UNIVERSITY OF CALIFORNIA SANTA CRUZ

HEALTH IN TRANSITION: THE POLITICS OF NUTRITION AND FOOD SYSTEMS CHANGE IN GHANA

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by

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Abstract

Health in Transition:

The Politics of Nutrition and Food Systems Change in Ghana

Halie Kampman

Ghana is undergoing a rapid and dramatic food system transition, driven by urbanization and globalization. The ways that people eat are changing, and rates of new diseases – diet-related illnesses like diabetes, hypertension and heart disease – are becoming much more common. While these changes are worrisome from a public health standpoint, the ways in which they are popularly articulated are concerning in a different way. The models that are used to describe these transitions risk imposing a deterministic trajectory modeled on Western history and values, which can inhibit other ways of imaging food systems change. Case studies on local food knowledges and movements reveal other ways of imagining. The first case study considers a Ghanaian local food movement in Accra which challenges assumptions of linear progress by looking to local "traditional" foods to solve "modern" problems. The movement expands the definition of what qualifies as local in a way that makes space for Ghana's hybrid postcolonial context. The second case explores how everyday people in the neighboring city of Tema account for the rise in new diseases. People draw a connection between the increased use of chemical fertilizer and new disease, which can be understood as a metaphor for broader concerns of modernization,

highlighting how the often-violent historical process of modernization still causes harm.

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INTRODUCTION

Food and health in transition

Ghana is experiencing what is popularly framed as a rapid and dramatic transition in food and health. Farming lifestyles are being lost, and the population of Ghanaians living in cities has doubled since independence (Yeboah et al. 2013). Ghana's economy has grown rapidly, as evidenced by its 2011 World Bank reclassification from a low- to middle-income country. Associated with these patterns of economic development and urbanization, Ghana's residents purportedly suffer from high rates of new diseases. This is a term used by practitioners and everyday people referring to diet related illness like diabetes, hypertension and heart disease. Since the year 2000, the percentage of people who are overweight or obese in Ghana has risen from 27 to 46% (GNR 2023). Being heavy is a risk factor for type-2 diabetes, rates of which have nearly doubled within the same timeframe (ibid).

While these changes are clearly concerning, my research gets at a different type of problem. I consider how the mainstream models used to describe these transitions risk imposing a predetermined future. Then I explore alternative ways to think about food systems change. My research asks two main questions: 1) What are the limits to dominant models for food system change? 2) What types of alternative food futures do local people articulate?

My research ultimately shows that the nutrition transition model, the hegemonic descriptor of food systems change, advances a western deterministic trajectory rooted in the oppressive logics of the models that precede it. The narratives that it advances risk obscuring the possibility of a uniquely Ghanaian food future. However, there exist many alternative knowledges and movements on the ground. They elevate non-linear and non-causal ways of understanding transitions, which are distinctly postcolonial in their embrace of hybridity and their recognition of long violences. These approaches have the potential to redirect food and nutrition action towards the types of concerns that are relevant to the people experiencing food systems changes.

Theoretical approach and methods

Contributing to scholarship in critical food studies, I explore how food and nutrition are discursively framed in scientific literatures (Guthman 2011, Kimura 2013, Biltekoff 2013). In particular, I seek to uncover the otherwise obscured politics of mainstream narratives about food systems change (Vaughan and Adjaye-Gbewonyo 2021). Incorporating perspectives from science and technology studies (STS), I consider how nutritional knowledges are produced, and the political stakes of privileging some knowledges over others (Murphy 2017). I highlight local movements and worldviews, exploring how everyday people understand the nature of food systems change and co-create solutions (Gupta 1998, Neely 2021, Nichols 2022). In my analysis, place matters, so I put particular attention to the postcolonial

context of Ghana, considering how colonial histories and narratives shape the foodscape today. I draw attention to the contemporary repercussions of historically extractive relationships of power, while also highlighting hopeful narratives that imagine futures beyond those imposed by western hegemonies (Appiah 2006).

I collected data between July 2020 and September 2021. Because of COVID-19 travel restrictions I spent the first six months based in California doing a document review. I reviewed 29 publicly available documents on food and nutrition policy in Ghana since the 1990s (when the emergence of new diseases began at scale). Policy documents were obtained from the Ministry of Health online archive and program documents were obtained from the websites of major international donors. I analyzed these documents to create a network map of key stakeholders and programs, which informed all three chapters of my dissertation. I also reviewed documents on the nutrition transition model, the hegemonic descriptor for nutritional change and the topic of Chapter 1. I identified 20 key documents published within the last 10 years that use the nutrition transition model to describe, defend or advance food and health programming. I inductively coded these documents in NVivo software to expose the discursive narratives advanced by the model.

When COVID-19 travel restrictions were lifted in April 2021, I moved to Ghana for six months. I began by conducting 25 semi-structured interviews in Accra with policy makers and program managers in the field of food and nutrition. My aim was to better understand how experts make sense of the nutrition transition. These interviews did not make it into my dissertation because I gathered more data than I

could synthesize in three papers. However, topics that came up in these interviews led me to my two case studies.

My two case studies highlight local narratives of nutritional transition, comparing them with top-down models like the nutrition transition model. To get to know different local scenes, I split my time between living in Osu, a popular neighborhood in Accra, and Tema, the city that neighbors Accra. In the cosmopolitan neighborhood of Osu, I quickly found the Ghanaian local food movement, the topic of Chapter 2, through everyday interactions at restaurants and markets. Chapter 2 draws on participant observation and 12 semi-structured interviews with members of this movement, including chefs, bloggers, farmers, nutritionists, and entrepreneurs. Participant-observation included visiting a weekend farmers market, attending local food banquets available to the public, and frequenting local-food branded restaurants and cafés. Living in Tema, I spent time with my neighbors, cooking, shopping, and at church. My conversations with them developed into Chapter 3, which explores how everyday people account for new diseases. It draws on 25 semi-structured interviews with residents and 5 oral histories with community elders. For both case studies, I transcribed my interviews and field notes and inductively coded transcriptions using NVivo software. This was in an iterative multi-round process centered around the identification of the key themes that shape my arguments.

Chapter 3 is also informed by archival records on the city of Tema. I accessed these at the Public Records and Archive Administration Department (PRAAD), Accra, and at the Tema Development Company archives (TDC), Tema. At PRAAD I

searched for records on food, health and nutrition in Tema from c1900, when there were many national-level surveys being conducted across present-day Ghana. At TDC I accessed development plans and marketing documents for Tema, dating from c1945, when the company was established.

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Figure 1: data collection

Results

Chapter 1 explores the nutrition transition model, the dominant descriptor for dietary change in the Global South. The model assumes that patterns of dietary change in the Global North – namely the shift away from indigenous diets and toward processed convenience foods – can be used to predict future dietary changes universally. While the nutrition transition model has been useful in empirically describing patterns of change, its theoretical origins and the logics that it implicitly advances remain largely unanalyzed. I find that the model elevates western hegemonic norms privileging a linear, universal progress narrative. Tracing the genealogy of the model to uncovers how this narrative emerges from the model's grounding in two other transition models – the demographic and epidemiolocal transition models – that are based on logics of modernization theory. As such, the

model risks elevating western norms around what foods and bodies are acceptable and dismissing those that don't fit. This can limit the way these populations in the Global South conceptualize their own food futures.

Chapter 2 explores other ways to conceptualize food transitions outside the mainstream narrative. I analyze the Ghanaian local food movement, which disrupts the supposed forward march of change by looking back in time to revitalize local and "traditional" Ghanaian foods. I draw on semi-structured interviews with members of the movement – chefs, food entrepreneurs, social media influencers and food writers – as well as participant observation at farmers markets and food events. I find that while the Ghanaian local food movement presents as if it is about local food, it also embodies the characteristics of culinary cosmopolitanism, embracing food from various cultures both within and outside of national borders. I argue that the Ghanaian local food movement appropriates the largely western notion of localism in this postcolonial cosmopolitan context, advancing a new politics of localism. In this new localism, openness to hybridity overcomes common pitfalls of exclusivity and inward-looking that plague other local food movements.

Chapter 3 explores how people in an at-risk neighborhood in Tema account for increases in new diseases. Mainstream public health research, policy, and programming point to urbanization, and accompanying changes in diet and lifestyle as the primary causes for these new diseases. I expand such explanations by considering how residents experience and account for change in other ways. I find that they point to chemical fertilizer as a source of illness, which is surprising because

there is nearly no evidence connecting new diseases to chemical fertilizers. I analyze this preoccupation with chemical fertilizer as a type of metaphor, where chemical fertilizer is a stand-in for broader concerns about modernization and urban change. Tema's history of development was particularly rapid and violent, and my interlocutors' focus on chemical fertilizers may be a way of making sense of these larger phenomena. Yet also, chemical fertilizer as a metaphor is both hybrid and incomplete. It is hybrid because my interlocutors also account for new diseases by reiterating mainstream causal factors. It is incomplete, because although they are concerned about urban changes, they don't pine for a rural past.

As local and global attention to food and health transitions in Africa are just starting to pick up speed, a more nuanced understanding of the problems can help make solutions more specific to the history and context of Ghana.

CHAPTER 1:

Troubling the Nutrition Transition Model

Introduction

On a warm evening in Accra at the end of the rainy season of 2021, I sat outside a coworking space with an acquaintance, Emmanuel[1], speaking about changes in food and health in the city. Emmanuel is a young professional in his 30s and is well suited to speak to these changes. He is a lifetime resident of the city and he studied a bit of nutrition, a bit of the fine arts and culinary arts, and now runs his own successful catering businesses. Being in the food business, he was tuned-in to the food pulse of the city: what people were eating, what dietary concerns to cater to, what trends were on the horizon.

I had asked Emmanuel to speak with me as part of my research on the dietary and health changes unfolding in Accra. At that time, my understanding of these changes was informed largely by published research in the field of public health and international development, framed in terms of something called the "nutrition transition model". This model is the hegemonic descriptor for nutritional change and describes how nutrition transitions are occurring rapidly and dramatically across countries like Ghana. The model purports that Ghana is transitioning towards high rates of diet related illness like diabetes and heart disease, fueled by its rapid economic development and urbanization. The model speculates that traditional foods

[1] This is a pseudonym to protect my informant's identity.

are being left behind for cheap, imported processed foods. These changes are reflected in national-level data which shows that rates of diet related disease are skyrocketing. Speaking with Emmanuel, I was interested in testing some of the model's presumptions against his everyday experience.

Emmanuel had not heard of the nutrition transition model, which is understandable for someone who does not work in public health. But he was familiar with many of its suppositions. He noted that many of his clients were hypertensive and/or diabetic, and thus requested particular meals low in sugar or salt. He also observed rapid urbanization, recalling how his neighborhood is now so much denser than when he was a child. But other suppositions, he pushed back on. When I asked his perspective on the loss of traditional food, he challenged it with an anecdote. He told me about a growing demand for his new twist on *kontumere*, a traditional stew made from the leaves of cocoyam, an indigenous tuber. He noted that people were falling out of the habit of eating old-fashioned *kontumere* so he livened it up and presented it as a pesto. Same ingredients, different preparation. Emmanuel asked: so are we losing traditional foods or reinvigorating them?

Emmanuel added that some of his clients dismissed his *kontumere* pesto as a "diet" food. He said many of the women he served celebrated their weight, or even tried to put on more, citing standards of "African beauty" that embrace corpulence. I followed with a question about the culture of fast food as a potential competitor to his business. Emmanuel paused to ask back: "well, what *is* fast food?" Two of his friends who were seated nearby inserted themselves into the conversation. One argued that

the KFC joint down the street was typical fast-food, while the other pointed out how the *kelewele* kiosk down the street that fried plantains on a table fashioned from an overturned oil barrel was both "faster" that KFC, and also "more fried". They both agreed that KFC was becoming more popular, but this may be a good thing if it broke folks' greasy *kelewele* habits.

I came away from the conversation with a curiosity about the kind of dietary change Emmanuel described, which certainly felt different from the dominant nutrition transition model I had so long read about. It wasn't that he had challenged the perfunctory data points I had provided about urbanization and rates of new disease. It was the way that his responses exposed and challenged some of the underlying presumptions baked into the nutrition transition model. The dominant model led me to be concerned about the loss of traditional foods, a fattening population, and the corporatization of foodscapes, among other things. Within these concerns there were presumptions and normative values: modernization was expected to march forward leaving traditional ways behind, new trends of corpulence should be corrected, and corporate expansion is inevitable and complete. Emmanuel challenged these presumptions and the values they implied. His new twist on *kontumere* suggested that traditional ingredients might, in fact, have a prominent place in modern cuisine. His description of women who enjoy growing fatter challenged the universal demonization of corpulence. Meanwhile, his discussion of KFC and *kelewele* suggested that western corporate foods might not be as novel nor as inevitably competitive as generally thought. This led me to ask myself: what norms and values

are advanced by the seemingly objective and descriptive nutrition transition model, and how might they be contorting broader conversations and action around food and nutrition in places like Ghana?

While recognizing the public health motivation to use the nutrition transition model to promote better diets and health, this chapter is oriented towards a different set of stakes. I draw from science and technology studies (STS), which assert that public health frameworks are more than simply descriptive. Rather, the narratives they paint and the discursive meanings they advance both shape and are shaped by society (Murphy 2017). I trace the genealogy of the nutrition transition model to show how it emerges from parallel models that are explicitly based on frameworks of western determinism and modernization theory. Then I consider the limits to the nutrition transition model, arguing that its adherence to western determinism carries a risk, specifically for populations in the Global South. The model risks elevating western norms around what foods and bodies are acceptable and dismissing those that don't fit. This can limit the way these populations conceptualize their own food futures.

Troubling theories of transition

Critical development scholars have exposed the empirical inaccuracies of linear progress narratives around transitions in food and health. In a general sense, these scholars argue that the effects of globalization on diets are not linear because there are far too many interacting factors (Himmelgreen et al. 2014, Dodd 2016).

Some show how some changes popularly framed as modern occurrences actually began a long time ago. In her study of East African food culture, Raschke (2008) argues that while the simplification of the East African food culture is most apparent today, it actually occurred over the past 400 years, since the onset of colonial occupation. Troubling assumptions about the pace and order of change in Ghana, Agyei-Mensah and de-Graft Aikins (2010) argue that stages of epidemiological change in Accra overlap, rather than proceeding in a singular sequential manner. For example, while models like the nutrition transition speculate that infectious diseases were replaced by chronic diseases, they show how these sometimes existed at the same time. Other studies show how cultural preferences make for nonlinear patterns of change. For instance, studies from India expose that while the nutrition transition model supposes an increase in protein consumption over time (as part of the shift from receding famine to non-communicable disease), cultural religious norms in India prohibiting consumption of beef tend to override this projection (Fourat and Lepiller 2017, Nichols 2017, Finnis 2006).

Critical development scholars also critique the progress narratives that tend to inform transition models, for the way they overwrite other futures. Progress narratives can assume a particular trajectory or endpoint and thus rob people of their agency in defining their own solutions. In her study of obesity in Guatemala, Yates-Doerr (2015) argues that the healthcare system frames those suffering from modern diseases as "not quite modern enough" to master the refinement or restraint required to prevent these illnesses. Placing people along a progress narrative, rather than seeking to

understand their contextual realities, strips them of their agency in defining and addressing their problems. Furthermore, a teleological progress narrative can paint a false dichotomy between the modern and the traditional and detract from potential solutions embedded in "old" ways. In her work on new diseases in Senegal, Polykett (2022) argues that in some contexts, the "modern" foods associated with diet related disease can simultaneously be culturally associated with healing and metabolic repair. At times the new and the traditional may be inextricable; to treat them as otherwise simplifies their use and meaning and forecloses productive solutions (Vaughan et al. 2021).

While critical development scholars shed light on all the things that transition models may overlook, science and technology studies scholars consider the political work of applied models. Murphy's (2017) work on the demographic transition model is particularly relevant. The demographic transition model shows how birth and death rates both decrease as societies "advance". Tracing the genealogy of the demographic transition model, Murphy exposes how it emerged on the heels of the period in which eugenics dominated the field of demography. She finds that the racist logics of eugenics are not so far removed from the demographic transition model. Rather, the model offers a new way to advance racist thinking and policies, but this time cloaked in the language of economy rather than biology. The demographic transition model, in the way that it maps populations on a curve of "development", reproduces racial evolutionary logics by placing some bodies as more forward in time than others. According to the model, any bodies behind on the curve were "out of time with the

forward orientation of white economic futures" (11). In this sense, the model is a new way of legitimating the quantification of differential life worth; the work that eugenics used to do. For Murphy, "race is the grammar and ghost of population" (17). I use Murphy's framing to explore how the nutrition transition model has its own grammars and ghosts. Specifically, I draw on the way that Murphy teases out the persistence of racial violence, but under another name: "[ra]ce did not have to be named in order to enact racist practices" (12). Similarly, the nutrition transition model still advances damaging logics, without naming them explicitly.

Methods

This paper emerged as part of a broader project on food and nutrition change in Ghana, and it was informed by over three years of research alongside nutrition development projects in Senegal. Between 2015 - 2016 I worked as a consultant within the Poverty Health and Nutrition Department of the International Food Policy Research Institute based out of Dakar, Senegal. In 2020 I was a US Fulbright student fellow with a United States Agency for International Development nutrition-for-agriculture project in Senegal. In 2021 I worked in Ghana with a Global Health Fellowship of the Fogarty Center of the National Institutes of Health under the supervision of the University of Ghana, Department of Nutrition. These experiences exposed me to the world of international nutrition and public health and the discourses that define this world.

I began this project with a discourse analysis of reports and programs that use the nutrition transition model. I aimed to understand the types of narratives that the model advances. I selected 20 key reports and programmatic documents that were published within the last 10 years, from international organizations including UNICEF, WHO, and the UN Food Systems Summit. I inductively coded these documents in NVivo for emergent themes.

