

The First Thousand Days:

Global Health and the Politics of Potential in Khayelitsha, South Africa

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I confirm that this work is my own, except where otherwise specified

Abstract

This thesis in anthropology examines the logics and implications of the first thousand days project, a global health focus on nutrition interventions in early life. The thousand days between conception and a child's second birthday has emerged as a critical period that determines future health and potential, underpinned by new scientific knowledge in the fields of epigenetics and the Developmental Origins of Health and Disease. Since 2013, the first thousand days focus has directed nutrition policy in over forty countries. Drawing on fourteen months of multi-sited ethnographic fieldwork in Cape Town, I examine the first thousand days as a policy object, as part of perinatal clinical care, and in the everyday contexts of women and children who are the focus of this intervention. I address the forms of value implicit in this global health policy, the practices of measurement, categorisation, audit, and evaluation that constitute the clinical practice of perinatal care, and the alignment of global scientific projects of aspiration and future-making with the local worlds and futures of women and their children in this setting. Khayelitsha, Cape Town's largest informal settlement, is the central field site. Ethnographic data from antenatal clinics and scenes of ordinary life in this setting illustrate how revised scientific notions of risk and heredity embedded in global health interventions come to bear on everyday life in the global South. My findings show how the first thousand days intervention exemplifies the economic, humanitarian, and anticipatory logics of the 'global health' era, and how familiar concepts of vulnerability with distinct histories in African contexts are newly invigorated by emergent science that refocuses attention on the mother-child dyad. Ethnographic attention to the clinical implementation of the nutrition policy package reveals the tensions between paper directives and the actualities of perinatal healthcare in the local context of Khayelitsha. Finally, close work with fifteen women and their families over the course of fourteen months shows how the anticipatory action envisaged by the first thousand days paradigm is at odds with other potentialities that shape perceptions of the future and structure action in the present, most notably the potential for violence. I frame these disjunctures as part of a *politics of potential,* which extends the reach of governance into the most intimate spaces and simultaneously elides the local potentialities that configure life and the future.

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Acronyms

AFASS	Acceptable, Feasible, Affordable, Sustainable, Safe
AIDS	Acquired Immuno-Deficiency Syndrome
ART	Antiretroviral therapy
BANC	Basic Antenatal Care
BMI	Body Mass Index
DALY	Disability Adjusted Life Year
DOH	Department of Health
DOHaD	Developmental Origins of Health and Disease
GAIN	Global Alliance for Improved Nutrition
GAVI	Global Alliance for Vaccines and Immunisations
GOBI-FFF	UNICEF initiative that included Growth monitoring of young children, Oral rehydration therapy, promotion of Breast feeding, Immunization, Family planning, Food supplementation and Female education
HIV	Human Immunodeficiency Virus
IMCI	Integrated Management of Childhood Illness
MDG	Millennium Development Goal
MSF	Médecins Sans Frontières
MUAC	Mid-Upper Arm Circumference
NCD	Non-communicable disease
NGO	Non-Governmental Organisation
PEPFAR	U.S President's Emergency Plan for AIDS Relief
PHC	Primary Health Care
PMTCT	Prevention of mother-to-child transmission (of HIV)
RTHC	Road to health card
SANHANES-1	South African Nutrition and Health Survey (1)
SASSA	South African Social Security Agency
SAVACG	South African Vitamin A Consultative Group
SUN	Scaling Up Nutrition (United Nations program)
TB	Tuberculosis
UN	United Nations
UNICEF	United Nations Children's Fund
UNSCN	United Nations Standing Committee on Nutrition
UNAIDS	Joint United Nations Programme on HIV and AIDS
USAID	United States Agency for International Development
WHO	World Health Organization

'Malnutrition corrodes the body, the economy and the future.'

1000days.org Twitter feed, November 18th 2014

Chapter 1: Introduction

In March 2013, the South African Department of Health released its *Roadmap to Nutrition in South Africa 2013-2017*. Central to its strategy to improve nutrition was a focus on a window of opportunity: *the first thousand days*. Shaped by new knowledge in the fields of epigenetics and the Developmental Origins of Health and Disease (DOHaD), the thousand days between conception and a child's second birthday has been presented in contemporary epidemiology as a critical period that will determine future health and potential. This thesis interrogates the logics and implications of the first thousand days, through an ethnographic study of this concept's uptake in policy and practice in South Africa, and of how this comes to bear on ordinary life.

First proposed in a 2008 *Lancet* 'Series on Maternal and Child Undernutrition' (Bryce et al. 2008), the first thousand days concept has since become a rallying point for international efforts against malnutrition. Following the launch of the '1000 Days: Change a Life, Change the Future' campaign in September 2010, the first thousand days slogan has been taken up across different platforms that include the World Health Organisation (WHO), the United Nations' (UN) Scaling Up Nutrition programme (SUN) and its country members, as well as eighty non-governmental (NGO), donor and private sector partners, the largest of which is the Bill and Melinda Gates Foundation.[1]

Orchestrated by a diverse set of actors, the transnational project of the first thousand days campaign might readily be described as a project of global health. The global health

[1] For a popular account of the beginning of the first thousand days movement see Thurow 2016.

movement is often described as the successor of the post-World War II international health movement, which employed a nation-state centred approach and focused on interventions in countries that have been historically labelled as 'developing' (Escobar 1995). The WHO-driven international health era has been replaced by a diffuse set of actors that include nation-states, NGOs, philanthropists and others. The boundaries and functions of this 'global health system' are difficult to delineate, but cluster around a central imperative to act for the sake of global biosecurity, economic development, or humanitarian reason (Lock and Nguyen 2010, Fassin 2012a). In addition, the global health public/private mix of partnerships is characterised by project planning within contemporary economic frameworks that privilege cost-effectiveness and measurable outcomes (Adams 2013).

The 2008 *Lancet* 'Series on Maternal and Child Undernutrition' highlighted the persistent burden of undernutrition in 36 countries and recommended the integrated delivery of nutrition interventions with maternal and child health packages (Bryce et al. 2008). The series presented the original rationale for the thousand-day period in a review of five cohort studies from South Africa, India, Philippines, Brazil and Guatemala. The data suggested that height for age at two years (roughly one thousand days after conception) is the best predictor of future human capital, defined as including adult height, educational achievement, income and offspring's birth weight (Victora et al. 2008). The use of these indices expresses the economic logics that underpin the first thousand days intervention: good nutrition is a 'prerequisite for economic development' (Bryce et al. 2008). In the same year, the UN Secretary-General established the High-Level Task Force on Food and Nutrition Security and the 2008 Copenhagen Consensus concluded that nutrition was one of the most cost-effective investments for

development (Copenhagen Consensus Center 2008). These events and recommendations later formed the basis for the SUN programme and the '1000 Days: Change a Life, Change the Future campaign'. Using the 2008 *Lancet* series as a new evidence base for action and in line with the World Bank's shift to reposition nutrition as central to development (World Bank 2006), SUN aimed to scale up nutrition interventions and re-centre nutrition as a key concern for all sectors (United Nations 2010). The '1000 Days: Change a Life, Change the Future campaign' was launched on September 21st 2010 by then United States Secretary of State Hillary Clinton and Irish minister Micheál Martin at the UN General Assembly, where a group of countries pledged to invest in nutrition and in the first thousand days (Thurow 2016). *The Lancet's* 2013 follow up series 'Maternal and Child Nutrition' added that the first thousand days also impacts on potential future burdens of overnutrition and chronic disease (Black et al. 2013). As a key message, the 2013 series highlighted that 'undernutrition during pregnancy, affecting fetal growth, and the first 2 years of life is a major determinant of both stunting of linear growth and subsequent obesity and non-communicable diseases in adulthood' (Black et al. 2013:1).

The first thousand days concept is one expression of a shift in epidemiological approaches to chronic disease. The move towards early life interventions to prevent adult disease is based on life course epidemiological models that incorporate *DOHaD* and *epigenetics*, concepts that I will explain further in Chapter Two. Put simply, there is growing evidence that environmental factors in early life, such as nutrition, interact with genetic factors during a limited window of plasticity to shape health outcomes in adulthood (Gluckman and Hanson 2006). Research into these associations has formalised as the field of DOHaD. DOHaD scientists often explain their findings as an

expression of epigenetic processes, commonly defined in molecular biology as the processes by which environmental inputs modulate genetic material and gene expression without DNA sequence changes (Godfrey et al. 2007).

DOHaD and epigenetic understandings of disease causation depart from prevailing models in three important ways. First, in these frameworks there is no clear-cut dichotomy between conditions that have a genetic basis (congenital), and conditions that are caused by environmental factors (acquired) (Lock and Palsson 2016). The binary gene/environment framework that has characterised approaches to disease aetiology in the latter half of the twentieth century no longer holds and there is great variation in how science and epidemiology conceptualise the environment (Whitmarsh 2013, Shostak and Moinester 2015). In many cases the mother/infant dyad or the consumption of food becomes a proxy for 'environment' so that experiments or interventions can be effectively designed and executed (Landecker 2011, Lock and Palsson 2016).

Second, DOHaD and epigenetic logic expands the temporal epidemiological relationship between exposure and outcome. Unlike traditional epidemiological models for chronic disease, life course models 'explicitly require the temporal ordering of exposures and their inter-relationships' (Kuh et al. 2003: 778), which occur across the life course but also across multiple generations (Ben-Shlomo and Kuh 2002; Hochberg et al. 2010). The potential for the transgenerational transmission of disease risk creates a new multi-generational temporality for epidemiology and policy.

Third, these new configurations of exposure and outcome alter the ways in which science and policy conceive of and articulate risk. As Karen Taussig and colleagues

observe, revived understandings of nature or biology as malleable are better understood as part of a discourse of *potentiality* than of risk. Risk - or the articulation of danger as scientific and thus seemingly neutral - has been a key framework of modernity (Douglas 1992, Beck 1992). In the twenty-first century, it persists as a central logic of the governance of life (Rose 2007); a prescient example is the global health concern with biosecurity, broadly defined as a set of regulatory techniques that aim to secure health and reduce the incidence and effects of perceived threats to life (Lakoff and Collier 2008, Hinchliffe and Ward 2014). Biosecurity attempts to anticipate the 'gap that cannot be known': the space between the present and the future moment of the next pandemic's arrival (Caduff 2014: 302). The concept of potential invoked by DOHaD and epigenetic imaginaries, while it has other relevance to biosecurity (Guthman and Mansfield 2013), 'indexes a gap between what is and what might, could or even should be' (Taussig et al. 2013). Potentiality can be defined as a capacity for plasticity, a latent force that will manifest in a predetermined manner, or an energy whose direction is open to manipulation and choice (Taussig et al. 2013:10). It differs from risk in its ambiguity and its inclusion of speculation, expectation and promise (Taussig et al. 2013). This authorises forms of evidence otherwise anathema to the evidence hierarchy of the global health era. The rationale for intervention is not based on randomised-controlled-trial gold standard evidence, but on large correlational studies much lower down on the traditional evidence tree. Paradoxically then, risk calculation in the epigenetic era relies less on evidence-based medicine, and more on a kind of 'probabilistic information' - a 'divination of the future' (Lock 2005: 52). The first thousand days project, with its eye on future potential, exemplifies this orientation. If it is indeed the case that potentiality is emerging alongside risk as a central orientating concept in biomedicine (Taussig et al. 2013), the implications of this shift require examination. Further, there has been little

interrogation thus far of the ways in which DOHaD and epigenetic ideas become part of policy and come to bear on ordinary life in settings of the global South. As João Biehl contends, it is necessary to ask 'when and under what conditions marginalized people [are] accounted for as population-subjects in new biomedical regimes' (2011: 106).

