in the region were "expected to double in the next 20 years."[164] Such dire forecasts, these researchers hoped, would "highlight the need for action" and "serve as an important stimulus to implement and change policy."[165] More specifically, such a rhetoric of crisis aimed to make clear that "cancer control will be of

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[162] Carlo Caduff and Cecilia C. Van Hollen, "Cancer and the Global South," *BioSocieties* 14, no. 4 (2019): 489–95, 490.

[163] Kate Travis, "Health Experts Aim to Curb Potential Epidemic," *J. Nat. Cancer Inst.* 99, no. 15 (2007): 1146–47, 1146; Rebecca Lingwood, P. Boyle, A. Milburn, T. Ngoma, J. Arbuthnott, R. McCaffrey, S. H. Kerr, and D. J. Kerr, "The Challenge of Cancer Control in Africa," *Nature Rev. Cancer* 8 (2008): 398–404, 398.

[164] Ahmedin Jemal, F. Bray, D. Forman, M. O'Brien, J. Ferlay, M. Centre, and D. M. Parkin, "Cancer Burden in Africa and Opportunities for Prevention," *Cancer* 118, no. 18 (2012): 4372–84, 4372.

[165] Bray and Soerjomataram, "Changing Global Burden" (n. 140), 39–40.

increasing priority in the health programmes"[166] of African nations and encourage policymakers and international donors to invest in "trained staff, equipment, relevant drugs and information systems."[167] This notion of crisis around which Parkin and others mobilized the languages of progress and malignancy was somewhat different from the one Davies and Burkitt had been concerned about. For the latter, the problem was not an upcoming cancer epidemic driven by urbanization and modern lifestyles but the disappearance, due to economic development and modernization, of their African "living laboratory".

Conclusion

Contemporary epidemiologists claim that Africa is facing a "cancer epidemic." The continent, they argue, is rapidly industrializing and growing economically, its populations are aging, urbanizing, and adopting new, modern lifestyles. Because of this, the continent is believed to be facing a shift in cancer patterns and disastrous increase in its cancer burden. Taking these grammars of progress as its object of study, this article has shown how the logics and models of history that make up these grammars have, in different forms, enduringly shaped medical conversations on cancer in Africa from the beginning of the twentieth century onward. We have traced how these recursive grammars of progress have framed discussions of malignancy in Africa, from the ICRF's 1903 inquiry to the 1920s writings on cancer and constipation in primitive societies, to the golden era of geographical pathological studies of malignancy in the 1950s and, ultimately, present-day global cancer

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[166] Parkin, *Cancer Occurrence in Developing Countries* (n. 125), 1.

[167] Lingwood et al., "Challenge of Cancer Control" (n. 162), 398.

surveillance initiatives. While stressing how the notion of Africa as a radically other and backward counterpoint to Euro-America has endured in discussions about cancer on the continent, we have also outlined the ways in which models of progress, scientific infrastructures, and political rationales have been constantly reformed.

From the early twentieth century, Africa's imagined otherness seemed to offer the promise of a "living laboratory" to find either a prevention or a cure for cancer. Drawing on ideas of civilization, which then dominated how Europe imagined itself and how European physicians explained pathology, Africa was defined by its "primitive" nature in contrast to Europe's "civilization," and the apparent lack of cancer on the continent, as reported by CMOs in anecdotes and hearsay, was read within these terms. For some, this supported the conclusion that civilization itself was the cause for cancer, and a "natural," "primitive" life was the means to prevent it. Although some of the earliest cancer researchers on the continent disputed this argument, the idea that civilization was somehow connected to cancer and cancer etiology embedded itself in cancer imaginaries and has remained remarkably durable to this day. The postwar period saw a reworking of these grammars of progress and malignancy. Africa's otherness, especially its diversity of climate, geography, and culture, continued to be seen as a critical experimental space to shed light on cancer's etiology, prevention, and cure. Indeed, investments flowed in to hire pathologists, open cancer registries, purchase equipment, and conduct medico-social surveys. But the relationship between cancer and civilization itself was reworked, with civilized life now associated with different types of cancers than primitive life, and researchers starting to experiment with new terminologies of progress such as industrialization, development, and Westernization. This was accompanied by an increasing fear that Africa as a place of diversity and

experimentation would soon disappear, forever changed by modernization and decolonization.

In the latter half of the twentieth century, the fear of the loss of biomedical diversity subsided. However, Africa's biomedical otherness and the threat that an incoming modernity would pose to the continent resurfaced as key themes in epidemiological reasoning. The temporal logics of "civilization" became reconstituted as economic development and modernization. Within this reconstituted analytical framework, the focus became Africa's cancer transition: modernity was configured as something that was fueling an increase in the overall cancer burden as well as a shift from cancers of poverty and infections to cancers of affluence and lifestyle, recapturing older arguments about aging populations, changing cultural habits, and new diets. At the end of the twentieth century, these grammars of progress shifted from being mobilized for research into etiology and cure to being mobilized to garner support and action from the international community in the face of a "cancer epidemic," and to guide policymakers and public health officials in rationally managing cancer care in their countries. By paying close attention to what has endured in the multiple, overlayered, entangled rationalities, temporalities, and infrastructures that make up the postcolony, this article has shown how the endless rearticulations of grammars of progress have persistently structured medical imaginaries of cancer in Africa over the past century and continue to do so today.

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The authors' names are arranged alphabetically and not by order of work contributed to the article. We would like to acknowledge that both authors contributed equally to the article and that it is truly a joint work.

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