My discourse analysis exposed a strong narrative of western deterministic logics. To understand this better, I embarked on a literature review to trace the history of the nutrition transition model and the two models that preceded it: the demographic and epidemiological transition models. I draw on peer-reviewed papers that describe, apply, and critique these models. Papers that describe the models include selections from the broader bodies of work of the authors of the models (Frank Notestein, Abdel Omran, and Barry Popkin). Papers that apply the models include articles that test the models against the experiences of various countries in the Global South. Critiques mainly draw from papers published in the field of the history of medicine.

The nutrition transition model and its hegemony

The nutrition transition model, developed in the 1990s by economist and nutritionist Barry Popkin, dominates research and policy agendas across the Global South. The nutrition transition model describes an easily understandable historical arc. In early human history, societies struggled to feed themselves, but with modern developments and technologies, food and health improved. However, aspects of

modernization and urbanization have since backfired, causing unhealthy diets and diet related diseases. The solution, the model posits, rests in societal changes that embody an ideal modernist future. This future is advanced by behavioral and policy changes. In this future people eat healthy diets with plenty of fruits and vegetables, live active lifestyles, avoid chronic diseases, and live to an advanced age. Attesting to the model's influence, Popkin's seminal 1993 publication "Nutritional Patterns and Transition" published in *Population and Development Reviews* has been cited over 1,000 times, according to Google Scholar. Since this initial publication, Popkin has published over a dozen scientific papers on the topic, and the concept has since been developed and refined by other researchers (Popkin 1994, Drewnowski and Popkin 1997, Popkin 1999, 2001, 2002, 2003, 2004, Popkin and Gordon-Larsen 2004, Popkin 2009, 2015, 2017, Popkin, Corvalan and Grummer-Strawn 2019).

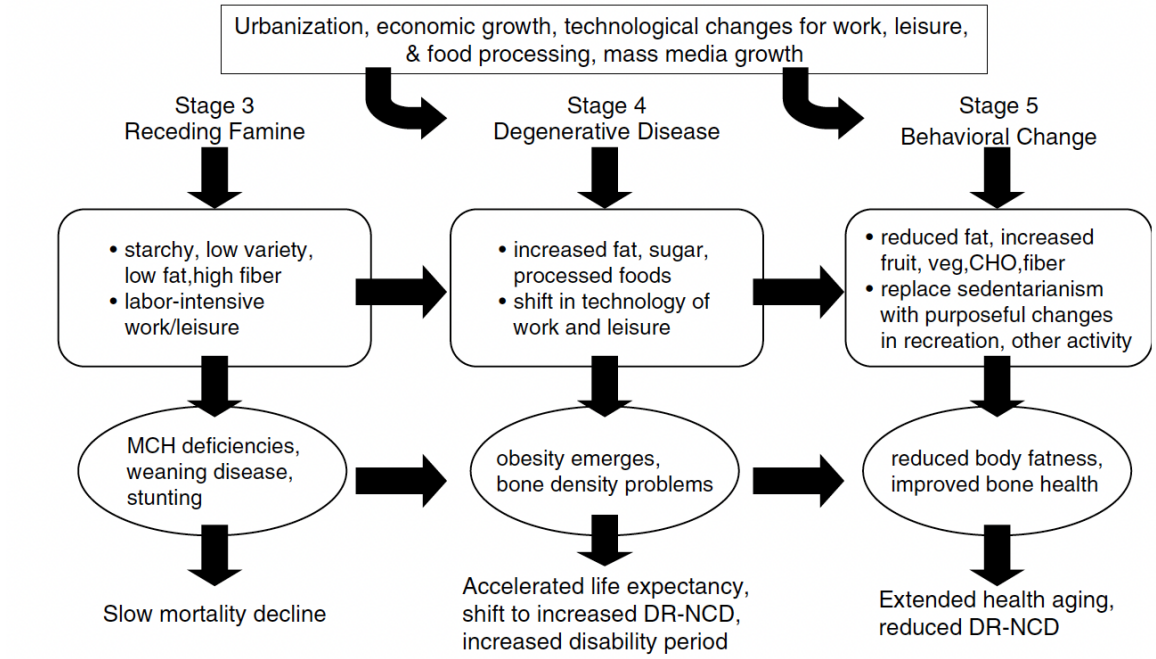


Figure 1: The nutrition transition model
(Popkin 2003)

The original 1993 publication, as well as subsequent iterations of the model, depict the nutrition transition graphically (Figure 1). In these figures, the transition is divided into successive historical stages that progress chronologically from left to right. After the initial two stages of "collecting food" and "famine", (not pictured in Figure 1 to focus on a more relevant contemporary timeline) the stages progress to "receding famine", "degenerative disease" and "behavioral change". All stages are driven by the forces of modernization: "urbanization; economic growth; technological changes for work, leisure and food processing; mass media growth." Each stage is characterized by a certain type of diet. It begins with a stage defined by a rather meager diet: starchy, low-variety, low-fat and high fiber. It develops into a diet of

comparative excess with an increase in fat, sugar and processed food. In the final stage, diets arrive at an ideal state characterized by reduced fat and increased fruit and vegetable consumption. The stages are also characterized by certain types of health problems or outcomes that range from nutrient deficiencies to obesity. They are resolved in a final a stage characterized by health and long life.

The stated goal of this descriptive model is to chart broad changes in dietary patterns to better understand the causes and consequences. This is framed in a general sense, in terms of improving health globally:

> My purpose in writing this piece is to help the nutrition community understand (1) how rapidly the system underlying what we eat has shifted, (2) how these shifts are affecting human health across the world, and (3) how these changes have shifted the ways countries are attempting to encourage healthier diets using the policy options they have available to them (Popkin 2017: 73)

The model is most commonly applied to analyze countries in the Global South that are purportedly on the cusp of the phase of degenerative disease: "understanding this topic is important for planning a strategy to prevent obesity and its complications in the developing world" (Popkin 2004: 140).

Popkin takes care to consider geographic complexities that influence how the model might play out differently in different areas (Popkin 1994). "The progress of dietary change throughout the world does not necessarily replicate the pattern of nutritional change that has occurred in high income countries" (Popkin 1994: 287) For example, he outlines various versions of the model based on geographic categories that include: the "Western high-income model", "Japanese and Korean

accelerated model", "Rapidly growing Asian countries", "Latin American pattern", and "Africa and the Near East" (Popkin 1994). He applies the same basic model to each case but notes how it may unfold in disparate ways based on different diets or income distributions.

The data informing Popkin's original work is primarily national-level surveys, and some municipal-level surveys. Particularly in his first decade of publications, Popkin draws on data from the national-level China Health and Nutrition Surveys, presumably because of the scale and availability of this data, and because China's rapid economic growth makes it an ideal candidate to study such changes (Popkin 1993, 1994, 1999). His publications consistently focus on low- and middle-income countries, the assumption being that transitions have largely already happened in wealthier countries, and concern should be oriented to areas where the deleterious effects can still be curbed. Other scholars in the fields of public health and demography use Popkin's model to describe transitions in various countries across the Global South (Rivera et al. 2004, Santosa et al. 2014, Yadav and Arokiasamy 2014). These scholars test trends in national-level data against the model and use the model to narratively describe the changes they see. Particularly when writing about the future "Stage 5", where diet related diseases are reduced and healthy populations achieved, Popkin tends to rely on a standard set of exemplars. He often refers to the case of Norway in the 1990s which administered national-level campaigns to reduce heart disease and obesity, among other diet related diseases (Popkin 1994, 1999). He frequently references The Mauritius as an example of a low-income country that

launched a successful comprehensive health promotion program that reduced hypertension and sedentarism (Popkin 1994, 1999).

The nutrition transition model has been widely adopted within fields including nutrition, public health, demography, epidemiology, and international development. A leading public health journal, *Public Health Nutrition* lists over 3,000 published articles that include the term "nutrition transition" in their title or abstract. In 2019 *The Lancet* came out with a special issue on the "double burden of malnutrition", referring to the coexistence of under and overnutrition. The publication focuses on the nutrition transition in the context of a "changing nutrition reality", explored in a series of seven articles from biological, policy and economic perspectives. Relatedly, the 2019 EAT Lancet Report – the final product of an influential study group convened by *The Lancet*, the Commission on Food in the Anthropocene – explicitly addresses solutions to rapid and unchecked nutrition transitions, detailing a vision of the final stage of the nutrition transition in which people consume healthy diets rich in plant-based foods. The model has also made waves in programmatic and policy realms, featuring prominently in the agendas of UNICEF, WHO and the UN Food Systems Summit (WHO 2016, WHO 2017, WHO 2020, Webb et al. 2021, EAT 2019).

The nutrition transition model is a highly influential resource within the public health and development community of scholarship and practice. One of its primary purported contributions is its universal applicability, as evidenced by its broad application in the field, its expansive datasets and its widespread influence on policy and programming. But if the model is really so universal then why, in my

conversation with Emmanuel, did he invoke so many questions that challenged its applicability in Ghana? Whether intentional or not, Emmanuel's reaction pushes back on an underlying narrative that advances a kind of western determinism. The origins, persistence, and limits of this narrative are what guides my in-depth exploration of the nutrition transition model's history and present-day implications.

The genealogy of the nutrition transition model

Beginning with his first publications on the nutrition transition model, Popkin acknowledges how the model emerged from, and is intertwined with two other models: the demographic transition model (c1940), followed by the epidemiological transition model (c1970) (Popkin 1993, 1994, Drewnowski and Popkin 1997, Popkin 1998). These two preceding models explicitly advance the logics of western determinism, which persists in the nutrition transition today.

The demographic transition model and modernization theory

The demographic transition model describes how as societies modernize, birth and death rates decrease. The model was a key contribution to demography and population studies in the 1940s-50s. While demographer Frank Notestein is largely credited for the model based on his 1945 article "Population, the Long View", it builds on the work of other demographers dating back to the early 1900s (Notestein 1945, Tolts 2019). The best-known forerunner is arguably American demographer Warren Thompson who published a study "Population" in 1929 that ranked groups of

countries according to different rates of population growth, based on rates of fertility and mortality (Thompson 1929, Kirk 1996). Of particular concern to Thompson were countries characterized as "Malthusian" whose birth and death rates were high, or "not controlled".

Though the model's origins date back to the turn of the century, it was not popularized until the mid 1940s. In their parallel accounts of the birth of the demographic transition model, historians Hodgson (1998) and Szreter (1993) speculate that during this time, the post-war period provided a fertile political climate for its reception. Keynesian economics advanced a new degree of economic and social planning by the government. This aligned with the demographic transition model's projections of development patterns, which could be applied to inform social and economic planning. A more popular explanation for the model's popularity at this time points to the ways that the politics of the Cold War aligned with the model (Szreter 1993, Frey 2011, Murphy 2017, Weisz and Olszynko-Gryn 2009, Demeney 1998). The Cold War-era perceived threat of socialism from the east was reinforced and interwoven with neo-Malthusianism ideology, a growing fear about the "population problem". There was concern that the global population was quickly becoming ecologically and economically unsustainable as populations in the Global South were expanding. Fears that these Global South populations would consume all the resources were coupled with Cold War fears that these hungry populations would turn to communism en masse, threatening the global world order. During this period, the demographic transition model was influential in informing policy and

programming at the international level. The model validated the notion that populations needed to be reduced *before and so that* modernization could take place:

> The idea of demographic transition has continued to provide both a ready-made rationale for political activism and a convenient projection tool for forecasting demographic futures under varying assumptions, as to policy effectiveness….it is this utility for the family planning industry that helps to explain the survival and persistence of the idea for demographic transition (Szreter 1993: 686)

Critical historians have described demographers not as impartial scientists, but as actors intimately intertwined with politics and policy: "their task is not just to interpret the world, but to change it" (Demeney 1998: 455).

The type of world that was being advanced by population control explicitly promoted hegemonic capitalist western growth. Underlying this paradigm is modernization theory, which emerged in the 1950s and judges whether societies are modern according to how closely they share the characteristics of a western industrial society. Modernization theory draws on interpretations of classics including Karl Mark and Emile Durkehim, and was taken up by sociologists of the time, the most well-known being Talcott Parsons (Bernstein 1971). Its emergence was also shaped by the politics of the post-WWII period, when western countries were experiencing unprecedented growth while many countries in the Global South struggled with poverty and instability. At this time, modernization theory aimed to explain how and why some countries were economically successful and others not.

Modernization theory defines modern society as one which has successfully competed for space and resources and is able to control its environment to its

advantage. It assumes that progress occurs in a linear fashion, working towards a singular optimal endpoint based on a distinctly western definition of development. This concept of progress is understood to have distinct sequential stages that all societies follow: these are detailed in Walter Rostow's, *The Stages of Economic Growth: a Non-Communist Manifesto* (1960).

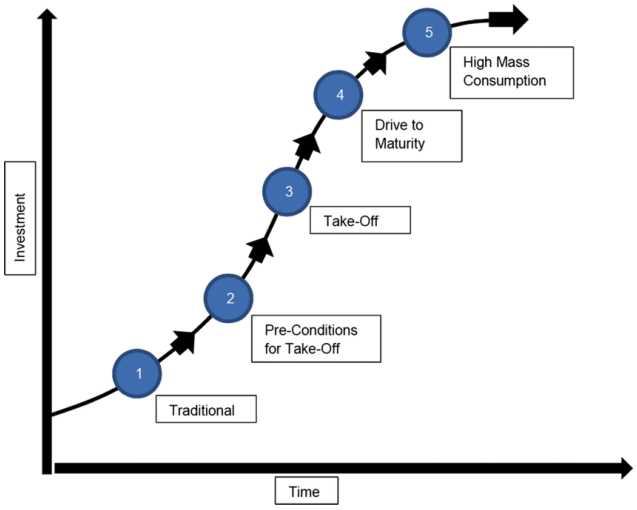


Figure 2: Rostow's stages of economic growth (Brand and Drewes 2021)

As depicted in Rostow's stages (Figure 2) starting from "traditional societies," all societies are presumed to work towards a "take-off" to "modernity" and "maturity" until they reach a final capitalist stage, marked by high mass consumption. Based on the title alone – *a Non-Communist Manifesto* – it is clear that this line of thinking is committed to advancing a western hegemonic order. To drive this home, the theory emphasizes the unique relationship between democracy and economic development

(Lipset 1960). Related to this modernist vision, a telling typology developed by economist Everett Hagen frames "modern man" as dynamic, intelligent, skillful and universalistic whereas "traditional man" is interested only in the immediate, is superstitious and particularistic (Hagen 1964). Collectively, modernization theory values western economic features (urbanization and mobility), political features (democracy rather than traditional hierarchies), and cultural features (religion separate from philosophy) (Peet and Hartwick 2015).

The demographic transition theory is grounded in logics that were translated into a population control agenda that advanced a modernist vision of a western world order. As we will see, these western deterministic logics persist in the models that followed it.

The epidemiological transition model: a new life for population control

Just under thirty years after the development of the demographic transition model, in 1971 American-Egyptian epidemiologist Abdel Omran published "The Epidemiologic Transition: A Theory of the Epidemiology of Population Change". The main thing that separates Omran's epidemiological transition (Figure 3) from the demographic transition (Figure 4) is the addition of a new element: a shift in disease patterns. The model maps five stages that progress in chronological order and describes shifts in major epidemiological issues: from a predominance of infection and diseases related to undernutrition, to rising rates of non-communicable diseases. In their deep dive on the history of the model, historians Weiz and Olszynko-Gryn

(2009) describe it as a "citation classic" and it has been reprinted in 2001 and 2005 (Mackenbach 2022).

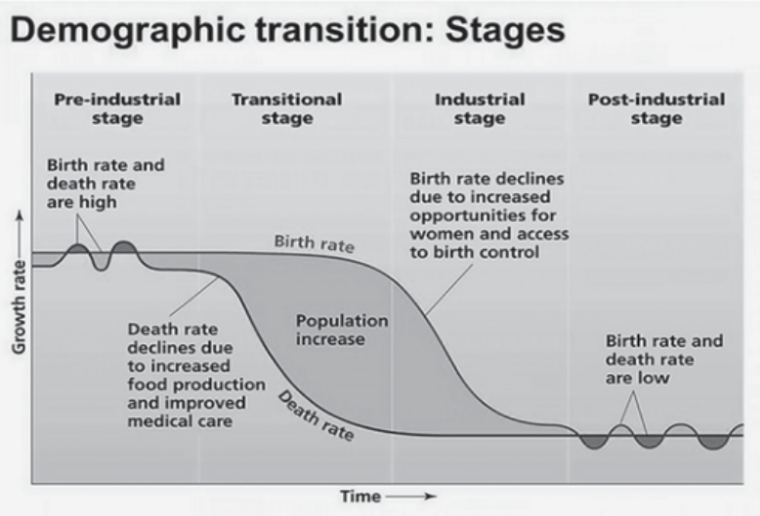


Figure 3: The demographic transition model (Murphy 2017)

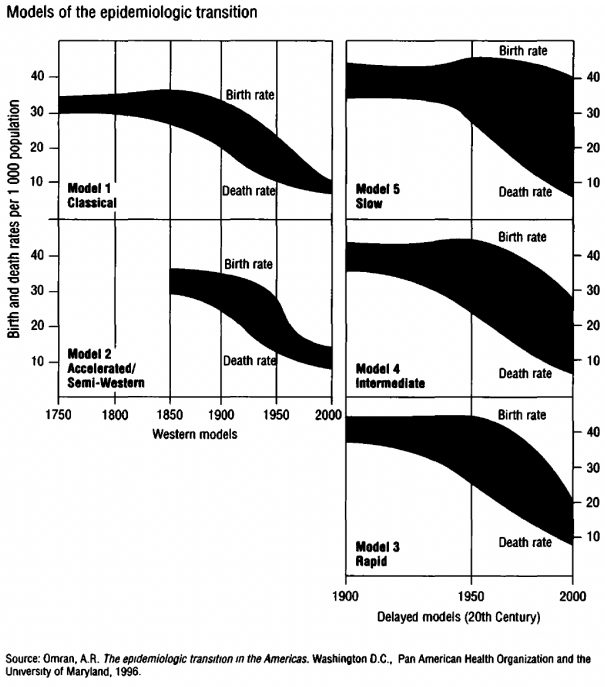


Figure 4: Models of the epidemiological transition (Omran 1998)

The assumptions that characterize the demographic transition model carry over into the epidemiological transition model. The epidemiological transition in Figure 4 is modeled for different speeds of transition for various regions, with a focus on the relationship between birth and death rate. Graphically, it shows the same pattern as the demographic transition model, mapping a bulging and downward sloping curve that depicts a basic demographic projection: birth and death rates fall as population increases. The epidemiological transition model repackages an identical demographic model of modernization under the label of epidemiology, without adapting or challenging any of the core structural assumptions.