This thesis is one such an inquiry. I interrogate the biomedical regime of the first thousand days as an object of global health, informed by DOHaD and epigenetic theory, with three research questions situated in three intersecting literatures, discussed in Chapter Two. The first question concerns the values and discourses that underpin the first thousand days intervention: what is foregrounded and what is overlooked? This question draws from and builds on the corpus of work on the anthropology of international and global health. Certain framings of perceived global health issues have public and political salience, while others do not. As Didier Fassin has cautioned, 'global health is not only about ideas or concerns, but about actors whom we must clearly identify and whose interest we should analyse' (Fassin 2012b: 113). Why has the first thousand days project been readily adopted by South Africa and many other states? This question is addressed in Chapter Four. The second question is: how has the first thousand days intervention been implemented in South Africa, and are the measurements and indices appropriate in this particular local context? This question draws on work across anthropology, science and technology studies, and postcolonial technoscience that has examined the construction and application of health and policy indicators, and the problems of the perceived universal applicability of epidemiological measurements and interventions. I address this question in Chapter Five. The third question asks how revised notions of potentiality and the future that are reorienting the life sciences and biomedicine are expressed in the first thousand days concept, and if

these align with ideas about, and experiences of, potential and the future in my South African field site. This question draws on the 'anthropology of the future' that Arjun Appadurai hails in his 2013 volume, *The Future as Cultural Fact*, which calls explicitly for anthropologists to attend to 'the ways in which humans construct their cultural futures' (2013: 5). I examine the construction of futures across a number of sites, from the study of the first thousand days as an object in policy discourse to the local futures of my interlocutors. This question also draws on work on forms of violence (Das et al. 2000, Das 2006, Povinelli 2011, Han 2012, Das 2015a), and the motifs of 'crisis' and 'uncertainty' that so often characterise the construction of futures in Africa (Reynolds Whyte 1998, Haram and Yamba 2009, Cooper and Pratten 2015). This question is the subject of Chapter Six.

I address these questions with a multi-sited ethnographic study across policy, clinic and community sites in the Western Cape Province of South Africa. Fieldwork took place across a series of trips between September 2013 and November 2015, with fifteen consecutive months from July 2014 to September 2015. Khayelitsha, Cape Town's largest informal settlement, was a central field site. Khayelitsha was established in 1983 by the apartheid state in an effort to consolidate the 'African'[2] population of Cape Town in a township some distance from the city. The township was built some thirty kilometres from central Cape Town on land deemed undesirable for agriculture. The plan for Khayelitsha reflected the spatial logic of apartheid, which sought to segregate race groups for 'separate development' (Dewar and Watson 1984). Those geographies of

[2] The Population Registration Act of 1950 decreed that each citizen should carry an identity document that recorded his race as either 'white', 'coloured', or 'native'; this was later modified to divide the population into four groups: 'African', 'Indian' 'Coloured', and 'White' (Posel 2001). In democratic South Africa, the national census describes the population as 'black African', 'white', 'coloured', and 'Indian'. I use the terms as used in the census as these are consistent with common usage, but this should not imply my acceptance of racial attributes of any sort.

exclusion persist today in the high rates of unemployment in Khayelitsha and the side-lining of many of the township's residents from the formal socio-economic activities of the city. In the city's imaginary, Khayelitsha is still 'out there', despite the fact that a large number of the city's residents call Khayelitsha home.

I chose to do this research in South Africa with Khayelitsha as a central node of the study for a number of reasons. Since 2013, the first thousand days focus has been taken up explicitly within nutrition policy in South Africa. While South Africa is not a formal member country of the SUN network, the *Roadmap to Nutrition in South Africa 2013-2017* rolled out in 2013 in partnership with the WHO, UNICEF and the Global Alliance in Nutrition (GAIN) is based on the SUN framework and endorses the 'lifecycle approach, focusing on the key "window of opportunity", namely pregnancy and the first two years of life (the first 1000 days)' (Department of Health 2013a: 16). Khayelitsha's health profile is typical of the pattern of intergenerational metabolic disease that the first thousand days focus seeks to alleviate: child undernutrition co-exists with adult obesity and associated chronic disease, even within the same households (Bourne et al. 1994, Mvo et al. 1999). In addition, Khayelitsha exemplifies what Richard Rottenburg (2009) and P. Wenzel Geissler (2013) describe as a 'research archipelago' in their work on contemporary African global health, defined by the large number of projects orchestrated here by a mix of state, NGO, academic and philanthropic actors. I was thus able to observe how the first thousand days project was implemented alongside existing projects and in conjunction with new programmes in a place where 'global health' is at work.

My own interest in the first thousand days as a global health strategy to combat adult

chronic disease has its origins in my clinical work in the Cape Metropole from 2009-2013. Having studied medicine at the University of Cape Town from 2003-2008, my training coincided squarely with the protracted fight between the Mbeki administration's AIDS denialism and activist groups who worked towards the state provision of antiretroviral medication, which eventually began in 2006 (Fassin 2007). I was well prepared for practising medicine in the era of HIV. At the same time, the twenty-first century has seen an increase in the so-called chronic diseases of lifestyle or non-communicable diseases (NCDs)[3] in urban South African populations, including among others obesity, hypertension, diabetes and cardiovascular disease (Steyn et al. 2006). As medical students we were taught that these were related to risk factors in adulthood, and learnt about behaviour change interventions for nutrition and physical activity. Practising medicine in Cape Town from 2009, I saw a confluence of the HIV and NCD epidemics. The provision of antiretrovirals was in many ways the magic bullet (Brandt 1987) it was anticipated it to be: a simple, effective way to keep people with HIV alive. Yet scholars who have traced the evolution of the epidemic make plain the complexities that have accompanied that breakthrough (Robins 2004, Fassin 2007, Nattrass 2008, Nguyen 2010, Fassin 2015, Cousins 2016). For NCDs, the first thousand days intervention is presented as another magic bullet of sorts. Targeting nutrition interventions during this critical window seems to be a simple, effective, and feasible way to achieve a host of outcomes: decrease child undernutrition, prevent adult chronic disease, and increase future human capital. The simplicity and beauty of the concept is appealing as an intervention against a host of future ills, but also as a positive action for the creation of a better future. Yet as previous anthropological work has made plain, 'there are profound discrepancies between how global health policies and campaigns are envisaged to work and the

[3] This shift in terminology is examined in Chapter Four.

concrete ways in which they are actually implemented or received' (Biehl and Petryna 2013: 10). Global policies are often incongruent with local realities (Manderson and Whiteford 2000, Farmer et al. 2013). Universal theories overlook local contingencies (Kleinman 1995). Policy ideologies inevitably privilege some perspectives, and overlook others (Nichter 2008). The first thousand days initiative elicits such concerns. In the case of post-apartheid South Africa, with its particular history and contemporary challenges, what are the complexities that are being overlooked?

My South African citizenship and my prior work as a medical doctor in Cape Town granted me a smooth passage to policy offices and clinic corridors, but my familiarity with these contexts made for other challenges. In the course of this work I had to confront meanings of home, whiteness and blackness; and examine the powerful roles of medicine and anthropology in the histories that have shaped this landscape.

The work I present here is an ethnography of the first thousand days project. It is also an ethnography of an ecology of global health that lies outside of the dominant 'African global health' narrative where the state is largely absent; and thus builds on Africanist scholarship that is reviving questions of the role of the state in global health on the continent (Geissler 2015a). Finally, it is an ethnography of Khayelitsha and Cape Town that attempts to unsettle prevailing configurations of township and city to consider how this relation might be rendered differently.

Overview of the thesis

Chapter Two places the development of the concept of the first thousand days in the context of the inter-related histories of public health interventions in early life nutrition, epidemiological approaches to chronic disease and understandings of heredity. Drawing on the anthropologies of postgenomics, the international and global health movements, and of the future, the chapter demonstrates how the first thousand days has materialised as a specific object of global health concern and how South Africa has emerged as a key site of DOHaD science.

Chapter Three is an in-depth discussion of the field and my methods. I discuss Khayelitsha within its wider geographical contexts: the local context of the City of Cape Town, where Khayelitsha is physically and symbolically isolated from the inner city, and yet is a growing cosmopolitan centre in its own right with significant infrastructural changes underway; the national context, in which Khayelitsha is a point in a larger rural-urban network; and a global context, in which Khayelitsha exemplifies a research hub on the global health map. In the second half of the chapter I discuss access to the field, fieldwork methods, my positionality, the particularities of the physician-anthropologist's ethical obligations and the practicalities of managing risk during fieldwork.

Chapter Four attends to the question of how ideas travel – specifically how ideas about epigenetics and nutrition articulate across domains and registers. Through ethnographic encounters in lecture theatres and international conferences, government offices, clinics and the homes of my informants, I illustrate how the first thousand days concept moves across these spaces and the values and assumptions that permit its

translation. This chapter shows how the first thousand days is one of many 'global health' projects in Khayelitsha, and I consider the new biopolitical formations that are emerging here by virtue of further incursions of state and non-state actors into domestic spaces under the auspices of health care.

Chapter Five addresses the question of practice and implementation. Using the clinic as the primary ethnographic site, I describe practices of measurement, categorisation, audit and evaluation that clinical protocol prescribed. I show how the paper policies of the first thousand days package are shaped, altered, navigated or confounded by the material infrastructure of the clinics and staff improvisations amid huge patient loads and stock shortages. What emerges is an image of what I term *life between protocols,* a space dually characterised by pragmatic forms of care and by a 'knowing not to know' (Geissler 2013) when such care is impossible to extend.

Chapter Six charts the ways in which the future encapsulated in the first thousand days project articulates with other potentialities that shape my interlocutors' landscapes, most notably the potential for violence. The common set of aspirations around health, education and the achievement of middle-class status that my informants expressed for themselves and their children are held in tandem with fears related to the possibility of violence and the potential for a child's future to be marred by hunger, abuse, drug addiction, induction into a gang or incarceration. Accounts of violence and how it structures action and life in Khayelitsha point to anticipation in a different register. I discuss how aspiration, in this case, is unevenly distributed, and how some are able to 'make something out of nothing' to work towards an aspired future, while for others the future is much less certain.

In Chapter Seven I revisit the key findings of the thesis, which taken together illustrate what I term *a politics of potential*. Having used the first thousand days assemblage as one lens onto new formations of postgenomic knowledge, global health and the future, I consider what this ethnographic study reveals about contemporary notions of risk, responsibility, care and potential, and their imbrication in the everyday in one location of the global South.

Chapter 2: The first thousand days - the (epi)genesis of a concept

Introduction

This chapter situates the emergence of the first thousand days concept in historical and material contexts. I start by considering three intersecting histories that have formed the epistemological field for the emergence of this idea: histories of the concept of heredity; of epidemiological approaches to chronic disease; and of public health interventions into perinatal nutrition. I then draw on anthropological studies of material sites where concepts of genes, population, health, disease and nutrition have come to matter. Thinking with the metaphor of gene-environment interactions, one might say that the histories I describe here constitute the milieu - that is, the conditions of possibility for the emergence of a set of concepts that inform contemporary ideas of health and life. Outlining these histories is then to begin an archaeology of the first thousand days: in Foucault's terms, an outline of 'the systems of simultaneity, as well as the series of mutations necessary and sufficient to circumscribe the threshold of a new positivity' (1970: xxiii). A review of an anthropology of the forms that have emerged out of these milieus - genetic science, the international and global health movements, the future as imaginative horizon, for example - is then to construct a genealogy of the place of biology in contemporary global health. In Foucault's understanding, examining the genealogy of ideas is to trace the emergence of truths within contingent histories of power (1984). In his lecture 'What is Enlightenment?', Foucault outlines both archaeology and genealogy as constitutive of what he calls historical ontology (ibid.).

Thus, this chapter is a historical ontology of the first thousand days and seeks to place particular histories of practice within a broader understanding of their conditions of possibility. Finally, I locate these histories within the specific context of South Africa as one site through which an emerging regime of knowledge is being constituted.