At the time he developed his model, Omran was in conversation with the author of the demographic transition model, Notestein. Omran's model was clearly built on the base assumptions of the demographic transition model, but he pitched his framing as a more refined alternative. In particular, Omran addressed a critique of the demographic transition model: its economic determinism. The demographic transition model uses a singular pattern to describe development worldwide, which has been read as a deterministic or flattening projection of global development (Frey 2011). Omran aimed to correct for this by considering how different types of transition occurred in various regions of the Global South. The epidemiological transition model in Figure 4 shows five of these differentiations, as compared to the singular demographic transition model in Figure 3.

But was Omran solely motivated by addressing concerns of economic determinism? Probably not. Critical historians Weiz and Olszynko-Gryn (2009) argue

that Omran was truly interested in advancing his own professional agenda focused on population control, and he used the epidemiological transition model to advance this agenda. Omran worked during a time when population control programs were a mainstay of international aid and development. In 1968 the president of the World Bank, Robert McNamara, argued that population growth was having a "crippling effect" on economic development (McNamara 1973). During the 1970s the United States Agency for International Development made the creation of population control programs a prerequisite to receive any development funding (Packard 1997). Omran saw the demographic transition model as a powerful tool to advance population control, but he also saw that it was becoming somewhat outdated and vulnerable to critique. He imagined that reframing the model through the lens of epidemiology could improve its reception, essentially by medicalizing the issue of population control. Framed as a medical issue, population control is harder to critique. It simply becomes a necessary tool for public health.

Weisz and Olszynko-Gryn (2009) further the case for Omran's underlying commitment to population control by unpacking Omran's career and published work. While a professor in the 1960-70s at The University of North Carolina at Chapel Hill (UNC) – well known for producing work in population studies – Omran worked with a number of institutions oriented towards international family planning. He was associate director of Carolina Population Center; coordinator of the World Health Organization, Health and Fertility Studies; and a consultant for the Ford Foundation and the UN Trust Fund for Population Activities. As an example of his involvement,

Omran co-directed a major epidemiological study as part of the 1972 WHO Special Programme of Research, Development, and Research Training in Human Reproduction, which aimed to understand the interactions between family formation, family health and socioeconomic conditions. Not surprisingly, the study showed that family planning programs were effective instruments for improving the health of mothers and children in the Global South. It also emphasizes that cultural norms are malleable: women were willing to use birth control if they were told it was for maternal and child health (Omran and Standley 1976). Furthermore, according to Weisz and Olszynko-Gryn's (2009) analysis of Omran's substantial body of work – 150 edited books, chapters and articles – it was almost entirely devoted to topics of family planning, abortion and reproduction.

In this light, critiques of the demographic transition model as an economically deterministic advocation for western hegemony remain unresolved. The structure of the epidemiological transition model, Omran's relationship to Notestein's work, and his interest in population control indicate that the logics of the demographic transition model remain alive and well. The epidemiological transition model simply repackages a narrative of western determinism using a newly medicalized framework.

The nutrition transition model: reproducing its predecessors

Popkin was clearly influenced by the epidemiological and demographic transition models. His 1994 publication "The Nutrition Transition in Low-Income

Countries: an Emerging Crisis" features a graphic explicitly linking the models (Figure 5).

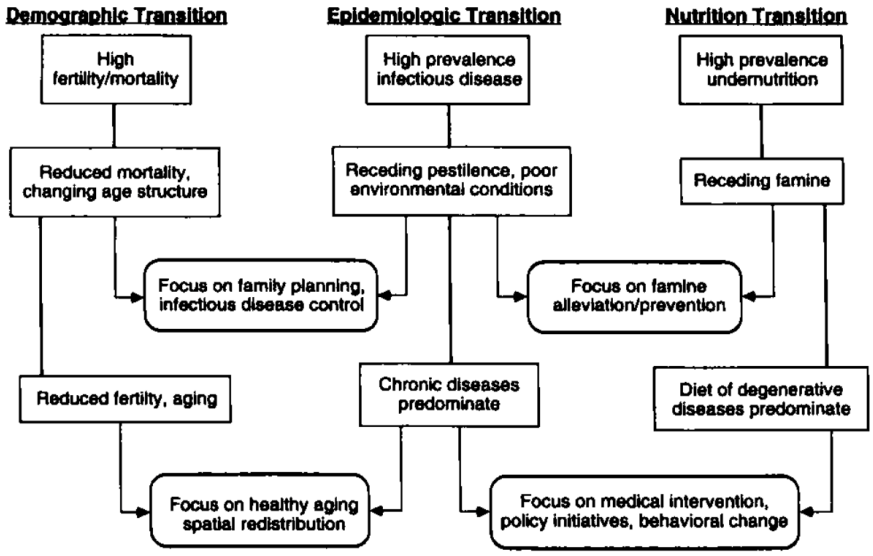


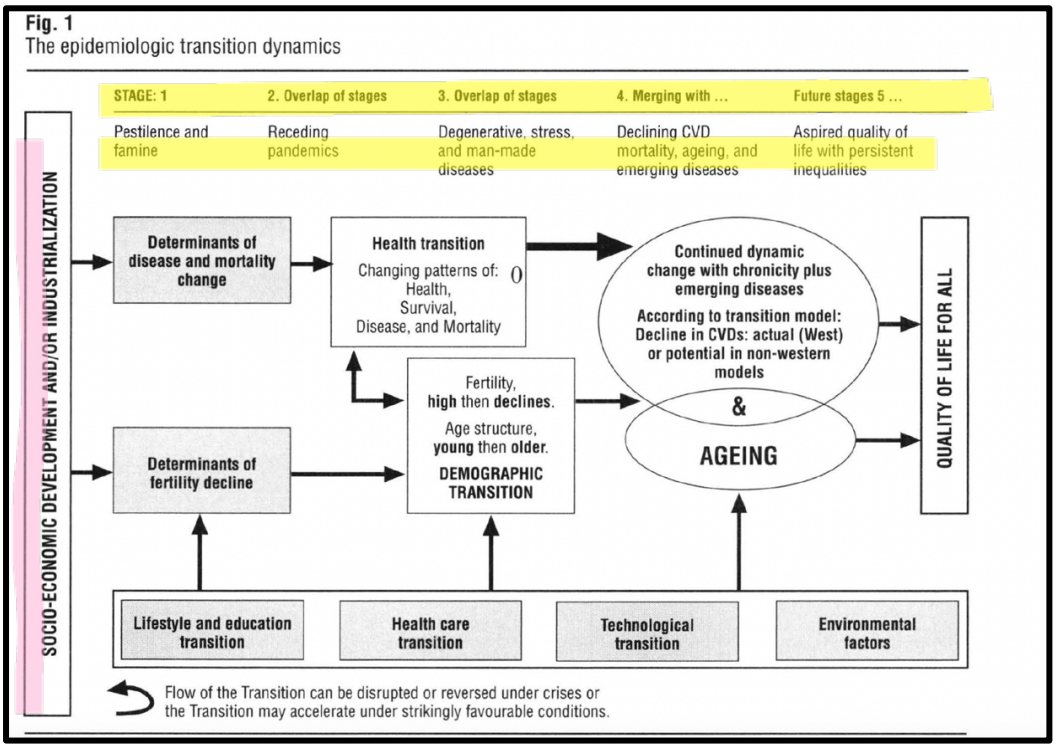
Figure 5: The relationship between the three models (Popkin 1994)

The first row of Figure 5 details the problems that each model addresses: fertility/mortality, infectious disease, and undernutrition. As these problems cascade downwards, the figure shows how they become interconnected. In this visual representation, the epidemiological transition model serves as a kind of bridge between the demographic and nutrition transition models. For example, in the third horizontal row, the demographic and epidemiological transition models both focus on family planning and infectious disease control, while the epidemiological and nutrition transition models focus on famine alleviation/prevention. The epidemiological transition model is the only one that focuses on both, bridging the

connection between the demographic and nutrition transition models. In this sense, the nutrition transition model is just one step removed from concerns of the demographic transition model like "family planning," i.e. population control.

Further emphasizing the similarities between the models, Popkin's 2003 article, "The Nutrition Transition in the Developing World" features a figure that is overwhelming similar to one in Omran's 1998 publication, "The Epidemiological Transition Theory Revisited Thirty Years Later." Figure 6 puts them side by side to show the similarities, specifically between the stages and causal factors. (Here I reprint the same Popkin 2003 figure from earlier in this paper to make it easier to compare with Omran's figure). Both models describe nearly identical progressive stages and resultant health outcomes, which are highlighted in yellow. Popkin's stages progress from: receding famine to degenerative disease to behavioral change. Omran's stages similarly progress from: pestilence and famine; receding pandemics; degenerative, stress and man-made diseases; declining mortality; to aspired quality of life. They also describe very similar causal factors, detailing various versions of modernization, which are highlighted in pink. Popkin details urbanization; economic growth; technological changes for work, leisure & food processing; mass media growth whereas Omran details socio-economic development and industrialization. The similarities between the causal factors and the stages suggests that the nutrition and epidemiological transition models agree on the *why* and *how* of transition: the process of modernization advances transition, which plays out in sequential stages that build to an aspirational future.

Epidemiological transition model



Nutrition transition model

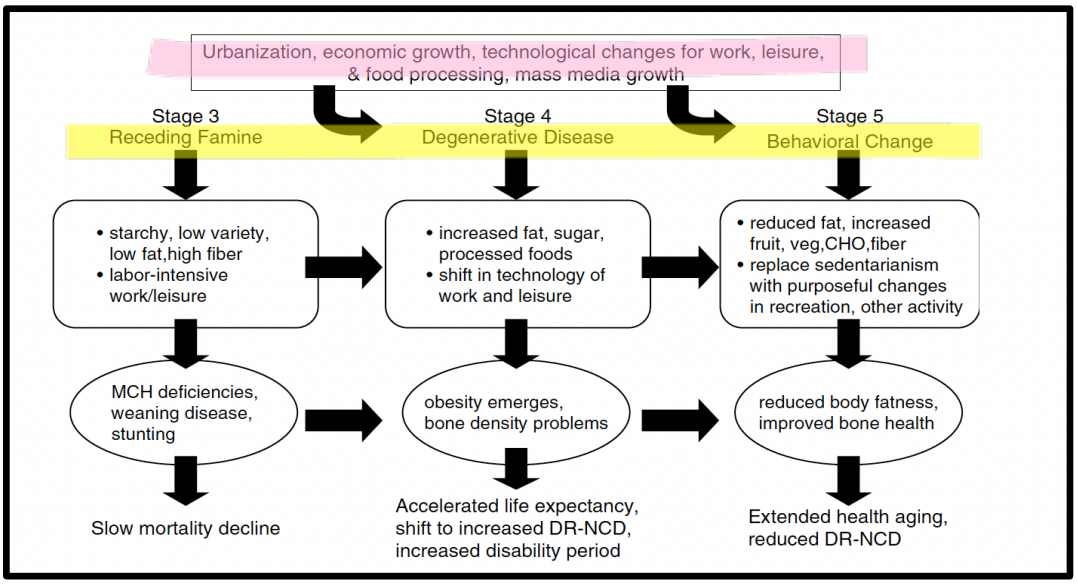


Figure 6: The similarities between the models color-coded in pink and yellow (Popkin 2003, Omran 1998)

Popkin shares many of the same observations and concerns as Omran. Both are preoccupied with the speed at which these transitions are happening in the Global South, as compared to the transitions that already happened in at a slower pace in the Global North (Popkin 1994, 1999, Omran 1971). Popkin maps out various versions of transitions for different country groupings like Omran does: Popkin groups countries based on their observed or projected transition speed and Omran uses country groupings that he labels slow, intermediate, and rapid (Omran 1998, Popkin 1994). Popkin's work stands apart largely due to his topical contributions around changes in food and nutrition. For instance, Popkin adds new detail about the types of vegetable oils, sweeteners, refined carbohydrates and animal-sourced foods that fuel modern dietary changes (Popkin 2015). Rather than challenging Omran's logic or approach, Popkin's work is largely additive.

Popkin and Omran were not only in conversation in their writing, but they also worked out of the same institution. Both served as faculty at UNC with professional affiliations at the Carolina Population Center. Omran joined UNC as a professor in the School of Public Health, Department of Epidemiology in 1966, where he stayed until 1984 (Weisz and Olszynko-Gryn 2009). In 1969 he became associate director of the Carolina Population Center (ibid). During his time at UNC, Omran overlapped with Popkin, who joined the School of Public Health in 1977, and would spend much of his career in the department of Nutrition. Popkin became a fellow at the UNC Population Center in 1978 and remains affiliated to present day. Popkin moved between disciplines, and his professional life is full of interdisciplinary

collaborations, particularly with epidemiology. At UNC, he established the Division of Nutrition Epidemiology, as well as the UNC Interdisciplinary Obesity Center, funded by the National Institutes of Health. It is no surprise that Omran and Popkin overlapped so extensively at UNC, considering that the institution has long been known for its work in population and demography, serving as an incubator for knowledge exchange around demographic issues in the Global South.

The nutrition transition model's underlying narrative remains aligned with many of the logics of the demographic and epidemiological transition models. The nutrition transition is just one step removed from the concerns of the demographic transition model (see Figure 5), and it structurally reproduces the epidemiological transition model's core suppositions (see Figure 6). Popkin and Omran were based in the same institutions, and Popkin's work does not challenge Omran's but adds onto it.

New packaging for the same model

Beyond the myriad structural and institutional parallels, there are also similarities in the ways that these models repackage a similar narrative so that it meets the concerns of the moment. For instance, as I explained previously, critical historians have argued that the epidemiological transition model uses the framework of medicine to repackage the demographic transition model and make it more palatable (Weisz and Olszynko-Gryn 2009). The epidemiological transition model did not substantially change the demographic transition model's assumptions, but it framed them in the rhetoric of medicine. In a similar way, the nutrition transition

model leans into a framework du jour to meet contemporary concerns, without actually challenging core suppositions. In this case the framework du jour is "food systems," referring to the network of relationships from farm to fork.

Food systems thinking emerged in the 1990s around the same time as the nutrition transition model, and it has slowly gained traction since then. In the 1990s the interrelated fields of health, agriculture and development (among others) were trying to conceptualize a more comprehensive approach (Gillespie et al. 2015). Scholars and practitioners were concerned by the growing complexity of nutritional problems, such as the novel coexistence of under and over-nutrition. As a result, collective attention coalesced around a shift towards more intersectoral and holistic approaches (Biltekoff 2013, Kimura 2013). Food systems thinking emerged as a solution, privileging a multi-scalar interdisciplinary approach (Gillespie et al. 2015, Gillespie et al. 2013).

Over the course of its lifetime, the nutrition transition model takes on the rhetoric of food systems. After Popkin's first decade of publications on the model, he started to shift his language away from demography and epidemiology and towards food systems. In his 1994 publication, "The Nutrition Transition in Low Income Countries: An Emerging Crisis", Popkin describes the nutrition transition as a result of "a rapid reduction in *fertility and aging* of the population, rapid urbanization, the *epidemiologic transition*, and economic changes affecting population in different and uneven ways" (1994: 285 emphasis added). Key concepts include changes in fertility and epidemiology. But in his 2017 paper, "Relationship Between Shifts in Food

system Dynamics and Acceleration of the Global Nutrition Transition", Popkin adopts a different framework. He subscribes to food systems rhetoric:

> Over the past two decades a remarkable change in the way the world's population shops and eats has occurred. Related to that has been a transformative change in the chain of food – from farm to fork – and the forces that control it….the broader system that is defined by the activities, infrastructure, and people involved in feeding the global population…is referred to here as our 'food system' (2017: 73)

Popkin's new rhetoric references food systems transformation as the casual factor, leaving behind his discussion of demography and epidemiology. He uses food systems language like "farm to fork." Notably, this rhetoric aligns the nutrition transition with a number of progressive connotations: food systems thinking and "farm to fork" are associated with concepts of sustainability and local food movements. This rhetorical pattern is repeated in Popkin's body of work more broadly. In his five most cited peer-reviewed articles from the 1990s, Popkin mentions the terms "demographic" and "fertility" an average of 12 times per article; in his eight most cited peer-reviewed articles since 1991 he mentions each term only once, on average (Popkin 1993, 1994, Drenowski and Popkin 1997, Popkin 1998, 1999, 2001, 2002, 2003, Popkin and Gordon-Lars 2004, Popkin 2004, 2015, 2017, Popkin et al. 2019). Beyond Popkin's publications, the nutrition transition model has been taken up in UN and NGO programs and reports focused on food systems (Herrero et al. 2021, UNICEF 2019, EAT 2019). The nutrition transition model's adoption of food systems rhetoric makes it appear timely and progressive, even in the absence of any changes to the structure of the model itself.

The limits of the nutrition transition model

Despite the passage of time and new packaging, the nutrition transition model's underlying logics have not fully departed from modernization theory. As such what are the limits of the nutrition transition model? The nutrition transition's adherence to western determinism carries a risk. The model risks elevating western norms around what food and bodies are acceptable and dismissing those that don't fit. This can limit the way populations, particularly those in the Global South, conceptualize their own food futures.

A graphic representation of the model illustrates my concerns. The cover art of the book "The World Is Fat: The Fads, Trends, Policies and Products that are Fattening the Human Race", by Popkin, is pictured in Figure 7. This book was hit when it was released in 2009, and it was translated into 11 languages. Figure 8 is the full version of the cover image, and it is featured on the homepage for the Nutrition Transition website hosted by UNC.

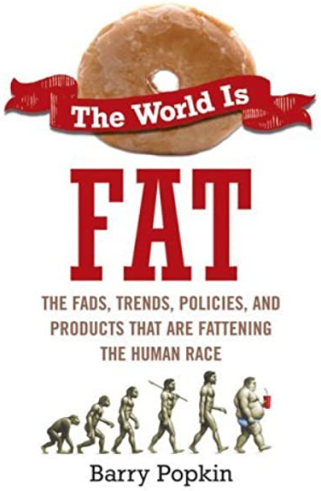


Figure 7: The cover art of Popkin's 2009 book "The World is Fat" (Popkin 2009)

Figure 8: The nutrition transition illustrated (https://www.nutrans.org)

In the graphical representation of the nutrition transition model shown in Figure 8, it is clear that momentum is moving from the left to the final stages on the right. The stages on the right are the only ones in which the man is represented as fully human, civilized, and desirable. In the early stages the figures are prehuman or presumably premodern, either as apes or naked men. Next, a naked man transitions into a fat white-underwear-clad man holding a big-gulp soda. Here, the fat man is clearly human, but his physique, dress, and his prop inspire distaste or disgust. This is emphasized when the man gives up on walking altogether and sits on a recliner with a

remote. After the chair, the fat man eats a sloppy piece of pizza. He begins to redeem himself in the next stage where he loses weight and munches on a carrot. In the following phases the man becomes more dignified, replacing his white underwear with jogging shorts. For the first time, the man wears shoes and begins to exercise. Then finally clothed and, arguably, fully civilized, he drinks from a water bottle.

The desirability of this endpoint is based on hegemonic western values: thinness, whiteness, and economic wealth. The desirable thin man is contrasted with fat-shaming images of the figures before him. The fat man is consistently undignified with bare feet and sloppy, degrading props. He wears only underwear which has an infantilizing effect. Only when the fat man becomes thin does he fully dress himself and move his body. The image also values whiteness, as the man changes from brown to white as he progresses. The brown bodies are associated with premodern, and even prehuman states, while white bodies enjoy the presumably advanced activities of jogging and healthy snacking. The image values economic wealth by presenting the fully modern man as a jogger. There are many ways the image could have depicted fitness, but by using jogging it elevates leisure activities and values of people with wealth.

Furthermore, the image emphasizes a binary between the modern and the traditional. The entire model mimics evolutionary development, harkening back to Hagan's distinctions between "traditional" and "modern" man (1964). The linearity of the model places the traditional on one side and the modern on the other. In this image there is only one way to be modern: by being white and thin. The image makes

it hard to imagine that the thin white modern man would ever interact with the brown man. Rather than being equals, the white man is the advanced version of the "other". This prohibits imagining traditional people interacting in or shaping the modern world.

Of course, this singular image cannot be assumed to depict all the nuances and complexities of the nutrition transition model. Notably, Popkin's work does attempt to address some of the concerns I have raised. For instance, Popkin proposes different versions of his model to adapt to the contexts of different countries (Popkin 1993, 1994, 1999). He also takes care to note that the stages of the transition can sometimes coincide or overlap (Popkin 1994). But as science and technology scholars remind us, scientific models can take on meanings or implications beyond those intended (Murphy 2017). In other words, despite its creator's intentions, and despite concessions to complexity, the nutrition transition cannot fully escape its genealogy.

This image does an incredible job of showing things that are otherwise hard to see: the norms or values that the model implicitly assumes, but never says outright. These norms and values are centered around western determinism. When these values drive conversations around food and bodies, there are real stakes. For instance, when "premodern" or "traditional" diets and foods are put backwards on a trajectory of development, they are dismissed as no longer worthy. Opportunities for hybridity, where traditional foods and knowledges inform contemporary diets, are lost. This has particular salience across the Global South, where hybridity makes up the fabric of cuisines, and where traditional knowledge can be an empowering form of resistance

(Polykett 2022, Vaughan 2021). When certain diets or foods are labeled as "modern" this universalizes a goal that may not universally meet people's preferences or needs. Similarly, when fat bodies are put backwards on a trajectory of development, it frames them as unworthy or incapable. Fat bodies become bad bodies and thin bodies become good bodies: virtuousness becomes legible through body size. Despite cultural or biological explanations for different body sizes, fatness becomes associated with being not-quite-modern-enough (Yates-Doerr 2015). This logic legitimates outside intervention, depriving people of the ability to define their own solutions, or standards of virtue. When thin bodies are put forwards on the trajectory of development, this universalizes one right way of being, even if it goes against cultural preferences or biological realities.

Conclusion: imagining other food futures

When a white man in spandex represents aspirational dietary futures (as he does in the graphic representation of the nutrition transition model), it raises the question: what other types of futures might be being overlooked? My initial conversation with Emmanuel that opened this paper, speaks to this. Revisiting my original goal, to test the nutrition transition model against Emmanuel's perception of change, I can imagine how his comments and concerns might visually map onto the graphic representation of the nutrition transition model.

Let's begin with Emmanuel's *kontumere*, which puts a spin on an indigenous cocoyam stew to create a fresh pesto. This food fits awkwardly onto the image.

Perhaps the naked brown man could be holding cocoyam stew, and the thin white man could be spreading pesto on some bread. But shouldn't, by Emmanuel's account, the man eating the pesto also be brown? And how could the image make clear that the stew and the pesto are two versions of the same thing, cocoyam leaves? Emmanuel also referenced clients who celebrate their fatness and reject diets. The image could add a fat brown skinned figure holding a prop signaling health and vitality. But what prop universally signals health and vitality? Emmanuel's friends commented on fast food: they said that some local foods were far greasier than KFC, and they weren't convinced KFC was really monopolizing the neighborhood. In that case, maybe the fat man should not be holding a big gulp but eating some of the greasy fried plantain *kelewele*. Collectively, this new image becomes somewhat of a mess. What it shows, is the near impossibility of defining which foods and bodies are advanced and which are behind.

If I were to speak with Emmanuel again, I would spend less time testing the presumptions of the nutrition transition model, and more time seeking to understand other imaginaries, about which I didn't even know how to ask.

CHAPTER 2:

The Culinary Cosmopolitanism of a Ghanaian Local Food Movement

Introduction

A new alternative milk made from a locally grown tropical almond; a three-course dining experience featuring tigernuts, unassuming legumes grown across Ghana with an earthy milky flavor; a new café named after a traditional smelly fermented paste *dawadawa* that seeks to celebrate, not retire the funky local spice. These are examples of a new direction in the food scene in Accra, Ghana. This organically-formed movement is advanced by chefs, food entrepreneurs, social media influencers and food writers who share the common goals of promoting local Ghanaian food to a broad, and often elite, audience.

To middle- and upper-class foodies in Accra, the growth of this movement is hard to miss, with new brands, events and markets popping up across the city. For example, the company advancing the new alternative milk made from tropical almonds invests in new plantations around Accra, and highlights the elevation of local, previously forgotten ingredients. The website homepage reads:

> Not only do we make the world's first tropical almond milk, but we are turning a neglected, highly nutritious nut into sustainable and delicious plant-based products that help protect our planet and transform communities in Ghana.[2]

[2] www.talmondfoods.com

A local chef and caterer with an Instagram following of over 6,000 describes his approach as "Eat Local, in Season & Sustainably"[3]. In the central neighborhood of Osu, a café menu's tagline reads "Celebrating local Ghanaian ingredients". Ingredients are being used in new ways: a skincare company launched in 2017 bases all its products in edible oils, particularly local shea butter. The company's Instagram tagline promotes ingredients sourced from Ghana "RAW Handmade Skincare Sourced from the WILD of Ghana 🇬🇭 so PURE YOU CAN EAT IT!"[4] Local food is certainly having a moment in the sun in Accra.

Accra is not alone in this. Over the past few decades, local food movements have reached the pitch of a near global fervor. Such movements have been thoroughly taken up in food studies literatures. Longstanding debates on the North American and European context of local food explore its political and cultural meanings. Local food movements, under the broader umbrella of alternative food, are often centered around the imagination of a more just, healthy, or sustainable system. Movements tend to be aligned with lifestyle values like fresh, diverse, organic, or slow. They can also promote more explicitly political values by opposing conventional agriculture. (Allen 1999, Allen 2010, Allen et al. 2003, Guthman 2011).

Regarding the Global South, literature on local or alternative food is more limited. Most looks at food sovereignty, tending to focus on rural peasant movements (Edelman et al. 2014). There is also a fair amount of work addressing fair trade,

[3] www.instagram.com/dela_acolatse
[4] www.instagram.com/skingourmetgh

though notably this scholarship tends to address food produced in the Global South for conscious consumers in the Global North (Friedberg and Goldstein 2011, Goodman et al. 2012). There is little discussion about so-called ethical consumption for and by people from the Global South, particularly in urban contexts. Scholars have recognized the dearth and lack of visibility of urban alternative food movements across the Global South, and in some cases sought to rectify this through case studies (Freidberg and Goldstein 2011, Abrahams 2010). Scholars have explored cases like community supported agriculture (Freidberg and Goldsetin 2011) organic farmers markets (Cody 2015), and informal markets (Abrahams 2010).

There is, however, a healthy body of literature that explores food scenes across urban contexts in the Global South, theorizing them as articulations of cosmopolitanism. Scholars use a wide variety of urban food scenes to study the role of food in defining a cosmopolitan identity. Some focus on how these scenes highlight unique histories of exchange and put cities on the map as cosmopolitan hubs (Cappeliez and Johnston 2013, Montefrio 2020). Others focus on how colonialism sets the stage for appropriations of foods and cuisines to create new cosmopolitan identities (Wilk 2006). There is an emphasis on themes of fusion, bricolage and "omnivorousness" (Johnston and Baumann 2007, Xu 2022).

While the Ghanaian local food movement presents as a movement about local food, as I will show, it also embodies the characteristics of culinary cosmopolitanism. I argue that the Ghanaian local food movement appropriates the largely western notion of localism in a postcolonial cosmopolitan context, advancing a new politics of

localism. In this new localism, openness to hybridity overcomes common pitfalls of exclusivity and inward-looking that plague other local food movements.

This paper is structured as follows. It begins with theoretical orientations, exploring the factors that define localism, and how postcolonial culinary cosmopolitanism can both reinforce these factors and also shake them up. Then following the methods, I incorporate the perspectives of participants and highlight how the movement advances a different type of localism.

Localism in food movements

There are many compelling arguments to be made for the value of local food: it supports the local economy, it is fresh and seasonal, it can foster community and relationships, and it can support environmental and human health (Allen 2010). Local food movements privilege food that is grown and processed nearby, and proponents of local food tend to assume that it is good, progressive and desirable. Local food movements gained ground in North America and Europe in the 1990s. Some local food movement participants see local food as a reaction to neoliberal ideologies, countering the arguably alienating and disempowering effects of globalizing food systems (Allen 2010). Local food is elevated and celebrated as an alternative way of doing business, connecting with your local farmer and nourishing yourself and your community. On the other hand, many food scholars see local food movements as a product of neoliberal ideologies (Allen 2010, Guthman 2008). Local food movements have been characterized as advancing neoliberal discourses of "responsiblization":

responsibility that would otherwise be shouldered by structural or governmental bodies is instead pushed on the consumer, tasking individuals to "fix" the food system through their economic choices (Watts et al. 2018, Guthman 2008, Guthman 2011). In this sense, local food systems are critiqued as not actually alternative to conventional food systems, at worst reinforcing them and best occupying a particular niche within them (Watts et al. 2018).

Scholars have also critiqued localism as "defensive" in the sense it "can be based on a category of 'otherness' that reduces the lens of who we care about" (Allen 1999: 122). A defensive localism is based in an exclusionary ethos, a protection of something presumably homogenous and static (Hinrichs 2003). In this line of critique, local is not an innocent term as it can house nativist sentiments and reactionary politics (Harvey 1996, Hinrichs 2000, 2003, Hassanein 2003). The local is seen as a "trap", in the sense that it is a false standard by which to gauge sustainability or equity (Born and Purcell 2006). Furthermore, when drawing from romantic or nostalgic ideas of an imagined agrarian past, it can lead to movements that are based on alternative standards of purity and perfection, which are vulnerable to corporate cooption (DuPuis and Goodman 2005). In response to defensive localism, DuPuis and Goodman (2005) call for a "reflexive" localism that takes into account ways that people's notions of "right living" and "right eating" are wrapped up in race, class and gender:

> Our real goal is to understand how to make localism into an effective social movement of resistance to globalism rather than a way for local elites to create protective territories for themselves. This requires

> letting go of a local that fetishizes emplacement as intrinsically more just (364).

DuPuis and Goodman call for rethinking the local not as a romantic move toward emancipation but an open inclusive and reflexive politics in place.

There is debate in the literate on local food about the ways that different types of localisms overlap, and their relative values. McEntee (2010) argues that different types of localisms can coexist in the same space. On the one hand, he characterizes "contemporary" local food, referring to food movements branded as local. The contemporary local advances values including environmental sustainability, supporting local economy, health and freshness, and rural character. Geographically, these tend to be located in farmers markets, community supported agriculture and natural food stores. They can coexist with "traditional" local food, referring to less visible and largely practical actions by people who have "always" grown their own food. The traditional is motivated by an arguably more practical desire: to obtain affordable and easily accessible food. Related, there is debate on the relative values of food movements that focus on symbolic, ideological or sensorial celebration of *food itself*, versus those that focus on local *food supply chains* (Watts et al. 2005). The movements that focus on food itself tend to be structured around celebrating the pleasures and flavors of local food. Those that focus on food supply chains tend to be more grounded in the structural elements related to sourcing, or even farm labor and farming practices. These differences tend to be taken up in debates about which localism is "stronger".

This paper moves beyond categorizing the boundaries of various localisms, to focus on the generative potential of open, incomplete and overlapping localisms. Hinrichs' concept of a diversity-receptive localism is useful in this regard for the way that it "sees the local embedded within a larger national or world community, recognizing that the content and interests of 'local' are relational and open to change" (2003: 37). This makes space to ask questions like: what is authentic local food and who decides? Rather than answering this question or setting new boundaries, this way of thinking makes space for a plurality of localisms with more diversified aims and potentials (Allen et al 2003).

Post-colonial culinary cosmopolitanism

While the Ghanaian food movement is rhetorically focused on the local, it also adheres to an ethos of *culinary cosmopolitanism*, embracing food of various cultural associations both within and outside of national borders (Montefrio 2020). The framework of culinary cosmopolitanism helps to show how the Ghanaian food movement appropriates the idea of local food to challenge geographical boundaries and focus on connection.

Scholarship on culinary cosmopolitanism emerges from a broad body of literature on cosmopolitanism. "Cosmopolitanism is generally understood as a disposition and an aptitude to embrace cultural differences across national borders" (Cappeliez and Johnston 2013: 433). Cosmopolitanism is often thought of as a kind of world citizenship valuing connection over division and sameness over difference

(Delanty 2006, Appiah 2006). The concept of cosmopolitanism has often been critiqued for being elitist, conjuring the image of a flighty "world citizen" enjoying the financial freedom and privilege to curate a multicultural multi-continent lifestyle (Appiah 2006). Ways to maintain the foundational values of cosmopolitanism while also moving beyond cosmopolitanism's cultural elitism, are articulated in scholarship on critical cosmopolitanisms (Delanty 2006), cosmopolitanism from below (Kurasawa 2004), ordinary cosmopolitanism (Lamont and Aksartova 2002), and postcolonial cosmopolitanism (Go 2013, Appiah 2006, Ostby 2018). While each of these approaches offers generative additions to cosmopolitanism, postcolonial perspectives are the most relevant to my study.

Postcolonial cosmopolitanism tries to realize the ideals that Europe initially pronounced, but then failed to deliver to citizens/subjects of postcolonial states. It advances terms like "civilization", "rights of man", "reason" and "liberty" that seek to elevate an aspirational human society (Go 2013). In articulations of postcolonial cosmopolitanism, Fanon argues that while the contradictions of colonialism cannot be foregone, they can be transcended in the interest of realizing a new humanism (Fanon 1952, 1961). This humanism puts an emphasis on human identity rather than divisive notions of colonial race or nation (Go 2013). In this sense, postcolonial cosmopolitanism advances the underlying values of cosmopolitanism, around connection and sameness, while explicitly acknowledging the damaging colonial notions that it must break down to achieve these values.

Cosmopolitanism is not just a set of intangible ideals, but a mode of everyday cultural consumption. As such, food is a vehicle for studying meanings of cosmopolitanism in everyday life (Cappeliez and Johnston 2013). The umbrella term of culinary cosmopolitanism has been particularly relevant recently as a framework used to study emerging urban, often elite food movements. Culinary cosmopolitans advance a new politics of "omnivorousness." This describes a kind of elite consumer who embraces a wide diversity of genres instead of subscribing to an old-fashioned elitist snobbery (Cappeliez and Johnston 2013, Johnston and Baumann 2007, Peterson and Kern 1996, West and Domingos 2012). For example, the politics of omnivorousness celebrates a fusion street taco over a classical French dish.