The first thousand days: situated histories

At the heart of the first thousand days concept is a revival of the nature/nurture debate and a disruption of what is understood as *inherited* and what is understood as *acquired* in contemporary biomedical understandings of health and disease outcomes. Thus a departure point for understanding the constitution of the first thousand days lies in the history of heredity, which emerged as an important concern for biology in the mid-nineteenth century (Müller-Wille and Rheinberger 2012). Until the late 1700s, the transmission of characteristics between parents and offspring was largely understood as part of *generation,* an Aristotleian view of development as gradual and sequential (ibid.). The concept of biological inheritance - that something is transmitted from parent to progeny independent of developmental processes - emerged most prominently in the work of Charles Darwin (1859) and Francis Galton (1869). Between the nineteenth and twenty-first centuries this emergent science of heredity cycled between hard and soft understandings of inheritance (Meloni 2016). In simplified terms, hard heredity refers to the notion that inheritance is fixed at conception; soft heredity understands hereditary material as malleable and shaped according to environmental factors (Meloni 2016 citing Bonduriansky 2012). Darwinian and Mendelian concepts of heredity are prominent examples of the former; Lamarckism most commonly represents the latter. In the

twenty-first century, genetic determinism best represents the hard heredity argument, while epigenetics exemplifies soft inheritance.

Philosopher of science Georges Canguilhem articulated this debate as one of a relationship between organism and milieu (2008), and noted that this debate was political: 'recognition of the milieu's determining action has a political social impact: it authorises man's unlimited action on himself via the intermediary of the milieu' (ibid.: 115). Thus, Canguilhem argued, the prevailing concept of heredity at any one time was as much dependent on its ideological underpinnings as on its scientific merit. In his analysis of changing social values in human heredity in the twentieth century, Maurizio Meloni terms this 'political biology': that knowledge claims must overcome 'the constraints imposed by acceptable - that is to say, recognised - epistemic statements and available sociopolitical values' (2016: 18). This explains why, although the concept of epigenetics had existed since the 1940s, this field would not fully emerge until the early twenty-first century.

The histories of the fields of demography and public health are particularly inter-related with the emergence of notions of hard heredity (Foucault 2003, Müller-Wille and Rheinberger 2012). In the late nineteenth century, proponents of hard heredity (most prominently Galton) saw the possibilities this concept afforded for the counting and enumeration of populations and hence the improvement of the quality of a nation (Rose 2007). The eugenics movement that emerged in the first half of the twentieth century was characterised by a primacy of biology and scientific expertise, a utopian vision of future order and the privileging of the population over the individual (Meloni 2016). Michel Foucault argued that this combination of emergent techniques of counting

populations and the tight regulation of biological processes and heredity had its extreme expression in the Nazi regime (2003). For Foucault, Nazi society illustrated 'biopower in an absolute sense' (ibid.: 260) and for many biopolitical thinkers, the Nazi eugenic logic continues to animate biopolitics in the present (see for example Baumann 1989, Agamben 1998, Esposito 2008). Paul Rabinow and Nikolas Rose offer an alternative rendering of contemporary biopolitics as based on a logics of vitality brought forth in part by the molecularisation of life processes (Rabinow and Rose 2006, Rose 2007). Drawing these philosophical debates into conversation with histories of heredity, Maurizio Meloni argues that Foucault did not intend for biopower or biopolitics to become ahistorical concepts, and cautions against epochal views of biopower abstracted from specific historical and material contexts (2010). Rather, he contends that an understanding of contemporary biopolitical forms requires a return to the Foucauldian method of locating ideas in specific and situated contexts, or what Foucault called historical ontology (Meloni 2010 citing Foucault 2008).

Applying this method to the emergence of the first thousand days concept, there are a number of histories intersecting with a history of ideas of heredity that require articulation. The first thousand days concept emerges at a particular point in the history of heredity where a return to soft inheritance, framed as epigenetic processes, is gaining currency. Closely related to this history, the first thousand days concept also represents the most recent manifestation of a series of shifts in epidemiological approaches to chronic disease over the course of the twentieth century as a key policy outcome of the concretised field of Developmental Origins of Health and Disease (DOHaD) research. Finally, the first thousand days campaign is one in a long line of interventions into maternal and child nutrition since the end of the nineteenth century, with many

continuities in policy interest in the social and economic implications of population health.

Heredity: the return to epigenetics

Maurizio Meloni cites two important factors after World War II as contributing to the consolidation of hard heredity as the dominant model in the second half of the twentieth century (2016). First, the discovery of the structure of DNA by James Watson and Francis Crick (1953) and the emergent field of molecular biology offered a measurable biological basis for hard heredity. Advances in technology materialised the gene as a measurable object well before epigenetic phenomena (Müller-Wille and Rheinberger 2012). Second, post-war concepts of biological inheritance conformed to a universal rights-based ethos that emerged at that time (Haraway 1990). Genetics, a science that could celebrate individual difference, was compatible with notions of liberal democracy (Meloni 2016). Thus, although the gene was by no means a stable concept, by the end of the twentieth century it had been established as the dominant language in which heredity was popularly understood (Fox Keller 2000). However, the completion of the Human Genome Project led to far more complex understandings of the genome as a map of data, where the genotype is just one node among many in a complex systems network (Rheinberger 2013). Together with advances in information technology and mathematics, this led to a range of new approaches in systems biology and the collection of approaches referred to as the '-omics' (Joyce and Palsson 2006).

Of the -omics, epigenetics is described as the 'archetypal postgenomic science' (Stevens and Richardson 2015). The term epigenetics was coined by Conrad Waddington

in the 1940s and derives from the Aristotelian concept of epigenesis, which emphasized the qualitative and continuous nature of development (Waddington 1942). Waddington wished to describe the biological study of the interaction between genes and their products (1968): a possibility that would only manifest later in the twentieth century with the expansion of the field of molecular biology. Understandings of epigenetics have changed in concert with these advances (Jablonka and Lamb 2002) and controversy persists over the definition of the term (Ptashne 2007). One consensus definition that has been proposed is that 'an epigenetic trait is a stably heritable phenotype resulting from changes in a chromosome without alterations in the DNA sequence' (Berger et al. 2009: 781). A less technical definition describes epigenetics as 'heritable changes in gene expression that cannot be tied to genetic variation' (Richards 2006: 396). What is clear is that epigenetics is still defined in a number of different ways, thus affording an ambiguity of use across a diverse set of concerns (Meloni and Testa 2014).

Knowledge of the processes by which epigenetic mechanisms interact with gene expression is still very limited (Landecker and Panofsky 2013). The best described epigenetic phenomenon is DNA methylation, the process whereby marks on the epigenome manifest during development in response to environmental cues, of which nutritional signals are thought to be especially important (Waterland and Michels 2007). While methylation has been a key focus of research, less is known about other possible epigenetic mechanisms. This has not tempered excitement about the possibility of intergenerational transmission of disease risk, which, despite the paucity of evidence for transgenerational epigenetic inheritance in humans (Heard and Martienssen 2014), has emerged as a powerful idea in epigenetic discourse. The two multigenerational studies most commonly cited in this case are the Dutch famine cohort (Roseboom et al. 2001)

and the Swedish Överkalix cohort (Pembrey et al. 2006). The Dutch famine that resulted from a Nazi embargo in the western Netherlands between October 1944 and May 1945 affected 4.5 million people. Following exposure to famine in utero and early life, children born during this period demonstrated increased rates of obesity, metabolic disease and other illness during adulthood, although this was dependent on a number of variables including the timing of the exposure (Heijmans et al. 2008, Tobi et al. 2009). The Överkalix cohort showed sex-specific transmissions of mortality risk across two generations, again highlighting timing of exposure as an important factor (Pembrey et al. 2006). While scientists (Heard and Martienssen 2014) and social scientists (Meloni and Testa 2014, Pickersgill 2016) call for modesty in claims around the importance of transgenerational epigenetic inheritance, it is clear that this discourse has had a significant impact and the debate continues (Grossniklaus et al. 2013).

Similarly, advances in genome studies corralled much hype around the prospects of personalised medicine (Ginsburg and Willard 2010), yet pharmacogenomics and genome sequencing has so far had only limited application in clinical settings (Kitsios and Kent 2012). Epigenetics and omics research introduces unwieldy complexities for modelling population health. As epidemiologist and science studies scholar Susanne Bauer has noted, integrating epigenomic variables and their many interactions into epidemiological models 'pushes the limits of statistical validity' (2013: 523). Using largely molecular variables 'folds individual and population into each other', with challenging implications for the application of epidemiological findings (ibid.: 525). For example, mapping the 'exposome' - the sum total of exposures that might impact on chronic disease risk across the life course (Wild 2005) - is a daunting, if not impossible task for epidemiology (DeBord et al. 2016).

The need to manage such complexity is one reason for life course epidemiologists to focus on those stages of the life course thought to play a more critical role in shaping future disease risk, such as the early life period (Ben-Shlomo et al. 2016). In sum then, even while there is still much to learn about epigenetics, these shifting notions of inheritance and disease risk have had a significant impact on epidemiological theory and practice.

Histories of epidemiology: chronic disease, the life course and DOHaD

Closely related to the importance of histories of heredity for understanding the emergence of the first thousand days concept is the evolution of epidemiological ideas about chronic disease in the twentieth and twenty-first centuries, and more specifically the emergence of the field of DOHaD research.

As described by Foucault (1974) and Latour (1988), the field of epidemiology emerged in the 1800s secondary to the possibilities afforded by scientific and statistical advances for the description and enumeration of disease and disease patterns. Debates about heredity, statistical and medical studies of mortality patterns, and public health programmes in the late nineteenth and early twentieth centuries closely informed each other (Kuh and Davey Smith 1993). For example, concern about the low number of British men physically fit to serve in the Anglo-Boer War in South Africa from 1899-1902 led to government interest in the physical health of the nation and thus in adult and infant mortality rates. Around the same time proponents of eugenics, such as Galton's

student Karl Pearson, argued that mortality in infancy was another expression of natural selection and prevented the development of weak 'stock' (Kuh and Smith 1993). Early twentieth century epidemiology was thus characterised by attempts to understand the relationship between patterns of disease, hereditary factors and the influence of social and environmental conditions, the latter giving rise to the field of occupational health (Krieger 2011). For the first half of the twentieth century, epidemiologists thus remained largely concerned with 'germs' and 'genes' and mortality risk (ibid.). The early life period was one important focus of this period, as a time that could affect adult 'vitality' (Kermack et al. 1934: 700).

In her comprehensive analysis of the evolution of epidemiological thinking in the twentieth century, Nancy Krieger (2011) shows how the discipline shifted from a focus on 'germs' and 'genes' in the first half of the century to the 'risk factor' and 'lifestyle' models that dominated after the 1960s. Improved computational methods in the 1950s made possible the testing of multifactorial hypotheses (Susser 1985), and epidemiologists expanded their frameworks of 'agent', 'host', and 'environment' to study a range of factors that could contribute to ill health, often captured in the shorthand 'lifestyle' (Krieger 2011). The first large cohort study of its kind, the Framingham study on coronary heart disease established in 1948 (Dawber and Kannel 1958) embodied this new approach, and out of this work emerged a new focus for epidemiological attention: 'the risk factor' (Kannel et al. 1961). Cohort analysis, not confined to mortality patterns, became a key epidemiological methodology to study the relationship between risk factors and outcomes for disease in adult life (Kuh and Davey Smith 1993). In the same way that the concept of epigenetics (Waddington 1942) did not find favour in the gene-centrism of the mid-twentieth century (Muller-Wille and Rheinberger 2012), the post-

World War II discipline of chronic disease epidemiology was concerned with statistically measurable proximate exposures and outcomes, rather than early life associations not amenable to available computational methods of quantification (Saracci 2007). The public health concern with early life influences on chronic disease and mortality risk in the early twentieth century was thus supplanted by the post-World War II focus on environmental or 'lifestyle' exposures in adulthood, only to re-emerge in the 1970s as the concept of developmental programming gained currency (Kuh and Davey Smith 1993).