Even though the word "omnivore" refers to someone who eats everything available, cosmopolitan palettes are not open to simply anything. They are driven by ideas like authenticity and exoticism (Johnston and Baumann 2007). Through a cosmopolitan lens, to be authentic a food does not necessarily have to be locally produced. Afterall, cosmopolitan thought rejects a singular authentic artifact – "cultural purity is an oxymoron"– preferring to think in terms of hybrids and pluralities (Appiah 2006: 113). Food can be authentic based on its cultural relevance or popular uptake, rather than just its geography. This approach relieves some of the anxieties that shape conversations around authenticity in literatures on local food, which remain comparatively more tied to a defined geography.

Cosmopolitanism and food has a particular valence in postcolonial contexts, where foodscapes have been shaped by colonial histories of exchange and extraction.

Colonialism brought about unprecedented opportunities for exchange of foods, ingredients and cultures. The process of colonialism has been linked with the birth of many hybrid national cuisines, from Asian noodles inspiring European pastas to new world tubers that now make up African staple dishes (Wilk 2006). Processes of borrowing, merging and creolization make for interesting new cosmopolitan articulations (Wilk 2006). Though, such a rosy focus on the delicious outcomes of colonialism is sometimes contested. In her work on the food history of Ghana, Miller (2021) argues that we need to move away from a scholarly focus on colonial legacies, because it distracts our attention from the worthiness of foodways that were there before colonial times.

The question of whether the mixing that came from colonialism should be embraced or rejected further is debated in the literature. On the one hand, scholars argue that adopting foreign foods is an anti-colonial act (Miller 2021, Wilk 2006). By mixing cuisines and eating European foods, colonial or postcolonial subjects can achieve categorical equality with the colonials (Wilk 2006, Robins 2018). Similarly, in some postcolonial contexts, adopting European foods, supermarkets, or chain restaurants can be seen as a desirable form of economic growth (Wilk 2006). On the other hand, there is a kind of radical politics in postcolonial populations rejecting foreign food as a way of rejecting colonialism more broadly. This perspective is alive in movements across the African diaspora to "decolonize your diet". In these movements, cooks, scholars and activists celebrate food traditions from the continent, often elevating so-called folk foods to a high-profile stage (Harris 2011, Miller 2019,

McCann 2010, Mihesuah and Hoover 2019, Calvo 2015). The search for an exotic other through food can be a kind of "culinary colonialism" that some wish to reject (Heldke 2003).

Postcolonial culinary cosmopolitanism helps to fill the gaps where the literatures on local food fail to fully characterize the Ghanian local food movement. Concepts from cosmopolitan literatures, like the focus on hybridity, can expand the conversation on local food.

Methods

I draw on participant observation and twelve semi-structured interviews with members of the Ghanaian local food movement, both conducted in Accra, Ghana over a period of six months. Participant observation included visiting the Green Butterfly weekend farmers market, attending a series of local food dinners available to the public, and frequenting a network of restaurants and cafés promoting local wares. I interviewed chefs, bloggers, farmers, nutritionists, and entrepreneurs, among others, who see themselves as part of the collective movement to promote local Ghanaian food. Interviewees were initially selected via connections made through participant observation, and later with the aid of the Non-Governmental Organization (NGO) called The Ghana Food Movement, which hosts events to promote innovations in Ghanaian food, and provides a publicly available list of participants online. Membership in this network was not a prerequisite for participation in the study. Interviewees generally identified as middle and upper class and were based in Accra.

They were composed of three women and nine men, all adults under the age of 50, mostly young professionals in their thirties. Eleven of the twelve were Ghanaian citizens, a few had dual citizenship, and nearly all had traveled, studied, or lived abroad. All had completed a college education, and a few had advanced degrees. The Ghanaian local food movement is a project of the middle and upper class, which gave me unique insight into the articulations of an urban cosmopolitanism.

Interviews were semi-structured and audio recorded. Main themes addressed in the interviews centered around the following questions: What are the main factors that motivate your participation in the Ghanaian local food movement? What issues (generally and specifically) are you trying to solve? How does political consciousness factor into your work? Interviews and field notes were transcribed and inductively coded for themes.

A Ghanaian local food movement in Accra

The Ghanaian local food movement is based in the capital city of Accra, a rapidly growing urban metropolis bordering the Atlantic coast. Historically, Accra was the trading port of the Dutch West India Company, which was later purchased by British. By the 19th century Accra was the capital of the British Gold Coast, up until Ghana's independence in 1957. Material goods such as cocoa and gold put the port on the map as a key trade outpost. Since independence, Accra has been a regional cultural and financial hub. Accra is a dynamic and expanding city: the population of Ghanaians living in cities has doubled since independence (Yeboah et al. 2013). With

this rapid growth, Accra's foodscape has changed as well. Across middle and upper-class neighborhoods, supermarkets are easy to come by, processed foods proliferate across formal and informal markets, and fast-food chains like KFC have moved in. Popular media outlets have remarked on the "westernization" of Accra's foodscapes, citing the social status now associated with fast food consumption (Veselinovic 2015). These changes have not erased the existence of Ghanaian foodways but have brought a new concentration of foreign and fast foods (Battersby 2013, Andam et al. 2018).

The Ghanaian local food movement is grounded in a few sites throughout Accra – specialty weekend markets, restaurants and dining events – where foodies congregate, buy, sell and exchange their wares. Vendors explicitly incorporate localness into the identity of their business, emphasizing it in their marketing.

I frequented a weekend farmers market called the Green Butterfly Market, hosted in central and upscale neighborhoods in Accra. The market is not exclusively for food products but mixes in arts and crafts as well. The Green Butterfly Market tagline is "…local artisan and innovative entrepreneurs making their own products locally. Shop local!" [5] The market was founded in 2010 by a Ghanian entrepreneur Madame Yasmeen, who runs a soap business. According to her online blog, her vision was to create a space for local artisans to sell their wares, with a particular

[5] https://greenbutterflymarket.com

focus on women. After running a small market in a park for two years, the group caught the attention of the Goethe Institut, the international German culture center, and they formed a partnership. Since the beginning of the market, the directors insisted on vendors being residents, making local products, and emphasizing eco-friendliness. According to the market blog, it was the first market in Ghana to ban the use of plastic bags. Today selection criteria requires that vendors grow or make their own products locally "on the African continent", be residents of Ghana or another African country, and be a small to medium-sized business. On its website, the Green Butterfly Market advertises its "lifestyle brand in Ghana focusing on establishing and maintaining localized business cooperatives as means of empowering mostly women in our communities. We aim to spread eco-friendly culture in Ghana, and eventually to other parts of Africa."

When walking down the aisles devoted to food, I sometimes felt as if I was in a parallel version of a local farmers market in my home state of California. The Accra weekend markets have a certain farmer-chique aesthetic, with patterned tablecloths, kitschy blackboards, and a neighborly friendliness. The stands are peppered with local products, including fresh juices with creative names and trendy flavor combinations, a diversity of coffee roasters, optimistic seedlings for home gardens, and dried fruits packaged in stylish bags. Price ranges vary but are definitely on the expensive end of things. Among vendors, there is a kind of self-consciousness about price point, as one entrepreneur said: "we are still quite on the high in terms of pricing, we can't go much lower yet, but we are working to change that as we scale"

(Food entrepreneur 2). The patrons tend to be a mix of Ghanaian locals and expatriates coming from a middle- and upper-class socio-economic group: the significant contingent of white patrons contrasts with the exclusively Ghanaian vendors. While people come to do some shopping at these farmers markets, they also seem to come for the social experience of it: to chat, to exchange, to be seen. At one gathering, while waiting in line I fell into a conversation with a young man about his recent turn to veganism, and he shared some research he had recently done on the environmental impacts of his choice. At another market, I exchanged tips with a woman selling seedlings, about which herbs were best to grow on my urban balcony during the dry season. These exchanges felt easy and fluid, centered around a shared lifestyle and relationship to food. Like other patrons, I found myself at these farmers markets exchanging conversation, and, somewhat secondarily, picking up a few artisanal products.

While the Green Butterfly Market may seem to suggest that local food is special in Accra, local food is not particularly hard to come, practically speaking. On my way home from my visits to these local farmers markets, I would often stop at a separate open-air vegetable market to complete my food shopping. These open-air markets are ubiquitous throughout West Africa: large, high-density, high-volume, with sellers peddling their wares stacked on tarps on the ground, or on rickety tables covered by tattered cloth or umbrellas. They are divided into thematic sections that one could only navigate through experience or with the guidance of a local. Sections vary from fresh fruits and vegetables to used clothes, electronics, and bulk fabrics.

Much of the food sold at these markets is local. Though the origin of products is not formally advertised, the markets obviously follow agricultural rhythms, with piles of mangos or watermelons erupting during their respective seasons.

Clearly, local food and local markets have always existed in Accra and continue to thrive, regardless of the presence or absence of markets like the Green Butterfly. The local food scene at the Green Butterfly stands apart because of the way it advances an ideology of the local, with its versions of "Shop Local!" marketing. Notions of cosmopolitan hybridity emphasize how the contemporary and traditional need not be opposed: in Accra's postcolonial urban mix, it tracks that there are multiple and overlapping articulations of local food.

Another site of the local food movement in Accra is at public hosted dinners organized by up-and-coming chefs. Like the farm-to-table or regional banquets that I have attended in the US, these events feature local ingredients that are often reworked in trendy culinary ways. Some of these are organized by the NGO, the Ghana Food Movement, which hosts events around Ghanaian food[6]. Launched a few years ago by a Dutch woman with a background in the food business, this NGO is now run by a nearly fully Ghanaian team and seeks to bring together foodies from a variety of backgrounds. Other events were independently organized, such as a "West African dining experience". This featured a three-course menu that incorporated a small local legume colloquially called a "tigernut" into every course: from a creamy tigernut soup reminiscent of a coconut-milk based curry, to a distilled tigernut sauce across a

[6] https://www.ghanafoodmovement.com

mixed grill, to a creme brulée with cream of tigernut. Outside of events like this, tigernuts tend to be consumed as a snack, or in the form of juice, and this chef's reworking of the nut was meant to highlight or give new life to this local legume. At another banquet, the chef highlighted the ways that he elevated local ingredients and dishes, often in the form of street food refined. The main dish, a roasted chicken with creamed sweet potato, used *suya,* the signature spice for roadside grills. A handsome dessert was made with crunchy bits of *nkate cake*, a cheap peanut brittle available at corner stores or sold by wandering salespeople. These local touches were highlighted by the chef. At the end of the meal, he addressed the attendees, explaining the inspiration for his menu. It was clear that these additions were considered a novelty, or a draw. During dessert, attendees commented on how tickled they were to be eating such seemingly homely street food in its fancy new form. The event also featured locally sourced Ghanaian coffee, framed as a particularly exciting initiative because Ghana has largely been overlooked as a coffee producing country.

In several regards, the Ghanaian food movement is susceptible to critiques raised against both local food movements and culinary cosmopolitanism. The Ghanaian food movement is relatively elitist, as products are only affordable for the middle and upper class, meaning that the purported value of local food is not made accessible for low-income folks. Furthermore, among all the players – including the Green Butterfly market, the Ghana Food Movement NGO, the banquet organizers, individual entrepreneurs and customers – none offer a well-defined alternative economic system that could materially support the local farmers producing these

foods. For example, there are few well-established models advancing direct marketing or cooperative ownership. The attention that participants paid to local sourcing was inconsistent and at times unclear. For some, like the coffee producer, local sourcing was central to the brand's attraction. For others, it was about what it meant to be local in an ideological rather than geographic sense.

Yet also, the Ghanaian food movement has much to offer in the way that it mixes the ethos of local food and culinary cosmopolitanism. There is a significance to highlighting these contributions in the name of a more serious consideration of how local food movements from the Global South can reshape local food more broadly.

An inclusive localism

The geographic origins of local foods were at times important to my interlocutors, and at other times not reinforced. If not solely location, what *does* bind this idea of localism? Localism, as described by my interlocutors, was shaped around cosmopolitan values of openness. This can be read as a kind of cosmopolitan omniverousness, open to fusion and experimentation paired with a non-exclusionary respect for local authenticity.

The local Ghanaian food movement is certainly centered around a commitment to Ghanaian authenticity and pride. One entrepreneur who runs the local almond milk company set the stage with the comment:

> There is also a growing consumer population for made-in-Ghana products, for example, there is a whole made-in-Ghana month. There is a lot of pride around that as well, you will often find that locally

> produced products have stated ‘product made in Ghana’… (Food entrepreneur 1).

Others emphasized how authentically Ghanaian food can nourish a feeling of belonging:

> I get the sense it’s more about trying to belong, that kind of thing. It’s more like the exciting thing now. A lot of people are talking about turning to Ghanaian indigenous food. And a lot of the middle-class people then they are tempted to want to pay attention to that. (Chef 4)

This respondent mentioned indigeneity, which came up in others interviews as well. But it tended to be used interchangeably with ideas like local and traditional. When I tested this loose interpretation, it was confirmed with comments like: “At the end of the day, it is what is commonly used in a society or in a particular region. That’s what we call indigenous” (Chef 3).

Similarly, interlocutors celebrated foods that highlighted their Ghanaian “roots” while exercising the liberty to play and reimagine with them:

> The intent is to honor our roots…. It is basically to honor our roots and represent them in ways that are new. Cuisine influences are changing over time so we should just stay true to our roots but present it in a different way as time changes like to make it dynamic, to make it more presentable and appealing to the youth. (Chef 2)

Rather than a bounded definition of the local, advancing a cosmopolitan openness was more important. This came up in a discussion with one of the chefs of the West African dining experience. When describing his choice to use sweet potato, a new world crop, in the main course of his dining experience advertised to promote local ingredients, he emphasized the following:

> Well, the reason for choosing sweet potatoes, I don't know if you have had one by the roadside, it is called *atomo*. This is the roasted sweet potatoes which is mostly served with pepper sauce and fish. But I just mash it. But like I said at the event, the potatoes traveled from Benin to Togo and finally arrived in Ghana. So, what we used was not from Ghana. I still could have used yam or something else [from Ghana] but was just trying something different. That's what I'm trying to do. It doesn't really matter what, I still could use yams as well. It wasn't necessarily a replacement I just wanted to highlight that sweet potato. I don't know, do you like the taste of that sweet potato? (Chef 3)

He emphasized that "it doesn't really matter what" one chooses to cook, rather it was about the way the sweet potato or tasted, and the *atomo* street food that in invoked. The potential to make a statement about local Ghanaian yam was less important than an affinity for a delicious roadside snack, and what it meant to celebrate this in a restaurant setting.

The Ghanian food movement does not subscribe to a story about the importance of where foods are from. As such, it avoids blindly valorizing exclusionary spaces, places or lifestyles like other local movements have been critiqued for doing (Allen 2010). By expanding the boundaries of who or what is considered local, the Ghanaian food movement focuses on the things that bind: "things that are common across the board" (Chef 3), or "something [that] has been able to permeate the culture of a group of people" (Food entrepreneur 2). There is a distinct absence of a gate-keeping attitude, which is central to so many critiques of movements in the Global North (Alkon 2012). Certainly, such perspectives could also be seen as un-reflexive localism; the movement's sweeping inclusivity at times seemingly fails to actually exclude the very hegemonic foods that could be read as

problematic in the first place. But also, the loose boundaries around the local indicate that, rather than attempting to accurately reproduce the arguably tired politics of local food in the Global North, the Ghanaian local food movement crafts a new politics. Advancing a postcolonial culinary cosmopolitanism through the rhetoric of local food, the Ghanaian local food movement uses the parts of localism that suits it and leaves the others. It's loose and open attitude to the boundaries of local is no accident. Gatekeeping around food has a particular history in Ghana, which this loose localism pushes back against. Historically, colonial powers dictated permissions and distinctions in African diets. During the British colonial occupation of present-day Ghana, colonists vastly reshaped the African foodscape, shifting agricultural practices and introducing new species and imported foods. As these new foods proliferated, Europeans saw African consumption of imported food as a form of "conspicuous consumption, a subversive move across the 'color line'" (Robins 2018: 171). As such, the Ghanaian food movement's absence of normative claims about what is fits as local may be related to this history of navigating which foods "belong" and a rejection of a spirit of opposition historically used to other and alienate. Ghanaian cuisine is not unique in this: other scholars have analyzed how across postcolonial cuisines, mixing cuisines and eating European foods can be seen as asserting equality with the colonizers (Wilk 2006).

While the Ghanaian local food movement may not be unique in its embrace of non-Ghanaian foods, it is still doing something slightly different than other instances of postcolonial mixing and creolization. The Ghanaian local food movement

appropriates the existing trend of localism, reshaping its cultural and political orientation. Like other movements, the Ghanaian food movement is influenced by fine dining in the Global North. But it is unique because it does this under the brand of localism. The food movement shines at farmers markets explicitly branded "Shop Local!", at West African dining banquets celebrating local cuisine, by catering companies with the taglines "local everything". The movement doesn't necessarily solve all the shortcomings of local food movements – it remains markedly elitist – but it carves a new space for the ethos of localness to rub shoulders with culinary postcolonial cosmopolitanism. With its focus on heralding human relations and rejecting bifurcations, postcolonial cosmopolitanism contributes a framework that could generatively reshape local food movements. Where local food is critiqued for looking inwards and excluding, postcolonial cosmopolitanism recognizes the historical ramifications of exclusion and reorients to connection across difference. While cosmopolitanism is by no means a golden ticket, it could generatively shake up localisms, offering a potentially new way to balance looking outwards and inwards.