Developmental programming theory challenged prevailing understandings of the aetiology of chronic diseases such as cardiovascular disease in a number of studies in the 1970s and 1980s that demonstrated the role of poor conditions in early life in predicting for adult disease (Dörner 1973, Forsdahl 1977; Wadsworth 1985; Notkola et al. 1985). The term 'programming' is attributed to Dörner (1973), who noted an association between perinatal conditions and risk for adult atherosclerosis and obesity and advocated for improved maternal care in East Germany (Dörner et al. 2008). Freinkel later postulated that maternal metabolic function influences the development of fetal structures with long-term effects (1980), but DOHaD's origin story is most often traced to the work of Barker and Osmond, whose research on the association of poor childhood nutrition and adult cardiovascular disease in deprived English counties (1986) produced the thrifty phenotype hypothesis (or fetal origins hypothesis).[4] The hypothesis contends that conditions during critical windows of development have a long-term effect on function or morphology (Hales and Barker 1992). At the same time, these ideas supported the return of the 'critical period' as a key concept in life course epidemiology, defined as 'a limited time window in which an exposure can have adverse or protective

[4] Also described as fetal impression (Paneth 1994), genomic imprinting (Signorello and Trichopoulos 1998), metabolic imprinting (Waterland and Garza 1999), or induction (Bateson 2001).

effects on development and subsequent disease outcome' (Kuh et al. 2003). Critics of developmental programming theory highlighted the difficulties of proving causality given the long gap between exposure and outcome, and dismissed observations as ecological associations (Joseph and Kramer 1996). Others observed that the critical period of development is ill defined (Ulijaszek 1996). Nevertheless, animal models and epidemiological studies in many settings display the correlations that developmental programming theory suggests (Delisle 2002). By the late 1990s, life course epidemiology had been established as a distinct field, dovetailing with the formalisation of DOHaD as an established research field with its own journals and associations (Richardson 2015, Ben-Shlomo et al. 2016).

In the twenty-first century, epigenetics has provided substantive methods for measuring exposure and outcome beyond the correlational tools that have provided evidence for developmental programming, and DOHaD researchers have readily taken up the language of epigenetics as a means for describing intergenerational models of disease distribution. The first thousand days concept is one expression of this logic, and the most recent in a long line of policy interventions into perinatal nutrition.

Public health approaches to perinatal nutrition

The intention here is not to offer a definitive account of the history of public health approaches to perinatal nutrition, but to highlight those aspects that are important to understanding the present day focus on early life. Nutrition in early life was a key focus of early twentieth century concerns with improving adult 'vitality', and an impetus for programmes that addressed the welfare of mothers and children (Kuh and Davey Smith

1993). The relationship between diet and health became strategically important with respect to the question of 'fit stock' - workers and soldiers - for the aspirations of Euro-American nations. As Anson Rabinbach's work has described, the relationship between work, fatigue and nutrition emerged as an object of concern for European scientists in the late nineteenth century (1990). Public health interventions frequently focused on the maternal-child dyad, often naturalising the mother as the primary caregiver (Wheeler 1985, Baird 2008), and the child as a signifier of innocence and potentiality (Castaneda 2002). As this section shows, the tropes of the 'ignorant mother' and the 'innocent child' in nutrition interventions persist throughout the twentieth century.

The increased state interest in the regulation of population health buoyed maternal and child welfare programmes from the late 1890s until the end of the Second World War in industrialised nations and their colonies. A *British Medical Journal* editorial in 1904 concluded that: 'It cannot be too often repeated that a child wisely fed for the first two or three years of life has every chance of growing into a strong man or woman; a child rendered rickety and puny by ignorant feeding will in all probability never make up the ground it has lost' (quoted in Dwork 1987). Maternal education was an early focus of nutrition programmes, and a new science of motherhood emerged in concert with the science of nutrition both in the United States (Apple 1987) and in Britain (Smith 1997) in the first forty years of the twentieth century. In African contexts, maternal and child health programmes in the first half of the twentieth century exemplified the focus on 'nutritional science', and privileged infant welfare over maternal health (Vaughan 1988). As historian Megan Vaughan explains, scientists in the 1930s held the view 'that nutrition was the key to ill health in Africa, and that nutritional science, harnessing the skills of the anthropologists, had a major role to play in improving the health status of

African peoples' (ibid.: 132). Audrey Richards' classic study of the Bemba is one such outcome of research funded for the purpose of investigating nutrition in the colonies and showed that child malnutrition in this setting was a product of social and economic circumstances, rather than the prevailing notion that this was due to the ignorance of African women (1939).

After World War II, the need for a new international order saw the establishment of a number of institutions including the United Nations (UN) and the World Health Organisation (WHO), and the call for a programme of international development which would see all countries achieve a Western ideal of prosperity and progress (Escobar 1995). Two key international development projects of the latter half of the twentieth century were the eradication of hunger and malnutrition, formalised with the formation of the Food and Agriculture Organisation of the United Nations in 1945, and the provision of universal health care, embodied in the 1978 Alma Ata Declaration. The comprehensive primary health care package that Alma-Ata espoused would be only partially implemented in the form of selective primary health care programmes (Rifkin and Walt 1986). For pragmatic and political reasons women and children were often the target of these interventions, geared largely towards the dual problems of undernutrition and infection (Scrimshaw et al. 1959,1968). The best example is UNICEF's widespread rollout of its GOBI-FFF strategy in the 1980s, which included Growth monitoring, Oral rehydration, Breastfeeding and Immunizations, and later expanded to include Family planning, Female education and Food supplementation, especially during pregnancy. The success of the GOBI programme rested on its 'low-cost, high-impact' nature, foreshadowing the shift in focus in the 1980s and 1990s to a market-based logic for health care interventions that would be efficient and cost-effective (Basilico et al. 2013:

82). This shift included a greater role for the World Bank in health and nutrition interventions and has persisted so that in 2017 the Bank is the largest funder of such projects (Sridhar 2008).

A key figure for post-war development interventions was the 'marasmic child in its mother's arms' - an iconic image of vulnerability in need of the developed world's aid (Wheeler 1985: 133; Burman 1994). In the 1980s, nutritionist Erica Wheeler questioned the frequently deployed concept of 'vulnerable groups' in nutritional interventions to focus on children and pregnant and lactating women (1985). Wheeler concurred that these are periods of physiological vulnerability, but disagreed with the policy emphasis on maternal nutrition education, which translated into a model where 'access to a good diet is limited by the woman's knowledge and skills and where the "vulnerable" young child is the first to suffer'. Wheeler criticised nutrition programmes for their sole focus on maternal education, which translated into maternal blame given that 'a mother whose child is malnourished, if she has been subjected to health or nutrition education, must have refused to practice what she has learnt' (1985: 139). It is telling that some twenty years after Wheeler's critique, Devi Sridhar's ethnography of a World Bank nutrition programme reveals that the same assumptions underlie the contemporary international focus on maternal nutrition education: mothers are the sole caregivers, they have decision-making power and child undernutrition can be alleviated through educational correction of 'feminised, ignorant and backward' beliefs (2008: 78). As Sridhar's analysis of the World Bank's nutrition projects has shown, here again a key focus of these programmes was to effect maternal behaviour change; on the basis that undernutrition resulted from poor maternal practices that could be improved with education (2008).

The figuration of the 'good mother' has also been prominent in debates about infant feeding, the history of which is pertinent to the collection of strategies that make up the first thousand days focus. While debates about the perils of infant formula trace back to the 1930s, the 1974 court case between Nestlé and the Third World Action Group following the NGO's publication of a pamphlet entitled *Nestlé Kills Babies* is considered a seminal moment in the history of advocacy for breastfeeding (Van Esterik 2013). Researchers in the early 1970s had pointed to the rise in malnutrition and infection that accompanied the use of formula (Jeliffe 1972). The work of advocacy groups in the 1970s and 1980s led to the adoption of the International code of Marketing of Breast-milk Substitutes in 1981 by the World Health Assembly (WHO 1981). Following the discovery that HIV may be transmitted in breast milk (Ziegler et al. 1985), revised policy recommendations were made for HIV-positive mothers (WHO, UNAIDS 1998), who were initially advised not to breastfeed. These policies were revised again after research showed that exclusive breastfeeding carried a much lower risk of HIV transmission than mixed feeding: the addition of water, formula, or other fluids or foods that might injure the infant gastrointestinal mucosa (Coutsoudis et al. 1999). Anthropologists have chronicled the effects of the global distribution of commercial infant formula (Scheper-Hughes 1984); the subsequent policy move by the WHO and other international organisations to endorse exclusive breastfeeding (Zhang Gottshang 2000, Castro and Marchand-Lucas 2000); and controversies surrounding infant feeding in the context of HIV (Leshabari et al. 2007, Moland and Blystad 2009, van Hollen 2011). Across this literature, the 'good mother' appears as one who makes her feeding choice based on medico-scientific risk calculations (Murphy 2000). The implication, again, is that women's breasts and bodies are 'risky environments' (Van Esterik 2002: 272); mothers are responsible for infant health; and in the case of HIV, infants' HIV-negative status

and survival (Moland and Blystad 2009, Fassin 2013). This history is pertinent given the importance placed on exclusive breastfeeding in first thousand days campaigns and the distinct history of HIV in South Africa to which I will return in the last section of this chapter.

The prioritisation of nutrition and the health and wellbeing of women and children persisted into the 2000s as reflected in five out of the eight Millennium Development Goals (MDGs).[5] The MDGs were one spearheading mechanism in the formation of the public-private partnerships that characterise the contemporary global health landscape. For key donors such as the Bill and Melinda Gates Foundation, maternal and child health and nutrition continues to form an important focus. Launched in 2000, the Global Alliance for Vaccines and Immunisation (GAVI) funded by the Gates Foundation continues the work of the GOBI programme, albeit with a narrower mandate of vertical interventions (Basilico et al. 2013).

The first thousand days campaign thus represents a present-day articulation of the initial public health approach of the late 1900s, which premised that early life nutrition governs both present and future health, now newly constituted within the present day approach to non-communicable disease in life course epidemiology. The infographic in Figure 1 produced by the NGO *1000 Days*[6] captures the promise of this renewed focus on the early life period: 'the impact of nutrition in early life can reach far into the future',

[5] The Millennium Development Goals included: (1) the eradication of extreme poverty and hunger, (2)provision of universal primary education, (3) promotion of gender equality, (4) reduction of child mortality,(5) improvement of maternal health, (6) a focus on HIV/AIDS and malaria, (7) promotion of environmental sustainability and (8)creation of a global partnership for development (UN 2000).
[6] 1000 Days is a United States-based advocacy group partnered to the U.S Department of State, the UN Scaling Up Nutrition movement, the Global Alliance for Improved Nutrition (GAIN) and the Gates Foundation, among others (see *thousanddays.org*).

with effects on disease risk, cognitive development, and future earning potential (1000 Days, 2014). This image and others like it are now widespread across national policy papers, NGO and corporate websites, and the popular press.

This section has begun to trace an archaeology of the first thousand days concept to show how it has its roots in an entangled history of ideas about heredity and disease risk, and the scientific and political programmes such ideas have supported. The next section draws on the anthropological literature to construct a genealogy of the place of biology in contemporary global health.

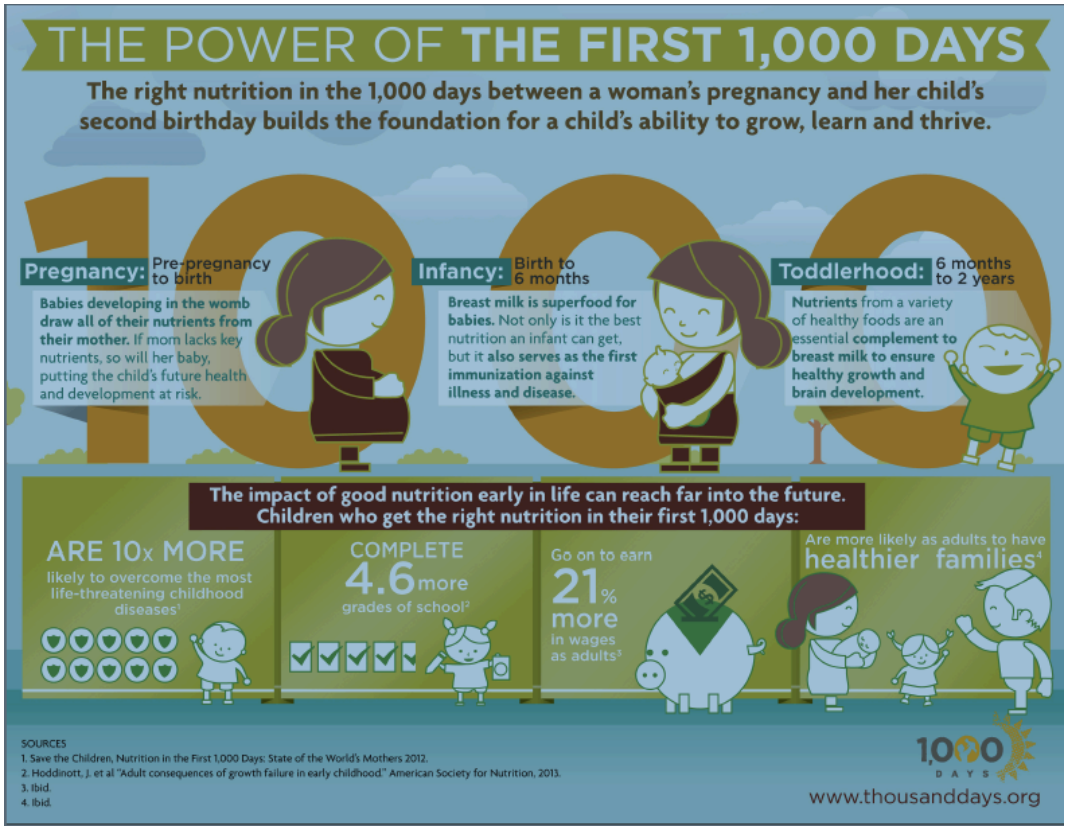

Figure 1: 1000 Days Infographic

Anthropologies of potential: global health, postgenomics and the future

As the last section has demonstrated, the past century has seen profound shifts in ideas about heredity, biology and the role of the state and other actors in population health. By the end of the twentieth century, the molecularisation of genetics had fundamentally altered conceptions of the body (Lock 2005); and the nation-state centred strategies that had attempted to improve health in developing countries after World War II had begun to shift to include international institutions, civil society organisations, philanthropists and others (Basilico et al. 2013). The early twenty-first century has seen the emergence of new assemblages of technologies, practices and values, marked by the globalisation of biomedicine and the infiltration of market logics into the life sciences (Sunder Rajan 2006; Sunder Rajan and Leonelli 2013). This section draws on the work of scholars in anthropology, science and technology studies, postcolonial theory and philosophy of science to trace out genealogies of three such assemblages: postgenomics, global health and the future. Postgenomics might be defined as the assemblage of: new techniques for studying a variety of phenomena around the genome (the -omics sciences); new databases for such research; and the new regimes of capital co-produced with these (Sunder Rajan and Leonelli 2013). Global health assemblages are most often described as constituting research and health interventions conducted by a network of transnational actors including states, non-governmental organisations (NGOs), corporations and philanthropists, underpinned by a humanitarian ethos and frameworks of cost-effectiveness and efficacy (Lock and Nguyen 2010). Finally, a distinct set of assemblages of 'the future' has emerged in the early twenty first century, including a collection of religious and macroeconomic notions that structure time (Guyer 2007);

institutional practices of preparedness (Lakoff and Collier 2008); and images of 'the good life' (Appadurai 2013). The first thousand days concept emerges at a point of intersection of these assemblages.

Postgenomics: anthropologies of the new life sciences

Anthropological attention to the new set of practices, tools and circuits of capital that constitute postgenomics builds on a rich engagement with advances in fields of genetics and molecular biology and their social impacts in the last twenty-five years. This extensive social science scholarship includes work on reproduction, reproductive technologies and kinship; new groups and identities; genetics, race and difference; and regimes of value. Reproduction and the new reproductive technologies have provided fertile ground for thinking through the implications of new genetic knowledge for notions of risk, kinship and care (see reviews by Inhorn and Birenbaum-Carmeli 2008, Lock 2012 for full bibliographies). Rayna Rapp's ethnography about the social ramifications of amniocentesis was among the first to document the uncertainties produced by new genetic information and estimations of risk for women and their families (2000). Genetic citizenship (Heath et al. 2004) and biosociality (Rabinow 1996) have been two important concepts for understanding the forming of new groups and identities based on genetic knowledge. Genetic citizenship has proven useful as a framework for understanding how networks of scientists, activists, corporations and politicians mobilise around genetic concerns (Rapp et al. 2001, Rapp 2003, Callon and Rabeharisoa 2004, Gibbon 2007), while Rabinow's concept of biosociality has seen extensive use by scholars seeking to understand how the biological is harnessed to create new identities and forms of sociality (see for example the edited volume by Gibbon and

Novas 2007, Rose and Novas 2005, Marsland 2012). Important work has also considered genetic technologies alongside questions of race and difference (Abu El-Haj 2007, Montoya 2007, Hinterberger 2012), while ethnographies of the new genetics outside of Euro-American sites have afforded an important lens onto the global circulations of these technologies (Bharadwaj and Glasner 2009, Fullwiley 2011). Finally, the close tracking of how genetics comes to be embedded in circuits of exchange has been a fruitful avenue for understanding how science is enfolded into market logics and regimes of value (Thacker 2005, Petryna et al. 2006, Sunder Rajan 2007, Fortun 2008).

Many of these important themes continue to be objects of close enquiry for anthropologists in the postgenomic era. Of specific concern to this thesis is the body of scholarship that has taken developmental programming, DOHaD and epigenetics as points of focus, and I will confine the remainder of the review to these areas.

The developmental programming hypothesis and the role of epigenetic mechanisms in configuring disease outcomes have been of interest to biological and social anthropologists alike. Biological anthropologists have considered how developmental programming and epigenetics can better account for health disparities and inequalities (Benyshek et al. 2001, Benyshek 2007, Kuzawa and Sweet 2009, Thayer and Kuzawa 2011, Goodman 2013). Social anthropologists have considered the possibilities that developmental programming and epigenetics affords for understanding linkages between the biological and the social, and have developed new frameworks for conceptualising these, notably Lock's 'local biologies' (2013, 1993), Niewöhner's 'embedded bodies' (2011), Ingold and Palsson's 'biosocial becomings' (2013) and Warin and colleagues' 'biohabitus' (2015). Important ground has been covered in mapping the incursions of

developmental programming and epigenetics into public health and popular discourse (Warin et al. 2012, Taussig and Gibbon 2013, Manderson 2016); the possibilities of clinical epigenetics (Rapp 2011, Lock 2013); and the implications of epigenetics for concepts of nature and nurture (Lock 2013, Lock 2015, Lock and Palsson 2016).

Beyond anthropology, a wealth of work has interrogated the expansion of epigenetics as a discourse in the scientific, social scientific and public spheres (Landecker 2011, Pickersgill et al. 2013, Meloni and Testa 2014, Meloni, Lappé and Landecker 2015, Waggoner and Uller 2015). This work has highlighted the positive political potential of epigenetic discourses for opening up understandings of bodies and environments as plastic entities (Lock 2013, Montoya 2013) and the negative possibilities of reconstituted forms of biological determinism, including the dangers of a return to eugenic thinking (Landecker 2011, Lock 2013, Mansfield and Guthman 2015). Epigenetic discourse may inadvertently reinforce liberalised understandings of individual responsibility for health (Mansfield 2012, Landecker and Panofsky 2013), and the maternal body in particular has emerged as a key 'epigenetic vector' (Richardson 2015: 211; see also Landecker 2011, Yates-Doerr 2011, Warin 2012, Mansfield 2012, Manderson 2016).

Thus far, there has been little research of the ways in which these new ideas become part of policy and come to bear on ordinary life in settings in the global South. Notable exceptions include Yates-Doerr's interrogation of nutrition education in Guatemala (2011), and Lamoreaux's ethnography of a toxicology laboratory in Nanjing, China (2016). As an ethnography of DOHaD and the first thousand days, this thesis attempts a novel contribution to this literature, more specifically because, adopting a postcolonial

technoscience lens, I consider how these assemblages of postgenomics in my South African field site are co-created with assemblages of the future and of global health.

The anthropologies of international and global health

Anthropology's roles in the international health, and later, global health movements, have included both involvements in programme planning and critiques of this agenda (Ferguson 1994, Pigg 1992, 2013). Development agencies have consulted anthropologists since the 1950s, when they were tasked to identify the potential 'cultural barriers' to the uptake of interventions (Paul 1955, Foster 1977), and in African contexts, anthropologists played a pivotal role in the production of knowledge about health on the continent (Schumaker 2001, Tilley 2011). A body of critical anthropological work on the topic of international health emerged from the 1980s as this movement became formalised. Research during this era focused on the local uptake of biomedicine and primary health care and the core themes of these interventions - best exemplified by UNICEF's GOBI-FFF package, which targeted children and mothers (Chen 1986, Justice 1987, Heggenhougen and Shore 1986). This included work on infectious diseases (Bentley 1988, Nichter 1989, Inhorn and Brown 1990), maternal education and reproductive health (Christakis et al. 1993), immunisation programmes, and oral rehydration strategies (for full reviews see Nichter and Kendall 1991, Nichter and Nichter 1996).

The definition of global health is contested (Bunyavanich and Walkup 2001, Koplan 2009, Crane 2013), but it commonly refers to those changes in health interventions that occurred in concert with the wider effects of globalisation, which included social, economic, ideological and organisational world changes as a result of collapsed

time/distance barriers of communications, trade and travel (Lee 2003). The 'global' as opposed to the 'international' prefix appears in anthropological work on health from the early 2000s as the concept of global health began to replace that of international health in political and institutional settings (Bunyavanich and Walkup 2001, Brown et al. 2006). Janes and Corbett define the anthropology of global health as a field of study that examines 'global assemblages in local social arenas', where the outcome should be to alleviate global inequalities (2009). They employ Ginsburg and Rapp's version of the local, which does not have a predetermined geographical border, but is any 'small scale arena in which social meanings are informed and adjusted' (1995: 8). Adams and colleagues' definition in their 'Thoughts for a Movement in Global Health' may be better suited to a consideration of how global policy reaches the local level: 'local is a term that identifies the interaction of international, national, regional, neighbourhood and familial institutions as they coalesce and become visible [and] can only be accessed through extended interaction in particular sites' (2014: 182). Wary of the foreclosures of existing definitions of global health and the local/global framework, Stacy Leigh Pigg argues instead that anthropologists should 'aim to understand the implications of current efforts to address something called health in a way that is represented as global' (2013).

Anthropological work on the international health movement often employed political economic and Foucauldian frameworks that sought to identify relations of inequality and power, as favoured by the discipline of critical medical anthropology that emerged at that time (Morsy 1979, Singer 1989). These approaches have also featured prominently in studies of global health (Sridhar 2008, Pfeiffer and Nichter 2008, Pfeiffer and Chapman 2010), but more recent critical analyses have sought to ask 'what is outside biopower' (Biehl 2011: 112) and to question the adequacy of a Foucauldian lens to

account for networks of care (Yates-Doerr 2012) and the 'real-world messiness' of people's lives (Biehl 2013: 583). A number of these scholars position their work at the intersections of critical medical anthropology, science and technology studies and postcolonial theory (Adams 2010, Livingston 2012, Crane 2013). More recently, this work has begun to be framed as part of 'critical global health' (Biehl and Petryna 2013, Biehl 2016, Adams 2016b). Critical global health scholarship, according to Vincanne Adams (2016b), seeks to attend closely to questions of knowledge and power in global health, to closely scrutinise the forms of evidence, efficacy and accountability at work in global health, and to root such investigations in careful ethnographic analysis (see also Biehl and Petryna 2013). Following on this work, in the present study I am interested in the values and ideologies of the thousand days' discourse, its local resonances, and in the universal applicability of this policy and the set of metrics that guides its implementation. The remainder of this review thus focuses on the value systems and epidemiological theories that underpin interventions and on policy metrics as an object of study.