A "two way" globalization

Participants in the Ghanaian local food movement challenge the oppositional relationship of the local and the global, celebrating local food without pushing back against imported food. When I asked one chef about how the globalization of diets related to the movement for local Ghanaian food, he corrected my framing. I had framed Ghana as the *recipient* of globalization, but he framed Ghana also as a

globalizing force, calling it “two-way”. He used the example of the popularity of Jamaican food to explain his vision for Ghana:

> That’s the way forward. You know. Jamaicans are not that much in terms of population, I think the Ghanaian population is more than Jamaican. But Jamaican influence over the world is great. Their food is everywhere. Go anywhere and if you want Jamaican food, rice and peas, anywhere you might be able to find it, a Jamaican who has moved there. And that’s good for Jamaica. They are spreading their culture the same way the West has also spread their culture. The same two-way. (Chef 3)

For him, the two-way exchange refers to the way that Ghana can both receive other foods, while also spreading its own dishes outwards. Rather than opposing local food to foreign foods, respondents sought to bring their dishes to the same international stage that features these foreign foods. A common sentiment among respondents was articulated by one chef/entrepreneur: “I wish that Ghanaian food is ready to move to the international stage” (Chef 5). The “elevation” of local cuisine was explicit, and many respondents wanted to see their foods in high class establishments. The same chef described how he took a popular dish waakye – rice and beans with toppings – and fashioned it into a cocktail dish: “So if you want to take the Ghanaian food from where it is to the international level, we have to change a lot, for instance how it’s served, how fast” (Chef 5). For him, elevated cuisine was certainly about celebrating local ingredients, and it was also about asserting that they belonged on a “higher” status. Elevated was often synonymous with international. One chef described his philosophy:

> The rest of the world has shown us what they have. What about us? We have to show them what we have. I think the best way to do that is through Afrofusion, to try and create a bridge between the two delicacies, so the people can actually understand what you are about. (Chef 4)

He added a hopeful note "definitely, we are going to have Michelin star food, Ghanaian food…that's purely Afrofusion or maybe Ghanaian fusion and stuff like that. Definitely, I'm hopeful" (Chef 4).

Some speculated how to make the local more like western and fast foods. One chef made a comparison between western fast-food chains and local eateries called chop bars. He said that the western food chains, such as KFC were clean, comfortable, and spacious, whereas local food joints were unhygienic, uncomfortable, and small. He said that to elevate Ghanaian food there was a need to change the food and the environment in which it was produced. Another chef added:

> You know Ghanaians love their food, but how do we make it more fancy, attractive, you know, to enjoy. I'm telling you, there are a lot of good tasting food being sold just behind the drain in the streets of Accra. The food tastes very good, but you might not buy it because of the environment, the lady selling the food, everything about it. But if you are able to take the same lady, clean her up a little bit, train her a little bit, put her in an environment like the KFC market, her food will work…same food, same lady, her food will work. (Chef 5)

When asked what main issue they were trying to address in their work, respondents did not frame "other food" (be it foreign food, imported food, or processed food) as the main problem. It was more important to increase inclusivity. This emerged in two themes: access and knowledge. Many wanted to make a more accessible price point or encourage people to be more open to a variety of flavors and

tastes. “This is what I am trying to fix so that people can enjoy at a good price point. They can say hey I went to this fancy… good event I didn’t even break the bank” (Chef 3). Others said they simply wanted more people to know and be excited about their local food. A food writer commented that media makes young people not appreciate their own food:

> When they search online, the food they find are mostly found in USA and other parts of the west. I thought, why not talk about the foods that we actually have. Because [if] they don’t find our local foods, they may think they are not healthy... (Food writer 2)

Respondents wanted to make fancy Ghanian food more accessible, and to encourage more people know about the richness of Ghanaian food. But interestingly, they did not wish to oppose the forces that may have limited these privileges in the first place: western imperialism and hegemony. Only rarely did respondents critique western influences: “There is no confidence in what we have done here. Like we don’t have confidence in the products we have here. We are more interested in, and think the superior ones are from the outside” (Chef 1).

Instead, respondents emphasized their desire to elevate Ghanaian food, which sometimes meant imitating western foods or sharing a stage with them. The Ghanaian food movement seeks to achieve *inclusion in* the universal, whereas other local food movements (usually in the Global North) are looking for an *alternative to* the universal. This approach allows the Ghanaian food movement to focus on what it *is,* rather than what it *is not.* The Ghanaian food movement’s desire to “elevate” its local cuisine to a cosmopolitan international stage offers an alternative vision of what local

food can or should accomplish. It becomes about local food as a tool to define new frontiers rather than a tool to defend boundaries. When Ghanaian cuisine aspires to have a seat at the table of international cuisine – the table from which it has been historically been denied an invitation – it advances a postcolonial cosmopolitan politics of "world citizenship" (Appiah 2006). The participants of the Ghanaian food movement arguably have not had the same opportunity to participate in an oppositional anti-capitalist alternative largely because they have been denied a certain level of participation in the first place.

Conclusion

Because the Ghanaian local food movement ascribes to the rhetoric of localism already established in the Global North it risks being discounted as an incomplete or apolitical version of an established tradition. There are instances in which it has been dismissed in popular media, like in this article published in *the Guardian*:

> Ghana may still have some way to go in grasping the concept of organic, whole foods. Alongside the organic avocados on one stall [at a local farmers market] were tins of corned beef, canned sardines and mayonnaise, where young women were zealously composing "salad" – a concoction of oily, processed products with a dash of fresh vegetable to top it off. And Ghana being Ghana, there is a strong affection for the deep-fried. My taste award went to Tengey's "Kentucky Fried Mushrooms" – not blessed with a name that conjures up all things fresh, small-scale and local, but they tasted quite simply amazing. (Hirsch, 2013)

Does it really have “some way to go”, or is it long gone, having left the “original” local food movement behind and not turned back? Rather than dismissing the Ghanaian local food movement for not ascribing to the same structures and values of movements in the Global North, there is another way to read it. By taking the Ghanaian food movement’s articulations of localism seriously and considering the movement in context, there is a new potential for the political work that it can do. The Ghanaian local food movement appropriates localness to challenge existing boundaries around local food. Rather than excluding, the Ghanaian food movement includes multiple versions of localness: ones that focus on geography, identity, and “roots”. Rather than looking inwards, the Ghanaian food movement looks outwards advancing a critical “world citizenship”, striving for a universal celebration of Ghanian food. As such, the Ghanaian food movement puts into question the utility of a small, bounded localism in the first place.

CHAPTER 3:

The Political Ecology of New Disease in Tema, Ghana

Introduction

> Virginia: We were not falling sick very often but now children complain of sickness we knew had been affecting the older people alone in the past.
>
> Halie: What are you attributing these changes to?
>
> Virginia: The application of [chemical] fertilizer. It is not good for the human system.

This is a quote from Virginia[7], a woman who lives in Tema, a city in Ghana where I was studying the rapid increase in new diseases. This is a term used by practitioners and everyday people, referring to diet related illnesses like diabetes, hypertension and heart disease. According to public health reports, new diseases are spreading like wildfire across Ghana. From the year 2000 to 2019, the proportion of adult Ghanaians who are overweight or obese rose from 27% to 46% (GNR 2023). Being heavy is a risk factor for type-2 diabetes, rates of which have nearly doubled within the same timeframe (ibid). These issues are pronounced in urban areas, where over 50% of adults are estimated to be hypertensive (Ofori-Asenso et al. 2016). Residents of urban neighborhoods like Tema are at high risk for new diseases.

[7] I use pseudonyms for the women I interviewed in Tema.

Literatures in international development and public health offer many reasons why new diseases have increased so widely and rapidly. They can be simplified into four categories: 1) urbanization, 2) changes in agriculture, 3) increase in processed foods, and 4) changing lifestyles. Globalization and urbanization mean that more people live in cities, where fresh, nutrient-dense foods can be hard to come by and expensive (Hawkes and Ruel 2006). As markets globalize, this can lead to an influx in imported and highly processed foods. As urban livelihoods become the norm, people are less likely to produce their own food, may work longer, more sedentary hours, and are more likely to opt for cheap, quick, and often unhealthy options (Amevinya et al 2020, Okai et al 2020).

This paper explores how everyday people in high-risk areas account for the influx of new diseases in their own terms. Perspectives from people who experience these changes themselves complicate mainstream public health understandings. Virginia's claim that fertilizers cause new diseases is noteworthy because it runs contrary to popular understandings: few in the world of public health would recognize a link between fertilizers and new diseases. Yet of the 23 semi-structured interviews that make up the bulk of this paper, all but four interviewees independently said that chemical fertilizer was related to new diseases in their community. My questions were open ended and did not prompt this topic, yet interlocutors repeatedly brought it to my attention.

Though their responses were surprising, my interlocutors are not the only ones concerned about the relationship between chemical fertilizer and new diseases. There

is a growing body of literature, largely within the field of the political ecology of health, that describes similar accounts, generally informed by farmers or rural people who interact with fertilizers (Dewan 2019, Nichols 2015, Nichols 2022, Sujatha 2002, Denham and Gladstone 2020, Senanyake 2020). The political ecology of health offers a framework to understand how health issues are intimately interrelated with the natural world and the socio-political contexts in which they exist. This approach focuses on the relationship between agrarian change and health, often documenting how changes in rural livelihoods correspond with new ideas about the ills of fertilizers (Nichols 2022).

Using a political ecology of health framework, I analyze concerns about chemical fertilizer in Tema as a synecdoche, figure of speech in which a part of a thing stands in for the whole. In this case, fertilizer stands in for broader concerns about modernization and urban change. However, this synecdoche is complicated in two ways. It is hybrid because community members also account for new diseases by reiterating mainstream causal factors. It is incomplete, because despite concerns about urban change, community members do not pine for a rural past. Within the political ecology of health literature, concerns about fertilizer and ill health are attracting increasing attention, which will likely continue to grow as industrial agricultural expands its reach. This study is one of the few that considers concerns about fertilizer in an urban context.

This paper is structured as follows. First, I outline my theoretical framework and methods, drawing from the political ecology of health. Then I tell the socio-

environmental history of Tema drawing on life histories, archival data and secondary sources. I use this as the backdrop to contextualize community members' accounts of new disease and the relationship with fertilizer.

Political ecologies of health, and the synecdoche of fertilizer

Political ecologies of health and hybrid knowledges

The political ecology of health developed from the broader field of political ecology: an interdisciplinary approach to the study of human and environmental relations. It is used to explain how humans shape our environment and are affected by its degradation. Political ecology draws on empirical research on the human dimensions of environmental change, and views ecosystems and social systems as interactive. Power is central to political ecology, and it empathizes how the social impact of change is uneven. Structural factors shape the degree to which various groups can adapt to environmental change. Methodologically, political ecology takes a multi-scalar approach, addressing how the micro-level (i.e. individuals) is linked to the macro-level (i.e. international economy). (Blaikie & Brookfield 1987, Rocheleau 2008, Robbins 2020).

The political ecology of *health* applies the main tenets of political ecology to existing scholarship in medical, disease and health geographies, and anthropology. The political ecology of health can be used to understand geographical and social disparities in health status (Farmer 2001, King 2010). This focus on social disparities marks a departure from biomedical frameworks. Political ecologists of health argue

that biomedical frameworks have failed to explain the perpetuation of treatable and chronic disease among socially marginalized groups (Farmer 2001). The political ecology of health intervenes to look at health issues as social and ecological experiences (King and Winchester 2018).

Political ecology of health makes space for different types of knowledges. With its focus on disparate systems as interactive and its commitment to multiscalar analysis, the political ecology of health seeks to make sense of overlapping, competing, or contesting knowledges related to health. For instance, Robinson (2017) uses a political ecology of health framework to expose the gaps between scientific discourse and on-the-ground perceptions of bovine tuberculosis. He considers the contested knowledges and narratives from both sides, so to speak, as a way of painting a more complete web of explanation. Related, Harper (2004) explores how a community in Huston, Texas makes sense of air pollution, incorporating diverse understandings to help explain people's interactions with the environment. In other cases, incorporating multiple knowledges can expose issues that biomedical frameworks alone cannot see. For instance, in her work on ulcers in rural Ghana, Hausserman (2015) focuses on the role of spiritual treatments in unearthing the cultural and political-economic factors influencing a type of ulcer treatment. This allows her to show how the disease is under-represented in national case counts. Taken together, these approaches use a diversity of knowledges to complicate biomedical understandings, often exposing political stakes that would otherwise be obscured.

Another thread in the political ecology of health looks at the issue of causality. Drawing on perspectives from science and technology studies (STS), scholars explore how the cause of illness is not necessarily linear, rather it can come into being through relationships. Neely's (2021a, 2021b) case on witchcraft as a source and cure of ill-health focuses on the ways illness comes into being through practices (like harming and healing), even if not all constituent parts of this process are recognizable, and even if it is not clear how they work. A prominent theme in Neely's work is her focus on non-causal explanations that accept and embrace uncertainty. Others consider the relationship between the body and medicine. Mol (2003) argues that the social-production-of-disease-framework is unsatisfactory, because it fails sufficiently break down the border between the body and medicine. She argues that "no body, no disease is singular…[and] ontologies are brought into being, sustained or allowed to wither away in common day-to-day socio-material practices" (6).

Parallel to the ideas of overlapping knowledges, nonlinearity, and non-causality is the concept of hybrid knowledges: ways of holding space for overlapping and sometimes contradictory ways of knowing, which often characterize postcolonial contexts (Gupta 1998). The notion of hybridity is well explored across postcolonial studies, as a defining characteristic of the mixed histories of postcolonial populations (Bhabha 1989). This concept is also articulated in feminist theory, in particular through the concept of "subjects-in-perplexity". Ramamurthy (2003, 2011) uses this term to explore how subjects may be simultaneously desirous and resistant to capitalist development. Using a feminist epistemology, she argues that subject

formation may be contradictory, and that accepting conflicting knowledges is a way of rejecting essentialist ideas of a singular subject.

There is a particular niche of scholarship around hybrid knowledges related to food and agriculture in the Global South. The framework offers a useful way to understand how ways of knowing can overlap when different agricultural systems or ontologies come into contact, often through agricultural development programs. In his work on the modernization of agriculture in India, Gupta (1998) analyzes farmers' interactions with new technologies. The farmers he works with subscribe to ideas that could easily be appropriated as "indigenous". But he finds them to be partial and incomplete, paired with a seemingly paradoxical enthusiasm for western science. He embraces this seeming paradox as an example of a hybrid knowledge, essential to recognizing the postcolonial condition as a complex zone of impurity. Similarly, critical development scholars and geographers apply these ideas to theorize other hybridized knowledges that result from various "modern" interventions, from chemical fertilizers and pesticides to new nutrition paradigms (Nichols 2015, Nichols 2019).

A political ecology of health framework incorporates the broader social and ecological contexts that help explain my interlocutors' focus on chemical fertilizer. Hybrid knowledges characterize the sometimes contradicting ways that they account for new diseases.

Theorizing fertilizer as a synecdoche for the ills of modernization

The connection between chemical fertilizers and illness is explored in a growing body of literature, mostly within the field of political ecology writ large. Studies usually focus on regions where Green Revolution agrarian reforms initiated heavy dependence on fertilizer, like South Asia and Central and South America. Political ecologists generally analyze the association between chemical fertilizer and illness in two ways. Most commonly they theorize fertilizer as a synecdoche for the ills of modernization. A newer approach considers if or how chemical fertilizers might literally be making people sick.

Chemical fertilizers are linked with many problems including, but not limited to, new diseases. Scholarship in this area reports that farmers who are concerned about fertilizers express the problem in broad terms, commonly referring to a loss of strength and general physical corruption (Denham and Glandstone 2020, Nichols 2022 Dewan 2019, Gold 2019, Senanyake 2020, Sujatha 2002). Nichols (2022) explains how farmers in India say that chemical fertilizers lead to tasteless foods and weak bodies. Sujatha (2002) studies what he calls "medical lore" on food and health, showing that farmers in rural India blame chemical fertilizer for bringing too much "heat," in the ayurvedic tradition, to their soil and bodies. Dewan (2019) explains how Bangladeshi farmers note a lack of strength in the soil and connect it to a group of illnesses: stroke, cancer, and kidney, liver, heart, and stomach problems. In each of these cases, the authors relate farmers' concerns about chemical fertilizers back to the capitalist violences that shaped the agrarian landscape in question. These violences are usually related to Green Revolution land and agricultural reform. In this sense,

fertilizer becomes a synecdoche for broad political and socioecological distresses. While causality may be murky, these studies focus on the metaphorical or ideological significance of chemical fertilizer anxieties.

Fertilizer as a synecdoche is often leveraged to suggest alternatives to capitalist agrarian change. In other words, this framing identifies capitalist agriculture as the core problem, and alternatives to capitalist agriculture as the solution. For instance, in her analysis of farmers in rural India, Kinkaid (2019) understands their concern about chemical fertilizer as an embodied reaction to the ills of the Green Revolution, and then extends this to argue that these concerns could generativity inform on-the-ground efforts to transition to more sustainable forms of agriculture. Similarly, Denham and Gladstone (2020) analyze Mexican farmers' fixation on chemical fertilizer through Gramsci's concept of "good sense": the idea that a revolution needs a mass shift in consciousness, which can be achieved in part through a reckoning with the belief systems of the subaltern class. In this sense, farmers have the power to drive a revolutionary shift in consciousness. Their concerns about chemical fertilizer, and the parallels they draw between this fertilizer and the ills of corporate food hegemonies, could be harnessed to drive productive change.

Sometimes farmers' accounts of the dangers of chemical fertilizers are compounded with complaints about pesticides, or other chemicals in general. Rather than flagging these as conflations, the scholars who use a synecdoche framework tend to focus on the way that the whole category of synthetic agricultural inputs speaks to broader anxieties about modernization. I do this too: in my interviews, respondents

overwhelmingly spoke about chemical fertilizers, but sometimes they referenced to pesticides or chemicals in general. Based on my interlocutors' overwhelming emphasis on chemical fertilizer, I still consider it to be the main concern.

There is another approach to understanding concerns with chemical fertilizer that considers if and how it might literally be making people sick. This approach seeks to expose biomedical causality between chemical fertilizer and new disease. There is an important distinction to note: the examples above link fertilizers with a range of illnesses, including new diseases. The new approach that I outline here considers the connection specifically between *fertilizer and new diseases* (obesity, diabetes, hypertension and heart disease). We already know that chemicals can make people sick in many ways. This new approach is particularly cutting-edge because it attempts to prove something new: that overuse of chemical fertilizer causes conditions and diseases like obesity, diabetes, hypertension and heart disease. There is little to no evidence yet on this topic.

But scholars are trying to change that. Nichols (2022) uses a mixed methods approach to explain the relationship between chemical fertilizer and new disease from both a biomedical and sociological standpoint. Her biomedical analysis is focused on phytochemicals, the chemicals produced by plants. In broad terms, we know that phytochemicals are good for us: studies have shown that diets with higher concentrations of phytochemicals are associated with lower disease burden, and phytochemicals can protect against chronic inflammation. When plants are fertilized with slow-release nutrients (like organic fertilizer) they produce more

phytochemicals. When they are treated with chemical fertilizer, they produce less phytochemicals. When people consume plants with high levels of phytochemicals, this can stimulate high antioxidant activity, protecting against chronic inflammation, which is a precursor of various new diseases. If people consume plants with lower levels, these inflammatory protections reduce. While this is an oversimplified description of a highly complex process, this could indicate that plants treated with chemical fertilizer are less healthy and could contribute to chronic inflammation and new disease. While Nichols shies away from a tidy explanation, she uses this transdisciplinary approach as an invitation for political ecologists to seriously consider a more literal role of chemical fertilizer in affecting illness. In other words, while recognizing the usefulness of theorizing chemical fertilizer concerns as synecdoche, she argues that we can simultaneously consider agronomic/biomedical explanations, and these could eventually mutually reinforce one another.

Drawing on the precedent set by transdisciplinary approaches (Nichols 2022), I entertain, in theory, the notion that my social explanation could coexist with a biomedical explanation. Though, a biomedical analysis of causality is outside the scope of this paper.

Methods

My study is based in Tema (Figure 1), a city of over 200,000 within the Greater Accra Region, located 16 miles east of the capital city of Accra. Accra is a cosmopolitan center, boasting a large university, fancy hotels, chic restaurants and a

range of neighborhoods from rich to poor. Tema is like the city-next-door, with an industrial and family-oriented feeling, made up of a network of neighborhoods called "communities" with almost suburban-like character.

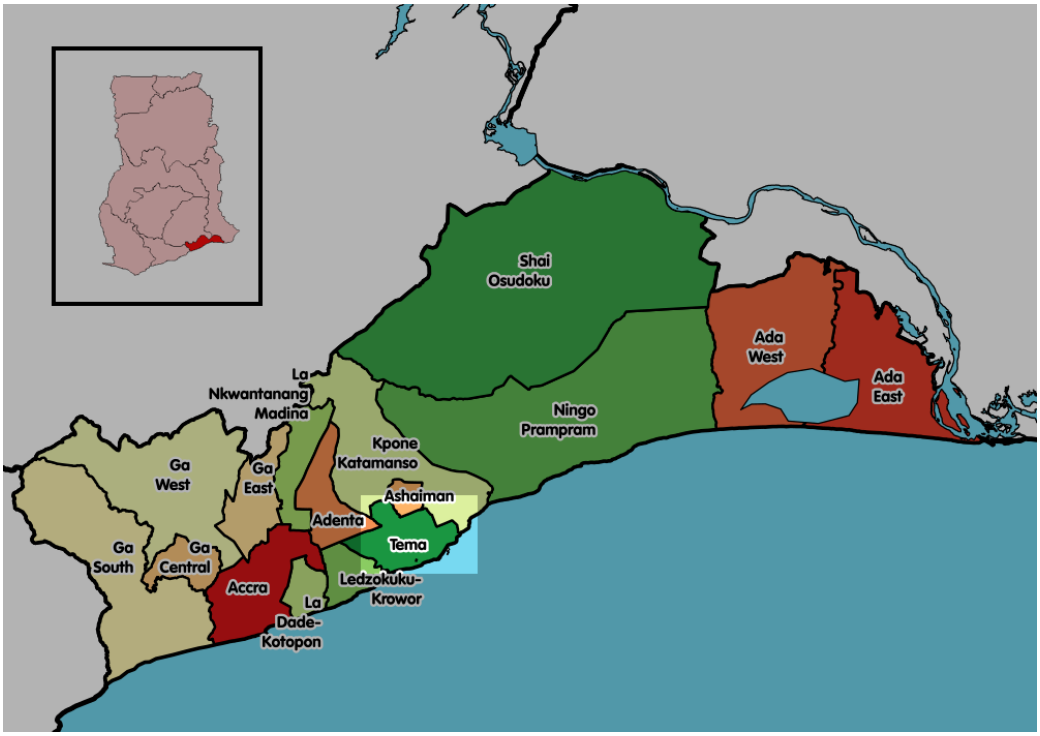


Figure 1: Tema, in the illuminated box, and the Greater Accra Region, multicolored

The Greater Accra Region has the highest rates of new diseases nationally. The demographic that is most affected by new diseases in this region is women over 35. Among this group over 50% are overweight and obese, 15% have been clinically diagnosed with high blood pressure and 10% with diabetes (GSS 2015). National level data in Ghana is disaggregated by region, but not at the city level, so this is the best level of detail available for Tema. Also, the data points for hypertension and

diabetes are based on the number of people who seek formal medical care for their conditions, so they are probably much too low. For instance, other studies estimate national level rates of hypertension to be closer to 50% (Ofori-Asenso 2016).

I collected primary data in Tema over six months in 2021. This began with a period of participant observation: I spent time cooking, sharing meals, going to church services, and talking with residents. I was invited on guided walks through the town by enthusiastic residents who were eager to show me notable locations and tell me their stories.

This led to semi-structured interviews with 23 women who live in and around the central neighborhood of Community 1. I aimed to understand how they account for new diseases in their community. I sampled from the demographic most affected by new diseases: women over 35. Beginning with a women's church group that my research assistant – a local of the Community 1 Tema neighborhood – introduced me to, I used snowball sampling to select participants. Participants tended to be middle class and professionally diverse. They included shop owners, hairdressers, teachers and lecturers, business administrators, and housewives.

My sampling strategy helped me to steer the interviews towards reflections on community-level changes. I chose not to sample from a medical clinic – where I could speak exclusively with informants who suffered from a new disease – because I was committed to avoiding conversations that felt like pseudo-examinations, wherein respondents might feel obliged to evaluate the healthiness of their behaviors or lifestyles. As a white woman working in Africa, I constantly navigated the

presumption that I was there to "fix" things. Despite my clarifications, people often assumed that I was nutritionist or aid worker, come to surveille diets or give medical or nutritional advice. But with my selection of interlocutors, our conversations flowed as a series of reflections and commentaries on changes they observed from afar or experienced personally. It was up to them how much personal information they wanted to share. Though I didn't intentionally select for ill people, the topic of new disease was nonetheless relevant and urgent to my interlocutors: 21 of the 23 said that they or someone in their family suffered from a new disease, and it was usually both. A retired college lecturer, Beatrice, summed it up well:

> So, hypertension is now [more] plenty than those days. Diabetes is now like opening a tap and drinking water. It's too much. Everyday, the tap is on, diabetes is too much now. It's like a metaphor. Now, we have more diabetic patients than those days. Diabetes is flowing everywhere.

The remaining two interlocutors acknowledged the relevance but said they were healthy themselves and didn't feel qualified to speak on behalf of others.

My semi-structured interviews also led me to life histories with five elders. These were different because I didn't ask them to account for new diseases. Rather, they told me the history of Tema. These interviews were located outside of Tema, in the neighboring city of New Town (as I will explain below, the real historians of Tema were the families who were forcibly removed from present-day Tema, and now reside in New Town). These elders were selected with the assistance of my research assistant, and most of them participated in the still-active system of "stools" referring

to traditional leadership in Ghana. We first contacted the chief of New Town, who directed us to four elders that he felt were most equipped to answer our questions.

To supplement these primary data sources, I collected archival reports on the history of Tema from the Public Records and Archive Administration Department (PRAAD), Accra, and the Tema Development Company archives (TDC), Tema. At PRAAD I searched for records on food, health and nutrition in Tema from c1900, when there were many national-level surveys being conducted across present-day Ghana. At TDC I accessed development plans and marketing documents for Tema, dating from c1945, when the company was established.

Chemical fertilizer in historical context

Residents of Tema repeatedly said that farmers now use more chemical fertilizer than they did in the past. These comments are supported by data that shows the history of fertilizer use in Ghana: it has dramatically increased over the past decades (Figure 2). Though the numbers have shot up, overall usage still remains relatively low by global standards. Issues of cost, availability and distribution prevent many farmers from using more fertilizer. Soil maps nationwide indicate a need for more fertilizer, based on low nutrient counts. (AGRA 2018).

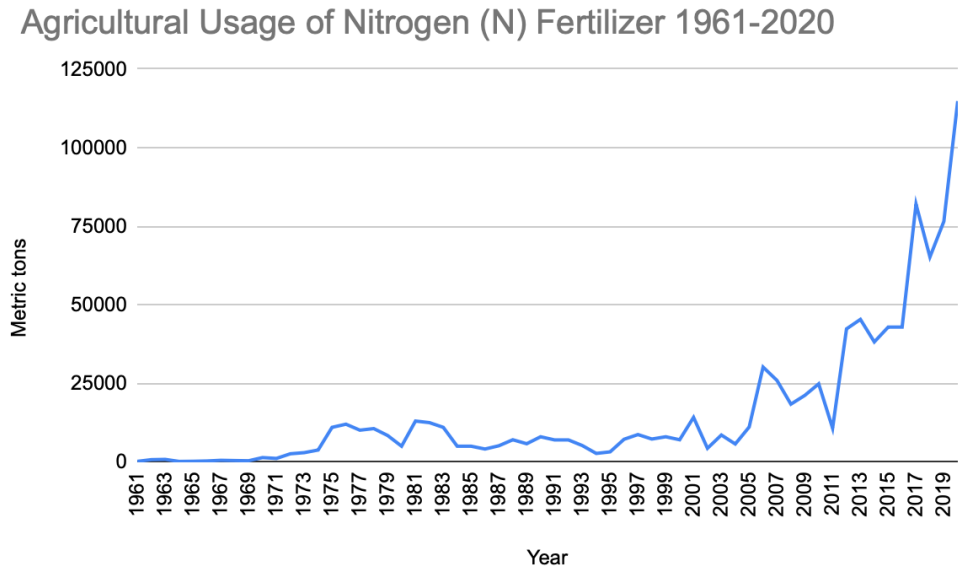


Figure 2: Agricultural usage of nitrogen (N) fertilizer 1961-2020 (FAOSTAT 2023)

Periods of increased fertilizer use have largely been fueled by government assistance. For instance, the peak during the 1970s - 80s was the result of government subsidies for fertilizers. Though there was considerable government turnover during this period, leaders consistently pursued policies advancing an African Green Revolution like those in Asia and Latin America (Weimers 2015). This was driven by a desire for food security, and sense of national pride for the newly independent country (Banful 2011). The Ghanaian government was also receiving considerable foreign support during this time, focused on advancing the agricultural sector. But by 1983-4 Ghana adopted the World Bank and International Monetary Fund-supported program for structural adjustment. Structural adjustment was based on a free market agenda, slashing government assistance and thus fertilizer subsidies (Weimers 2015).

Government subsidies for fertilizer did not reemerge again until around 2008, when the global price hike in inputs incentivized the government to act. The cost of fertilizers and other inputs skyrocketed, and the government stepped in to quell fears around food security (Banful 2011). This corresponded with a new wave of foreign investment in African agriculture, such as Alliance for a Green Revolution in Africa (AGRA) that supported these subsidies. Though fertilizer usage has clearly gone up in recent decades, changes in the structure of subsidy programs has made growth inconsistent. For example, the huge increase between 2016-2017 was due to the implementation of new subsidy program called Planting for Food and Jobs. Though fertilizer usage has increased, it has made little success in boosting food production. Subsidized fertilizer is often sold illegally to neighboring Burkina Faso, and there are issues with fertilizer delivery and the logistics of matching supply and demand (Banful 2011, AGRA 2018).

The national-level patterns shown in Figure 2 risk overlooking regional and on-farm differences. That said, it is difficult to summarize exactly where, and to whom fertilizer goes. While government subsidy programs have been generally critiqued for privileging medium and large-scale farms and leaving smallholder farmers behind, this hasn't necessarily been the case in Ghana. Particularly in the first round of subsidies in the 1970s-80s, the increase in fertilizer availability was felt at all levels, including among smallholder farmers (Weimers 2015). Though today, most fertilizer subsidies go to medium and large farms that produce cocoa, maize, rice, millet sorghum and soybeans (AGRA 2018). On the other hand, contemporary

AGRA interventions involved in advancing access to fertilizers advertise a decentralized approach to reach a variety of farmers (AGRA 2018).

Overall, trends in fertilizer use over the last 60 years are marked by dramatic changes which have been most pronounced over the past two decades. Noting the speed and scale of these changes it is not surprising that they would invoke reverberating repercussions, even among urban people in Tema.

Tema: a "New Town"

Before the 1950s, Tema was not a city at all, but rather fishing villages and small farms occupied by a few thousand inhabitants. In just over 10 years, from 1948 to 1959, Tema grew from 2,000-12,000 and today has 200,000 (Amarteifio et al. 1966). The fishing villages were composed largely of the Ga ethnic group, coastal dwellers whose livelihoods drew from the sea, and from farming on land. Tema got its name from the Ga word "toma", meaning calabash tree, which was farmed by the locals before the city's development.

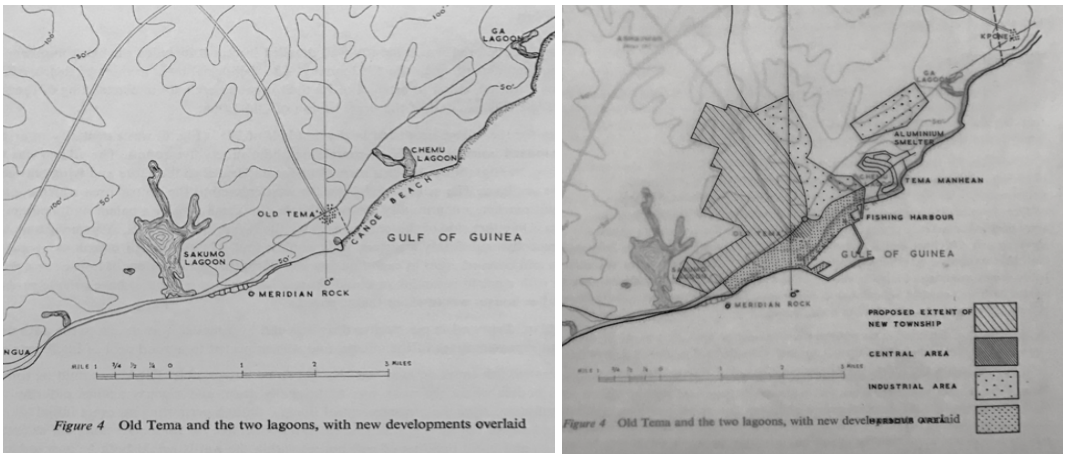


Figure 3: Tema c1950 as compared to Tema c1959. In the image on the left Tema is just a series of dots around the name "Old Tema". The image on the right shows the proposed expansion highlighted by horizontal lines (Doxiadis 1961).

I wanted to learn about the village life before Tema was established, so I spoke with elders who had lived in the villages or came from families that had been relocated from them. One of my interlocutors invited me to the courtyard of his compound. Like many of the elders I met with, he was part of a royal lineage, which indicated that he was a particularly robust resource for oral histories. He lived in a comparatively grand home, with a mural of his likeness painted on the outside, and many rooms on the inside. The compound was oriented around a huge tree for shade and nestled tightly in the neighborhood, sharing walls with the two compounds that flanked it on either side. Despite its location in a busy part of the city it had a domestic feel, almost characteristic of the "time before" that he would describe to me. There were women milling about tending a fire that was smoking fish, children playing a game pretending to be market vendors, and adolescents coming to and from school, greeting the elders with a perfunctory handshake or curtsey. This quaint scene

was accompanied by the comparatively jarring buzz of traffic outside and sounds of hawkers in the street.

The downhome feeling complemented the stories he told me of old Tema. He painted a picture of a village that farmed and fished, mentioning a wide diversity of crops that were grown and traded. These included calabash, corn, watermelon, papaya, coconut, tomato, okra and eggplant. He started by telling me about how the type of farming they did in Tema before it was developed was pure, compared to today:

> You have to think of what you can do to help the next generation. We used to also plant sugar cane, pawpaw, tiger nut, and many other crops. Now, most of the food we eat are those planted with a lot of chemicals. At the time we used to farm, we were not adding fertilizers and insecticide to the crops.

He also spoke of the relationship between farming and fishing. The Ga are known as fisherpeople, and farming sand hunting were used to supplement:

> One can go fishing every day, but there are times when the sea is rough, so one will not make a good catch. So at that time if you have planted foods, that is what you will have to rely on. We also had different animals in the forest that we hunt for. We hunted for animals like grasscutter and rabbit. (Elder 1)

The way that he spoke favorably of the health and vitality of his ancestral land was supported by colonial-era reports on “native health”. In particular, the “Purcell Report”, a formative country-wide survey conducted in the early to mid 1900s, lauds the villages that were to become Tema as some of the healthiest:

> Section III Diet and Nutrition Surveys Maritime Villages: The records show that the fisherfolk as a class consume an adequate and well-

> balanced diet, value of about 3000 calories daily, with a high proportion of animal protein in the form of fresh fish. (Purcell Report 1937: 125)

> The sturdy physique, 66" to 67", with the fine weight of 124 lbs stripped, and the great muscular strength, as shown by an average of 390 lbs pull on the dynamometer are sufficient testimony to the all round excellence of the fisher-men's physique. The diet records show no serious defests [sic] and the general level of nutrition is high. (Purcell Report 1937: 142)

Elders also focused on the enormous losses they suffered when their villages were taken by the government to build modern day Tema. In the 1950s, Ghana's first President, Kwame Nkrumah, formulated a plan to develop "Tema, a New Town". The land for the city of Tema was acquired by the state through a Compulsory Acquisition of Land Ordinance. It was intended to support the development of a new harbor and aluminum smelter in line with Nkrumah's broad plan for industrialization. This visionary Tema boasted modern amenities rare among African cities at the time:

> The community was designed to enjoy all the advantages of modern civilization – well-designed houses, well-equipped hospital and comprehensive health, social, cultural services, pipe-born water, underground sewage system, pleasant gardens and open spaces, well-equipped schools and community centers. (Amarteifio et al. 1966: 13)

These amenities were meant to entice the development of a working- and middle-class population, employed in various positions at the new port (Kircherr 1962). It was designed expecting a booming population, anticipating a 12% population growth rate over the first 10 years (ibid). Housing was to be provided at multiple income levels, along with community spaces and amenities.