Global health ideologies

Anthropological work on global health has sought to examine the ideology and principles on which this concept is premised. This has its roots in critical scholarship on the international health movement (Foster 1977, Escobar 1984, Kleinman 1995). As Arthur Kleinman contended, the international health movement was 'a child of Enlightenment thinking if ever there was one' (1995: 85). Escobar's seminal critique of development shows how this discourse produced constructs such as 'underdeveloped' and 'malnourished' as targets of programme planning (1984: 387). Foster's earlier work on the ethnocentricity of international health programmes is also formative (1977).

Despite the volume of critical anthropological work on 'international health' by the end of the 20th century, some questioned whether the discipline had adequately challenged the prevailing orientations of health programmes and the development agenda (Kleinman 1995, Escobar 1995).

In keeping with these previous development critiques, Mark Nichter describes the global health movement as a 'biopolitical project of "empire"' (2008: 152). More recently anthropologists have questioned why 'some places, people, and health inequalities fall under the purview of "global health" while others do not' (Brada 2011 286; see also Fassin 2012b, Pigg 2013, Crane 2013, Biehl and Petryna 2013). Others ask what constitutes 'health' in an evidence-based framework (Béhague et al. 2009, Adams 2010, Fassin 2012b). Examinations of the 'plurality of values' that inform global health governance (Stewart et al. 2010: 117) reveal utilitarian, religious and human rights-based frameworks (Farmer et al. 2013). Of these, neoliberal approaches that prefer 'cost-effective' interventions have received considerable criticism by anthropologists who have documented effects on health systems and healthcare provision (Kim et al. 2000, Farmer 2003, Pfeiffer and Chapman 2010). The moral injunction to practice global health has also received close scrutiny. Johanna Tayloe Crane argues that like humanitarianism, global health is a 'political resource (serving specific interests) to justify action considered to be in favour of others exposed to a vital danger, action taken in the name of a shared humanity' (2013: 8, quoting Fassin 2010: 239). Fassin has argued elsewhere that global health may be more of a 'semiotic innovation' than a novel moral approach to the world's health problems (2012b: 101). In sum, anthropologists continue to question 'what or who must be valued in order for knowledge to count as global health science, and what or who remains subjacent or unaddressed' (Biehl and Petryna 2013: 15). In the

context of the global health project of the first thousand days, what are the values and assumptions that inform what or who is prioritised, and what or who is overlooked?

In African contexts, historians of global health have worked to demonstrate the assumptions of current programmes and the continuities between contemporary global health interventions and their colonial antecedents (Prince and Marsland 2014, Giles-Vernick and Webb 2013, Anderson 2014). Anthropologists have alternately foregrounded the state (Geissler et al. 2012, Geissler 2015a), publics (Fairhead et al. 2005, Kelly et al. 2017), partnerships (Brada 2011, Redfield 2012, Brown 2015) and transnational movements of people, money and technology (Dilger et al. 2012), to reveal the 'peculiar bricolage' (Rottenburg 2009: 424) of actors that constitute global health in Africa. Networks of pharmaceuticals, intellectual property and knowledge production have been well described (Taylor-Crane 2013, Petersen 2014, Pollock 2014) and suggest the development of new landscapes of power and knowledge that shape lives in African contexts. The 'trial community' has been an important focus (Nguyen 2005, Molyneaux and Geissler 2008, Nguyen 2015), and critical ethnographies of medical research in Africa have shown that it is impossible to consider ethics and evidence in this context outside of the complex set of relations that make up medical research teams, themselves shaped by distributions of power in the postcolony (Geissler and Molyneux 2011, Colvin 2014).

Metrics

Anthropological examinations of the construction and application of indicators that inform health and development policy reveal the problems of the perceived universal

applicability of epidemiological measurements and interventions. This literature suggests that in order for knowledge 'to count', in Arthur Kleinman's words, it must be 'objective' and standardised (1993). Yet as Timmermans and Berg have argued, 'universality is always "local universality"' (1997). Notable anthropological critiques of the international health movement include work that interrogates the production, and hence quality, of quantitative data that informs policy, policy choice of measurement units, and the problems of data aggregation and comparison across regions (Nichter and Kendall 1991, Nations and Amaral 1991, Millard 1994). In addition, the anthropology of international health made use of noteworthy critiques of concepts like 'community' and 'household' (Guyer 1981, Netting et al. 1984, Guyer and Peters 1987) to interrogate the use of these categories in health policy and planning (Nichter and Kendall 1991, Pigg 1992, Kendall et al. 1991, Schumann and Mosley 1994, Berman et al. 1994). Economic indices such as the DALY (disability-adjusted life year), while useful, have also been scrutinised for what is overlooked in their blanket application (Kleinman and Kleinman 1996, Anand and Hanson 1998, Allotey et al. 2003). As Kleinman contended for the international health era, the 'adequate study of international health problems requires both narratives and numbers' (1995: 84).

In the age of global health, numbers have even more traction than during the international health era, and much has been learnt from anthropology's close attention to their deployment. As Fassin contends, close examination of policy's choice of indicators turns these quantitative tools into 'qualitative data offering political insights as to how societies produce and reproduce themselves' (2012b: 109; Canguilhem 1978). Funding and conduct of research and interventions is wholly subject to demonstrating cost-effectiveness, efficacy and evidence with quantitative metrics (Adams 2010). A bias

towards quantifiable outcomes skews policy priority towards health care interventions that allow for 'the evidence of impact' (Adams 2013, Engle Merry 2011). For example, Dominique Béhague and Katerini Storeng note how, in the context of maternal health interventions, vertical initiatives are more easily funded by donors requiring evidence-based approaches to intervention design despite the potential that horizontal initiatives might hold (2008). In the sphere of nutrition, indices such as body mass index (Shetty and James 1994) and mid-upper arm circumference are now a standard part of practice, and these too have been useful objects of study for anthropologists concerned with the work that metrics do (Yates-Doerr 2012, Redfield 2013, Stellmach 2016). In sum, anthropological work continues to interrogate the place of metrics and evidence in global health (Adams 2016a, Fan and Uresky 2017).

Anthropologies of the future

Closely linked to the question of 'how societies produce and reproduce themselves' is how societies conceive of the future (Munn 1992). The third question of this thesis is concerned with the notions of potentiality and the future embodied in the first thousand days' concept and their alignment with conceptions of the future as articulated by my informants and institutions in Khayelitsha. The first thousand days is a lens onto contemporary views of the future, both as a policy object, and in its reception in the specific context of post-apartheid South Africa.

Jane Guyer calls for ethnographic attention to the templates that configure the social experience of time - 'from praying to budgeting' - and argues that it is in asking such questions that we will understand 'the lived futures that emerge in the "gap" in the

temporal doxa' of our interlocutors (2007: 411). Guyer argues that the 'near future' is in decline as a temporal frame in public and theoretical representations. In its wake, she describes a shift toward 'both very short and very long sightedness, with a symmetrical evacuation of the near past and the near future' (ibid.: 410). In this picture, Guyer surmises that life is increasingly governed by 'date regimes', in which 'the world itself falls increasingly into the disciplines of a punctuated time that fills the gap between an instantaneous present and an altogether different distant future' (ibid.: 417). Guyer calls for anthropological attention to changing 'nesting of temporalities', the effects of which for 'different populations, or for the same population in different affective states, becomes the ethnographic question' (ibid.: 413). This thesis is one such project, with the 'first thousand days' date regime as its object of inquiry.

Such a project requires a cautious approach. In his work on Palestinian refugee camps in Lebanon, Sylvain Perdigon, drawing on Pierre Bourdieu (2000), reminds us that we should not take as a given 'the universal availability of the future as a category for organizing experience' (2015: S90). In *Pascalian Meditations,* Bourdieu cautioned against assuming biological or astronomical time as an 'a priori framework for every historical process': practice, in the Bourdieusian sense, 'is not *in* time, but *makes* time' (2000: 206). In a similar vein, Arjun Appadurai marks the tendency in the social sciences to assume routine social order as the 'default' against which deviations are mapped, especially in the study of violence (2013). In African contexts, close attention to how time is lived shakes any semblance of a patterned order of stability and disruption (Mbembe 2001:16). To study temporality then, as Achille Mbembe argues, one must turn to subjectivity (2001). Temporalities and subjectivities, he explains, are not singular: rather, 'the time of existence and experience' consists of 'an interlocking of presents, pasts, and futures that

retain their depths of other presents, pasts and futures, each age bearing, altering and maintaining the previous ones' (2001:16). The future then, as Megan Warin and colleagues describe it, is 'a temporo-spatial concept that is embodied and performed differently according to the materialities of its situatedness' (2015: 314). This becomes evident in the different futures that are articulated across my sites of study, from the performance of the future in policy discourse, to the aspirations and setbacks of my interlocutors, to the ways in which the future conditions experiences of the present.

Appadurai argues that an understanding of the future requires engagement with the concepts of *imagination*, *aspiration*, and *anticipation* (2013: 285), a task I take up in Chapter Six. For Appadurai, imagination is a vital collective force that drives social projects (1996). As Fiona Ross has shown in the context of rebuilding the everyday in post-apartheid South Africa, it is inherently future-oriented: 'an on-going act of envisaging potentials that lie outside the scope of current possibilities and of striving to achieve them' (2003: 161). Appadurai suggests that what separates aspiration from imagination is politics. He argues that embedded in aspiration is a politics of hope, and a distinct vision of 'the good life' (Appadurai 2013: 293). Finally, Appadurai formulates anticipation as containing both risk and speculation (ibid.: 293). I prefer Adams and colleagues' definition: anticipation is the 'palpable effect of the speculative future on the present' (2009: 247). Anticipation in their view is thus part of an affective state, 'a way of actively orienting oneself temporally' (ibid.: 247). As this thesis attempts to show, anticipation has different valences. The anticipatory regimes of global health occupy a different register to the affective anticipation that constitutes the lived experience of my informants.

A wealth of Africanist scholarship has turned its lens on the future (Weiss 2009, Cole 2010, Piot 2010, Cooper and Pratten 2015), thinking productively with the concepts of imagination (Mbembe 2002, Vigh 2009); aspiration (James 2014); prediction and divination (Zeitlyn 2012); investment (Livingston 2009); and hope (Turner 2015). Uncertainty has been a prominent theme (Reynolds-Whyte 1998, Haram and Yamba 2009, Cooper and Pratten 2015), and reproduction has provided a 'particularly appropriate locus for the study of intentionality and its limits' (Johnson-Hanks 2005: 363; see also Johnson-Hanks 2002, White 2001, Bledsoe 2002, van der Sijpt 2014, Beckmann 2015). Anticipation, while a key focus of critical work on biosecurity and governance elsewhere (Lakoff and Collier 2008), has been less used as an analytic for considering the future as a cultural form in African contexts. Exceptions include Morten Nielsen's (2011) study of house-building in Mozambique, which shows how anticipatory action may not presume linear relationships between past, present and future (echoing Mbembe's argument outlined above), and Julie Archambault's (2015) work on Mozambican wage labour, in which she counters dominant narratives of uncertainty in African life with anticipation and its pleasures. In Chapter Six, I will take up the analytic of anticipation in another register.

This section has traced social scientists' interrogations of three assemblages pertinent to the concept of the first thousand days. This concept is a powerful expression of postgenomic understandings of heredity; its policy formations point to a codification of these ideas through assemblages of global health; and its forward-looking orientation is exemplar of the place of the future in contemporary life. I turn now to situate this discussion in the South African context.

The first thousand days in South Africa: historical origins and present-day policy

In the South African context, the history of perinatal nutrition interventions is distinctly shaped by histories of colonialism and apartheid. Dutch (1652-1800) and then British (1800-1910) colonialism established public health legislation and biomedical hospital care in South Africa, with missionaries playing a significant role (Coovadia et al. 2009). 1910 to 1948 saw progressive advocacy for a unified national health service based on a primary health care (PHC) model, and South Africa is thus often credited as the birthplace of social medicine (Trostle 2004, Kautszky and Tollman 2008). The PHC approach has one of its origins in the Pholela Health Centre, established in rural Natal[7] in 1940 by Sidney and Emily Kark. The comprehensive Pholela model integrated curative and preventive care, provided health education and health promotion and placed health in a family, community, and social determinants framework that was profoundly progressive for the time (Kautzky and Tollman 2008). The Pholela model was influential in the National Health Services Commission in 1942, which resulted in the Gluckman Report in 1944. The report recommended a national health system not dissimilar to the system that would develop in the United Kingdom (ibid.). However, the planned innovative health care and nutrition policies were decisively abandoned after the institution of apartheid policies in 1948 (Marks and Andersson 1992).

Apartheid was a system of legislated racial segregation and discrimination in South Africa from 1948 until the first democratic elections in 1994 (for detailed histories of this period see Posel 1991, Beinart and Dubow 1995, Dubow 2014). In his historical account

[7] Now Kwazulu-Natal

of scientific racism in modern South Africa, Saul Dubow describes the close relationship between the formalisation of apartheid and the shifting notions of heredity and race in the post-war era (1995). While Afrikaner nationalist sentiment in the 1930s drew readily on Nazi ideologies of racial purity and white racial supremacy, such ideas were no longer acceptable in the post-war period, nor did they account for the heterogeneity of white society in South Africa and the phenomenon of 'poor whites' (ibid.: 166). The development thesis that characterised international post-war modernisation theories was thus harnessed to justify apartheid ideology, with apartheid's architects arguing that racial segregation acknowledged 'different stages of development' and allowed people to develop to their own potential (ibid.: 277). As James Scott describes it, the apartheid project was premised on an 'authoritarian high modernism' that justified 'separate development' policies based on racial classification (1998: 89). While decolonisation projects unfolded elsewhere in Africa in the 1950s, the South African context used the rhetoric of decolonisation to rationalise the creation of the independent African 'Bantustans'[8] and thus sought to relinquish responsibility for the welfare of homeland 'citizens' (Wylie 2001).

Until the late 1950s, the apartheid state's approach to health and nutrition in the reserves rested on state paternalism and the trope of 'African cultural ignorance' (Wylie 2001: 242). In 1959, all state-sponsored health and nutrition services in the reserves were shut down. Simultaneously South African nutrition science presented an alternative image to the international community, contributing to international research on kwashiorkor and instituting milk distribution programmes in the 1960s in line with

[8] Territory declared as an independent homeland by the apartheid government. Opposition forces to apartheid rejected the term 'homeland', which obscured the exclusionary nature of these divisions. The word 'Bantustan' was preferred, as a way to signal the 'artificiality of configuring geographical regions so as to correspond to supposed "tribal" divisions' (Beinart and Dubow 1995: 16).

UNICEF recommendations. These schemes and the recording of kwashiorkor statistics were abandoned in 1968, as an attempt to relinquish responsibility for African hunger (ibid.). In the 1970s, the state adopted the primary health care language of the international health community, but as eminent South African paediatrician Hoosen Coovadia noted, this was merely an appropriation of the terms with no meaningful outcomes (1988). A fragmented, grass-roots PHC movement delivered initiatives like GOBI-FFF in South Africa in the 1980s (Kuhn et al. 1990, den Besten et al. 1995, Kautzky and Tollman 2008). While nutrition scientists cast the problem of malnutrition in Southern Africa as a multi-sectoral concern, mothers nevertheless emerged as central figures in prevention strategies. A review published in 1990 in the *South African Journal of Family Practice* is emphatic: 'Go for the mother - she is the most important health care worker!' (Bac and Glatthaar 1990) This focus was also evident in training textbooks for health care workers in the early 1990s. The *Manual of Community Nursing and Communicable Diseases: A Textbook for South African Students* states that 'unenlightened mothers do not comprehend the need for prevention' (Vlok 1991: 402). The textbook advocates for a primary health care approach with a strong focus on the health education of the mother, for example in 'housecrafts and the cooking of nutritious meals for the family' (ibid.: 35).

In the late 1980s, after decades in which the apartheid government neglected to record any data on the health and nutrition of black Africans, biologist Noel Cameron, then based at the University of the Witwatersrand, wrote an unsolicited letter to the president of the South African Medical Research Council (MRC). He informed MRC president Andries Brink that research on human growth would be fundamental to understanding child health, especially in what looked set to be a period of massive socio-political change (Radin and Cameron 2012). To Cameron's surprise, Brink requested a

meeting with him and introduced him to epidemiologist Derek Yach at the MRC. The MRC funded the initiation of a birth cohort in Soweto, Johannesburg in 1990, initially called the Birth to Ten Cohort, now the Birth to Twenty Cohort (Richter et al. 2007). Since its inception, the cohort has provided a range of data on child and adolescent health in South Africa (Richter et al. 2007). Most importantly for the story of the first thousand days, the Birth to Twenty cohort has provided the first longitudinal picture of child health in the country and was one of five cohorts that informed the 2008 *Lancet* 'Series on Maternal and Child Undernutrition', along with the Pelotas Birth Cohort Study (Brazil); the Institute of Nutrition of Central America and Panama Nutrition Trial Cohort (Guatemala); the New Delhi Birth Cohort (India); and the Cebu Longitudinal Health and Nutrition Survey cohort (Philippines) (Richter et al. 2012). Together, these five cohorts make up the Consortium of Health-Orientated Research in Transitioning Societies (COHORTS), which continues its comparative work to date.

As the consortium's title suggests, an important commonality across the five sites is that they are thought to be undergoing transition. An important aspect of this transition is nutrition transition, a concept developed by Barry Popkin (1993) as an extension of demographic (Thompson 1929, Caldwell 1976) and epidemiological (Omran 1971) transition theories to illustrate how diet and energy expenditure and their correlating disease states have shifted in concert with population and economic changes. Developmental biologists posit that economic and nutrition transition sets up the conditions that programme infants for adult chronic disease (Godfrey et al. 2010). Under-nourished mothers give birth to infants programmed for an environment of restricted nutrition, but as the nutrition transition unfolds and food becomes abundant, this generation develops obesity and chronic disease as a result of environmental

mismatch (Gluckman and Hanson 2006). Maternal diabetes and obesity in this second generation are thought to predict for the same conditions in their offspring via overnutrition pathways (Gluckman et al. 2010: 14).

The first nationally representative nutrition study on children below six years of age in South Africa conducted in 1994 showed that one in four children was stunted and that micronutrient deficiencies were prevalent (SAVACG 1995). After apartheid's end in 1994, the democratic government rolled out the *Integrated Nutrition Programme*, which had a significant focus on maternal and child nutrition (Department of Health 1994). The most recent South African Nutrition and Health Survey (SANHANES-1) shows that overall stunting has decreased slightly, except in the 0-3 year age group, which has shown an increase, and that overweight and obesity rates in adults and children are rising rapidly (Shisana et al. 2013). This pattern corresponds to that described for 'transitioning societies' as outlined above (Vorster et al. 1999), and the survey's authors recommended that this pattern warrants interventions 'during and even before pregnancy, as well as during the important "window of opportunity" up to around two years of age' in South Africa (Shisana et al. 2013: 212).

Since 2013, these recommendations have informed South Africa's National Nutrition Policy, an outcome of collaboration between the Nutrition Directorate of the National Department of Health, UNICEF, WHO regional affiliates and the Global Alliance for Improved Nutrition (GAIN) (DOH 2013: 9). While this policy is modelled on the UN's 'Road Map to Scale Up Nutrition' (2010), of interest is that South Africa has never formally joined the SUN network. Commenting after the 2012 African Nutrition

Congress in Bloemfontein,[9] Lawrence Haddad, Executive Director of GAIN and a prominent figure in international development, speculated that South Africa may have wished to avoid certain donors and the formal chains of accountability that membership includes (2012). Another account from humanitarian news agency IRIN cites then research director at the Division of Human Nutrition at Stellenbosch University Milla McLachlan, who questioned 'devoting very limited senior nutrition capacity to a slow-to-take-off initiative versus getting it on the National Development Plan agenda' (2012). Important to note here is that the uptake of the first thousand days concept into South African nutrition policy was not a case of straightforward translation from international frameworks, but made its way into the policy via other channels. It is not simply a state-produced document, but a policy with multiple stakeholders and partnerships - an outcome of the kinds of global health assemblages described in the previous section, but subject to its own distinct set of regional politics.

Nevertheless, the Roadmap to Nutrition in South Africa 2013-2017, supplemented by the 2013 Infant and Young Child Feeding Policy, explicitly emphasises the first thousand days:

> There is now a need to focus on priority target groups and interventions that can have the biggest impact, namely in the life-cycle stages before and during pregnancy, and in the first two years of life. Optimal nutrition during this period lays the foundation for a long and healthy life and reduces the risk of developing diet-related chronic diseases. The first 1000 days is therefore internationally recognized as the 'window of opportunity' for direct nutrition interventions.
>
> (South African Department of Health 2013: 15)

[9] Capital city of Free State province, South Africa

The first thousand days focus translates into the majority of the policy's recommended interventions targeting infants, children, and pregnant and lactating women. The package of interventions includes: a therapeutic feeding scheme for the treatment of moderate to severe child undernutrition; a micronutrient and deworming programme; and six behaviour change interventions, four of which specifically target pregnant and lactating women. Two of these derive directly from the 2008 *Lancet* Series' recommendations: promote exclusive breastfeeding and educate on complementary feeds (Bryce et al. 2008). A third behaviour change strategy is to educate on 'healthy eating for optimal weight management' during pregnancy and lactation, and the fourth offers therapeutic intervention for malnutrition in pregnancy based on mid-upper arm circumference (MUAC) measurement (DOH 2013: 19). An important outcome of this policy document is the integration of nutrition interventions into Maternal and Child Health services, including the Basic Antenatal Care (BANC) and Prevention of Mother to Child Transmission of HIV infection (PMTCT) programmes (ibid.: 22). In practice, this translates into the inclusion of MUAC and body mass index (BMI) measurements at the first antenatal visit. If a woman's MUAC and BMI measurements indicate undernutrition according to protocol criteria then she is referred to a therapeutic nutrition programme; if she is 'normal' weight or overweight, she receives nutrition and lifestyle modification counselling.

In the Western Cape, the nutrition policy and the first thousand days approach forms part of the province's *Healthcare 2030: The Road to Wellness* policy mandate (Western Cape Government Health 2014). The policy defines 'wellness' as 'not merely the absence of disease but the ability to maximise personal potential in all spheres of

life…not a state of being but a proactive process of increasing knowledge and agency for making healthier lifestyle choices and for adapting to changing circumstances towards realising, maximising and mobilising the fullest potential' (ibid.: 15). The policy adopts a life course approach 'in keeping with the prioritisation of the 1000 days of life which has a huge impact on the life of the child and the mother' (ibid.: 24). In both national and provincial policy, there is a focus on a 'rights-based approach', on the 'empowerment' of citizens, and on maximising 'potential.' Of interest for this thesis is the rhetoric of wellness, agency and potential that these policies adopt, in contrast with preceding nutrition policy that focused on 'disease-specific nutrition support', nutrition education and advocacy, and the role of nutrition in the management of HIV and AIDS (Labadarios et al. 2005) - a highly contentious issue in the face of the South African government's AIDS denialism during the Mbeki administration (Fassin 2007, Cousins 2015).

The first thousand days package of recommendations inserts into a controversial history of nutrition and antenatal and infant feeding policy in the context of HIV exposure (Burton et al. 2015). Pregnant women - the first recipients of state-provided antiretrovirals for the Prevention of Mother-to-Child Transmission (PMTCT) - were at the heart of debates about nutrition versus antiretroviral provision, and about infant feeding mode and vertical transmission. As Nkululeko Nkomo has argued, the moral and affective charge that accompanied the battle for PMTCT has been integral to the formation of the pregnant woman as a rights-bearing, self-governing subject in the South African context (2015). Alongside this discourse, mothers have also emerged as blameworthy targets in a powerful rhetoric of 'children as victims' in the context of HIV transmission (Fassin 2013). Nowhere has this debate been more charged than in the

context of infant feeding choice and adherence to an exclusive feeding regimen for the first six months of an infant's life (Moland and Blystad 2009). Infant feeding policy in South Africa has seen a number of policy changes in the last two decades. Between 2002 and 2011, national policy included both exclusive breastfeeding and exclusive formula feeding as infant feeding options for the first six months of life, with the government providing free formula to HIV-positive women who chose this option. Since 2011, national policy has shifted to adopt the 2010 WHO guidelines with the *Tshwane Declaration of Support for Breastfeeding in South Africa,* which advises all women to breastfeed exclusively for six months and to breastfeed for at least one year, regardless of maternal HIV status (DOH 2013b). Kwazulu-Natal Province was the first to discontinue free formula distribution in 2011, with ambivalent local responses (Ijumba et al. 2013). The Western Cape province was the last to stop formula distribution and, as discussed in Chapter Five, this provincial policy directive was only finalised some months into my fieldwork.