Figure 4: Images from a development pamphlet for Tema. From left to right beginning at the top: the plan for middle-income housing, a community building plan, banks like Barclays represented modernity and a connection to the broader financial world, a mural of Nkrumah and Queen Elisabeth shows how the city was celebrated as Nkrumah's brainchild and recognized internationally (Doxiadis 1961).

But to make this all happen, the villages and residents of the land slated for development had to be forcibly relocated. The elders I spoke to described the relocation clearly, often pointing to Nkrumah himself as the instigator:

> So Nkrumah forced us to move. This place was a forest area. When they started building, some people because they disagreed with it came to destroy the foundations of the buildings. These people were arrested but the leaders escaped. But the workers went ahead to build. After the buildings were completed, then we were forced to move out (Elder 1[8]).

[8] I refer to these interlocutors simply as Elders because they are members of the royal class, and their names indicate their status. Assigning a pseudonym in this case is inappropriate.

Relocation was a violent process. As the elder quoted above explained, some residents physically fought against the new development, destroying construction. Others told me of bulldozers that flattened their homes. They said that some residents accepted resettlement packages, while others stayed and resisted.

Figure 5: Homage to Nkrumah (photo by author).

This evacuation also meant the loss of farming lifestyles:

> They don't farm now like before because there's no farming space. Even now the gourds are not planted any more. The land at Community three was used to farm tomatoes and pepper but there's no land for farming now. (Elder 4)

Even though the villages and farming lifestyles were demolished in the interest of a new Tema, in some ways the process remained incomplete. During one

of my guided walks through Tema with a lifetime resident, we started at what he described as the center of Tema. It was the site of the now decrepit Meridian hotel, which he said was built to house traveling dignitaries visiting the model African city. For reasons that were unclear to me, the hotel was now gutted, stripped of everything but its structural core. He hadn't brought me to see the hotel, but rather, a calabash tree that stood maybe 100 meters from what would have been the hotel entrance. He told me that this calabash, or "toma" tree was sacred to his people, the Ga, and that they worshiped there. When the Meridian hotel was built, he told me, they had to bulldoze everything. But the one thing that the bulldozers couldn't flatten was the tree. It still stands there over 60 years later with a small cement wall surrounding it, under the shadow of the Meridian hotel skeleton.

Figure 6: The last toma tree, and the gutted Meridian hotel (photos by author).

Tema's history is one of violence, but also resilience. Villages were obliterated, but a city of aspirational African excellence was erected in their stead. Indigenous ways of life were stamped out but not simply in the interest of universal global capitalism, rather in a pan-African nationalist futuristic vision. The characters in tired stories of modernization are not quite the right ones. And furthermore, the modernization of Tema remains incomplete. The last toma tree still stands, almost in defiance against the towering figure of the Meridian hotel. The toma tree still lives, while the Meridian's skeletal figure appears to be dead. Life histories highlight the violence of eviction and loss, with the toma tree challenging the normalization this change.

The political and environmental history of Tema tell a complicated story of modernization. Connecting this history back to this paper's focus – concerns about fertilizer and illness – if stories of fertilizer are to be understood as a synecdoche for modernization, then we must expect that synecdoche to be appropriately partial, hybrid. We must expect it to be filled with the kinds of contradictions and incompleteness that characterizes the very story of modernization.

Accounts of new disease

Fertilizer is "killing us slowly"

The modernization of Tema had reverberating effects and unexpected outcomes, such as the proliferation of concerns among urban residents about the dangers of chemical fertilizer threatening the health of their communities. An

extended account of a conversation that I had with a woman named Patience shows the type of wandering, iterative conversations that I often found myself in, exemplifying how fertilizer as a synecdoche was urgent and compelling to my interlocutors, but also incomplete and hybrid.

A caterer and mother of three, Patience worked from her home, a single-story compound with a neat gated front yard and a large tree that provided shade. She invited me and my research assistant to come speak with her after work one day, around sunset, as the heat of the day was receding, and the mosquitos were coming out. Patience seated us on two plastic chairs in her front yard to catch the evening breeze. Her house was at the end of a quiet road with nearly identical single-story houses lined up neatly, just as they were throughout entire gridded neighborhood. Looking towards the direction of the setting sun, the backdrop of this pleasant context changed drastically. The sun set through the cracks of enormous warehouses, bordering the edge of the port not too far away, billowing with smoke. During our conversation Patience mentioned the factory and said it hadn't been there when she moved in just after she got married. It produces flour and borders cocoa and fruit processing factories. Though I didn't pick up on it that night, she said that oftentimes you could smell the scent of cocoa or fruit wafting from the factory to her home. Food, cooking, and eating were close to Patience's heart. Cooking is the source of her livelihood as a caterer. When we began our conversation, she spoke about how she enjoys shopping and cooking seasonally. When the conversation turned to health, I asked about new diseases in her community. She responded emphatically "Oh yes,

yes, yes. Our eating habits have got us changing. I am hypertensive now but I wasn't [before]" I asked about the "before" and she described her early years in Tema, before the factories, before the congestion. She told me about her grandmother's cooking, heavy in soups and stews made from local palm nuts. She contrasted this with the processed, imported oils that now replace palm oil. The memory of the cooking of her youth prompted her to add that now "I'm being put on a diet." She wasn't alone in being on a diet, she explained, as many others around her were prescribed diets for their hypertension too. Things were different these days "sickness wasn't something that we'd usually see [before]. All we had was our mosquito friends with their malaria disease and that's it. Now these days there's a whole lot of illness" Speaking about her hypertension, shwe explained how she didn't understand why these changes had occurred:

> They keep saying its lifestyle, lifestyle…but truly our eating has changed because of chemical they use in growing foods, chemicals we use in cooking food, and then how we are overcooking food, so we end up eating a useless meal…In the old days there was nothing like this sickness, no.

When she said "lifestyle, lifestyle, lifestyle…" her tone suggested that she doubted this was the full explanation. She then speculated that chemicals were the "true" cause of illness. But then in the same breath, she added that maybe illnesses were caused by overcooked food. Illness was attributed to chemicals, but also because of poor cooking habits. She continued, speaking emphatically about how these chemicals come from the farm. While she used to get food from a friendly farmer close by, it now came from a faraway farmer who overuses chemicals:

> It's killing us slowly…oh yeah, that's it. When the food comes to town, when the plantain comes to town or the mango, and you want it to get ripened, they spray another chemical over the stuff, cover it, and the next day you have it ripened. Where are we going? We are killing ourselves like that.

Patience, like others I spoke with, referenced "chemicals" in an almost cavalier manner, as if I should understand what she meant. When I asked her to clarify she explained that chemicals referred to chemical fertilizers: farmers used to "use organic fertilizers and then [now] they have the [new] chemical fertilizers."

The conversation circled back to her own battles with hypertension, and I asked how long she had been managing it. She paused to think and then speculated:

> Oh, could I say 9 or 10 years now. I don't know but I was working…well I was selling, running a pork and yam joint at the roadside and the intensiveness of the work… It is the stress that caused it. I am not lazy, I can't stand lazy people so I ended up over-stressing myself.

My conversation with Patience, in her comfortable yard bounded by the billowing modern factories, followed a pattern that characterized many of my other conversations. The dangers of chemical fertilizers and their relation to new diseases were woven in and out of stories featuring more mainstream causes for new diseases: experiences of stress, poor dietary choices, and growing distance from farmers. Disparate ways of knowing were mixed into a single narrative.

My conversation with Patience was one of many, and the responses from other interlocuters add detail to Patience's descriptions. The other accounts of the dangers of chemical fertilizer tended to be structured around a few main themes:

concerns about chemical fertilizer's effect on the quality of food, the subsequent health effects of eating this low-quality food, the newness and foreignness of this problem, and the way it disrupted normative timelines. Like Patience, other informants spoke of chemical fertilizers in a way that was impassioned, though they could slip between using the words "chemical fertilizer", "chemical" or "fertilizer". In some instances, though not often, they also referenced "pesticides". I characterize these responses simply as descriptions of chemical fertilizers because when pressed to specify, this was what the majority of respondents focused on.

My interlocutors emphasized the way that chemical fertilizer decreased the quality of their food. In some instances, they pitted the dangers of chemical fertilizers against the benefit of organic ones. Mary, a retired midwife explained:

> The quality is not as good today as the previous ones due to too much application of fertilizer in recent times. In the past, the farmers were using cow dung mixed with the soil before they plant.

She could see the effects of fertilizer on the plants themselves:

> As soon as you see them it can be determined. For instance, tomatoes which has been cultivated with fertilizer is different from the others. It is the same with even pepper…it is the color and even the size as well.

My interlocutors were confident that they could smell, taste and sense the effects of chemical fertilizer on their foods. During some conversations, they would emphasize this point by handing me a tomato or another vegetable so I could smell or feel the difference for myself. Without something to compare it to I admittedly could not tell, but I understood the qualities they described to me.

My interlocutors suspected that there was a temporal link between low quality chemically treated foods and new diseases: they both seemed to show up around the same time. Matilda, a caterer in Tema explained that "It was not common to fall sick in the past. It was difficult to hear someone being attacked by stroke. All because we were eating well and our foods were organic with no chemicals and pollution." Others, like Fatimah, a hairdresser in her 30s, told similar accounts of fertilizer contributing to higher cases of hypertension and diabetes:

> Because of the fertilizer we now use for cultivating our food crops, there are a lot of sickness like hypertension, high blood pressure and the like even among the youth which was not the case. In the past it was the elderly which had pressure but now even me.

Chemical fertilizers disrupted normative timelines. Fertilizer was contributing to sicknesses that previously only affected the elderly. Mary, the retiree, described a sentiment that I would come to hear many times:

> These changes in our diet have brought a lot of sicknesses to the young and old that we have not known in our lifetime. In the past I knew it was elderly people above 60 who are affected with hypertension but these days the doctors tell us that even the 18-year-old can also be affected. Resulting from changes in our way of life, cleanliness, pollution of the environment and the application of too much fertilizer.

Foods themselves also suffered from the disruption of a normative timeline. Araba, who runs a corner shop, explained how chemical fertilizers were used to make fruits and vegetables become ripe more quickly. "At first, food items were allowed to naturally ripe before… taken to the market. Now, people who sell fruits like banana and others can plug the unripe ones and force it to ripen by applying chemicals."

My interlocutors' focus on the newness and foreignness of chemical fertilizers and their preoccupation with a disrupted, accelerated timeline relate to anxieties about industrial development and the loss of old ways. The development of Tema from a series of fishing villages to a modern metropolis happened extremely quicky, in a way that was intensely disruptive to the former way of life. As a way of making sense of a larger phenomenon, concerns about fertilizer represent a type of knowledge that is distinct from linear, western ways of knowing. Rather than tracing a clear causal pathway between fertilizer and new diseases, my interlocutors had other ways of accounting for change. They were more intuitive, and less bounded in the ways they framed relationships between things. Rather than documenting "conscious, controlled and contained processes of interaction" my interlocutors accounts of fertilizers advanced notions of a "distributed agency, synergistic effects and over-lapping but distinct assemblages" (Senanayake and King 2019: 713). Chemical fertilizers are exerting an unknown but dangerous power much larger than the residents of Tema. Such a "relational approach to understanding causality, one that embraces uncertainty, is significant because it sets up the possibility for an understanding of agency as emerging from relationships" (Neely 2021b: 977). The violent story of Tema's industrialization was repeated again and again, through concerns about chemical fertilizer.

A hybrid synecdoche: causal factors reiterated

While chemical fertilizer may be a synecdoche for broader concerns about industrial development, it is partial, an incomplete characterization of my interlocutors' accounts. They also articulated the mainstream causal factors, advancing a western scientific way of knowing. It is important to recognize the ways that these mainstream causal factors were advanced by my interlocutors as to not overemphasize or fetishize their focus on fertilizer. I characterize the mainstream causal factors in four categories, and each of them was touched on in my interviews: 1) urbanization, 2) changes in agriculture, 3) processed foods, and 4) lifestyle.

My interlocutors spoke of urbanization as the instigator for various problems related to new diseases, and accounts bled into the other three categories. In broad terms, they emphasized the problems with in-migration and overcrowding. Regina, a social worker who had moved to Tema decades ago to start a family commented that "Tema, when we came here the population wasn't as high as it is now. Even in front of my house, there was no one selling anything anywhere here…but the population has grown and people need to work to live". Others explained how the increasing population led to urban pollution "Now the climate is changing faster with a lot of pollution in the system. There are a lot of smoke and dust in the atmosphere" (Matilda).

They also said that urbanization was related to an increase in foreign and processed foods, replacing traditional diets. They made explicit parallels to new diseases. "Alcohol and junk foods are now common in our society. So, it has made diabetes and blood pressure a common sickness in our community now" (Gifty). My

interlocutors gave detailed accounts of what their parents used to eat, as compared to what they ate today. They cited things like an increase in consumption of fast foods, particularly instant noodles and fried chicken. They talked about the way that young people fawned over fast-food joints as social hangout spots, and how foreign foods were now eaten not just for special occasions but for everyday meals.

While most accounts of changes in agriculture were related to increases in fertilizer usage, respondents also spoke about the growing distance between the city and the country and how they could no longer trust their farmers. They also acknowledged that farmers were overwhelmed and overstressed, that the farming lifestyle of the past had become an extractive industry today.

Finally, my interlocutors associated changes in lifestyles with new diseases, citing busy work schedules and commutes. This affected people's ability to eat healthy food. Delilah, who ran a small corner shop, described how from the vantage point of her workplace she could see people bustling around. She speculated about the implications. "Tema is choked now so the health issues are many…everybody is in a hurry, so people don't really sit down, cook their own food and eat." Overworking could lead to stress, which could lead to new diseases too. Efua, a salon owner commented that "overworking is one factor that leads to hypertension."

As these examples have shown, my interlocutors drew from western epidemiolocal and biomedical ways of knowing. I have refrained from going into great detail with these accounts because they are overwhelmingly predictable. They reinforce the same causal accounts that are repeated in the literature (Hawkes and

Ruel 2006, Amevinya et al 2020, Okai et al 2020). My interlocutors were not ignorant or dismissive of this way of thinking, rather, they were apt to reinforce it.

An incomplete synecdoche: yearning for a better city, not the countryside

Fertilizer as a synecdoche is also incomplete in the sense that my interlocutors, while critical of aspects of modernization, did not dismiss it entirely. They certainly blamed certain urban ills for contributing to illness, but they also romanticized the way that Tema used to be just a generation ago. They longed for a better city, not a pre-modern rural state.

A common refrain was that Tema used to be "greener", "neater", and "nicer". Many praised the cleanliness and organization of Tema, citing features of the planned community that were designed in Nkrumah's image of an ideal African city. For instance, the municipal services were run centrally by the Tema Development Commission (TDC) and many of my interlocutors spoke of missing the order and neatness that this ensured. They credited TDC with planting trees, organizing garbage pickup, and regulating new developments to avoid squatter settlements, retail kiosks and illegal additions. Kukuwa, a retired college professor, had lived her whole life in Tema, and watched it change. She reminisced about the way Tema used to be, remembering how her mother worked for the cafeteria inside TDC. When I asked her if she saw changes in health around her community she replied:

> I see big changes. Look at this place. It is the air that is blowing. When there is dirt in the air, do you see it? You can't see it. We breathe it in, we take it in our food. When I was

> young and my mother was living here, this place was clean. 6 o'clock, everyone is out of the area. But now, the place is so untidy. We have been talking about it but who will listen.

My respondents were also adamant that, with the right approach, Tema could be a better and healthier city. While they pointed to the process of urbanization as one of the causes for new disease, their critique was not totalizing. For example, Mary, the retiree previously quoted, made sure to emphasize how she felt Tema could be healthy for people if they adopted a habit as simple as walking in the morning "I usually go for a walk and I think it [Tema] is a healthy place to live." Walking in the city was a popular activity, and another interlocutor told me about the walking groups she sees going by her windows every morning. This tempers and adds nuance to other articulations of concerns about modernization. They exist, but they can be managed by the resourceful, savvy residents of Tema.

Conclusion

My interlocutor's unexpected accounts inform a nuanced case where concerns about fertilizers may be stand-ins for broader anxieties about modernization and urban change. In their accounts, winding, non-causal concerns about fertilizer are hybridized with standard descriptors for new disease, and critiques of capitalist development are incomplete. My interlocutors were not yearning for a pre-capitalist time before fertilizer came to exist, they had a clear-eyed understanding of the tradeoffs and were yearning for a cleaner, nicer city. While other similar accounts theorize these types of concerns a rejections of capitalist development (Kinkaid 2019,

Denham and Gladstone 2020), the urban milieu makes for a more nuanced type of critique; concern about fertilizer was certainly not an outright rejection of modernization. Tema's toma tree still stands as does the Meridian hotel skeleton, both remembered materially and in the psyche of Tema's residents.

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Chapter 3

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