The first thousand days project thus articulates with a complex history of state and individual rights and responsibilities crystallised by the HIV pandemic in democratic South Africa, which has also shaped the history of global health in southern Africa. Khayelitsha, the central node of this ethnographic study, has a special place in the history of the HIV pandemic in South Africa as it was the site of some of the first PMTCT pilot programmes in 1999. Médecins Sans Frontières (MSF), the Treatment Action Campaign, the School of Family Medicine and Public Health at the University of Cape Town, and later the Western Cape Department of Health collaborated to introduce antiretrovirals into the public sector in South Africa following these programmes, and proved through the Khayelitsha pilots that provision was feasible on a large scale (Fox 2014). Today, the

'government-by-exception' that the HIV/AIDS crisis legitimated across the continent (Nguyen 2009) has given way to established islands of global health activity in sites like Khayelitsha, where MSF and other organisations continue their work indefinitely (Fox 2014), and as I will show in Chapter Four, across ordinary domains of primary care.

The first thousand days concept and policy emerges at a particular moment in the history of ideas about biology, heredity and interventions in nutrition and public health, and is constituted by assemblages of new formations of science, global health and the future. The last section of this chapter discussed how this has manifested in the South African context. Chapter Three moves now to the view from Khayelitsha, Cape Town, where this ethnography of the first thousand days took place. The chapter explores how Khayelitsha has emerged as a central node in a broader 'research archipelago' through which knowledge claims and policy around the first thousand days are forged and circulated.

Chapter 3: Field site and methods

In this chapter I describe the field and the methods I employed to navigate it. The boundaries of the field were less delineated by the physical borders of a space than by the critical orientation I developed to that space during fieldwork. I describe Khayelitsha, a central location of fieldwork, in terms of its history and characteristics as a geographic location in cartographic terms, but I also illustrate that there are many versions of Khayelitsha, depending on one's vantage point, from the 'numbers' that describe this place in government reports and national censuses, to the varied imaginaries that circulate in research outputs, social media, and global health programmes. In the second half of the chapter I discuss my research methods including access to the field and the multi-sited approach I employed across policy, clinic, and community sites. I discuss how I navigated the ethical questions that arose during fieldwork, the challenges and opportunities afforded by my particular position in the field, and how I conducted fieldwork practically and safely.

Conceiving the field

The aim of fieldwork was to interrogate new nutrition policy in relation to the everyday realities of life in the local setting of Khayelitsha, including the ideologies that inform new nutrition policy, the appropriateness of this policy's metrics, and how the first thousand days discourse corresponds or does not correspond with local imaginings of the future. As such, this field site was constructed around the 'chains, paths, threads, conjunctions or juxtapositions' (Marcus 1995: 105) that exist between policymakers, the

clinic, and the everyday practices of pregnant women.

Interactions with policymakers, health officials, academics, and non-governmental organisation (NGO) employees were crucial to shaping my understanding of how the interventions laid out by the new nutrition policy were formulated and how their implementation took place. Scientific conferences, workshops, and presentations by academics and policy officials provided opportunities for me to engage with the recent literature and to study the rhetoric and agendas of different actors in the chain between concept, policy, and implementation.

The clinic was a key site in this study as the interface between nutrition policy and its intended targets. The provision of antenatal care in the Western Cape Province is based on a decentralised, district model of primary, secondary, and tertiary levels of care, with the bulk of services provided at the primary or district level. The Western Cape has five rural and four urban districts. Khayelitsha is a sub-district of the Khayelitsha and Eastern District. Antenatal services in Khayelitsha are provided by two Midwife and Obstetric Units and three Basic Antenatal Care clinics. Free services are provided to residents within each facility's drainage area. The referral of higher risk pregnancies to the district, secondary or tertiary level depends on the requirement for specialised care. Cape Town City Health granted permission for me to conduct research in two clinics that offer antenatal services in Khayelitsha. I spent the bulk of my time in these clinics from August-December 2014, and then in the 'community' for the remainder of the fieldwork period until September 2015. I am cognisant of anthropology's critiques of the concept of community and its relative weakness as an analytical tool (Guyer 1981, Thornton and Ramphele 1989). Given that my informants often used the term 'community' to describe

their neighbourhoods, I use the term loosely across the thesis to describe everyday life outside the clinic.

The choice of field site for this research was admittedly personal and pragmatic. As Vered Amit points out, the construction of the field 'is inescapably shaped by the conceptual, professional, financial and relational opportunities and resources accessible to the ethnographer' (2000: 6). My South African citizenship exempted me from the administrative difficulties of visa requirements. Most of the practicalities faced on arrival in the field were already addressed, given that I have a South African bank account, SIM card and driver's licence, access to a car, and a large network of academic, clinical and social contacts in central Cape Town. I have five years of work experience as a medical doctor in Khayelitsha and the wider Cape Metropole, which facilitated access to policymakers, healthcare facility managers, antenatal clinics and their staff. In addition, I have been affiliated to the Department of Social Anthropology at the University of Cape Town for the duration of my doctoral studies as part of an established research group working on the theme of 'The First Thousand Days'. I engaged with my established network of contacts over the course of three preliminary trips to the field in September 2013, December 2013, and March 2014 to set up the study's particulars. This network continued to assist me throughout the fieldwork period.

Apart from pragmatism however, there were good reasons for choosing Khayelitsha as a central site for fieldwork. It was not just a key 'locality' of this study, but acted as a 'political location' (Gupta and Ferguson 1997: 35) to offer a specific vantage point; an 'ex-centric site' (Bhabha 1994:6) for the interrogation of how the new sciences of heredity shape contemporary policy and concepts of life - questions which have received

little attention with a view from the South. In addition, Khayelitsha exemplifies the 'research archipelago' described by Africanist scholars (Rottenburg 2009, Geissler 2013) and I hoped to understand how and in what ways a diverse set of actors, including the state, NGOs, philanthropists and researchers come together to orchestrate such projects on the ground. As Johanna Tayloe Crane argues in her aptly titled *Scrambling for Africa*, there is a special need for the critical assessment of global health endeavours in African contexts given this continent's place in global health science (2013).

At the outset of fieldwork I asked a senior colleague at the University of Stellenbosch about how much time to spend in the field, when to take breaks, and when to stop. He answered: 'The field is in your head'. I only fully understood this counsel much later. After fifteen months, 'the field' was less a physical place and more an established orientation, a re-positioning of myself in a scene I had previously known well from only one angle. In thinking about Khayelitsha as a physical entity on a map, one can zoom in and out to achieve multiple vantage points that illustrate Khayelitsha's place in a larger spatio-temporal network that might represent 'the field' or several 'fields'. At risk of simplifying, I sketch out these vantage points with labels such as 'local', national', and 'global' to offer the reader a broad picture of Khayelitsha. In addition I discuss how, as fieldwork progressed, it became increasingly apparent that Khayelitsha as a physical space is but one expression of 'Khayelitsha' as a polyvalent object, expressed differently across the range of social imaginaries that I encountered during fieldwork.

Khayelitsha and the City



Figure 2. 'False Bay #1'.
(Bezuidenhout, 2011)[10]

In *False Bay #1* (Figure 2), Vincent Bezuidenhout portrays the Cape coastline, stretching east from the glistening beaches of central Cape Town to Strandfontein, Macassar and Monwabisi, beaches previously designated for 'Coloured' and 'Black' sunbathers during apartheid (2011). Cape Town's largest urban settlement, Khayelitsha spans forty square kilometres and is bordered in the west by Mitchell's Plain[11]; in the south east by the R310 freeway, Monwabisi beach and the Indian Ocean; and in the north by the N2 highway (Figure 3). The usual narrative places Khayelitsha geographically as a point on this highway between central Cape Town and the Stellenbosch winelands, some thirty kilometres from Cape Town's central business district. A notoriously dangerous road and a site of frequent protest, the N2 figures prominently in work on Khayelitsha (Makhulu 2010, Robins 2014) and in the city's perspective on it. As geographers Brunn and Wilson observe, this highway is the only experience of Khayelitsha that many metropolitan Capetonians have ever had - a glimpse of government housing and closely built shacks behind the concrete pillar barrier that

[10] Reproduced with permission of artist
[11] During Apartheid, Mitchell's Plain was reserved for people designated as 'Coloured'.

separates the township from the road (2013). In this frame, Khayelitsha is Cape Town's *'terra incognita'*: unmapped both in terms of its incomplete cartography and its exclusion from the social landscape for many Capetonians (ibid. 2013).

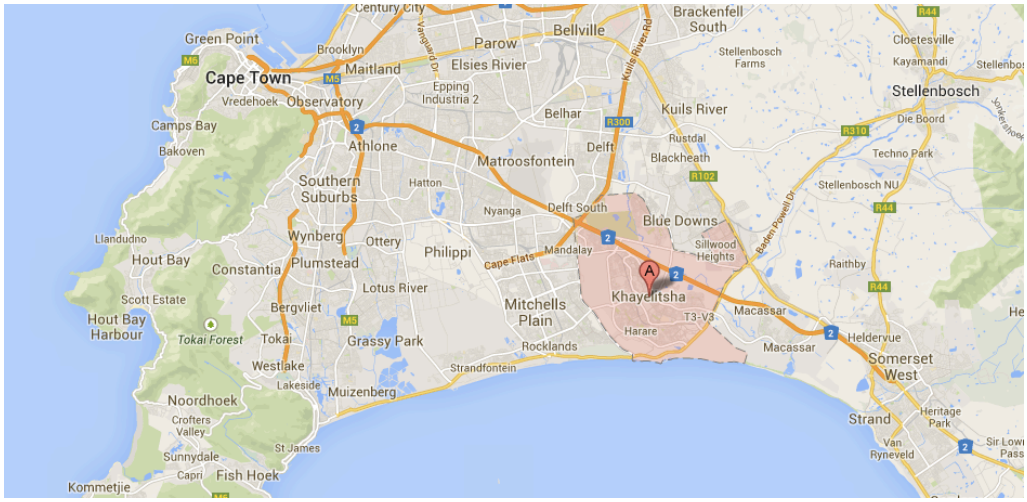

Figure 3. Map of Cape Town, highlighting Khayelitsha
(Google Maps 2016)

In another frame Khayelitsha is a hub of growth with on-going investment in infrastructure and an expanding property market. Over the course of fifteen months of fieldwork, I saw the rollout of the MyCiti bus network to Khayelitsha, a new transport route connecting the township to central Cape Town, the Southern and Northern suburbs and the West Coast. I would travel past large construction sites, part of 'the Khayelitsha boom,' a phrase I heard frequently in contrast to negative narratives about the township. The 'crisis and ingenuity' that is said to characterise development in contemporary African cities (Makhulu 2015: 17) might easily describe the ever-expanding informal housing on the peripheries of the township, the cables that run through the sand in some areas to siphon off electricity, and the opening of 'township BnB's' to cater to an emerging tourism market.

The predominant description of Khayelitsha however, is as a place of paradox where both opportunity and tragedy abound. As one policymaker put it to me, Khayelitsha is both magical and tragic. This narrative has become so commonplace as to be clichéd. Khayelitsha 'is in, but not of Cape Town' (Du Toit and Neves 2007). It is a place that 'both captivates and appalls' (MacGregor 2003). It is a township marked by poverty and unemployment, but 'with its eyes on the future' (Cape Town Tourism 2015). A 'previously deprived locality' and an 'investment destination' (Ngxiza 2012). A heterogeneous space where urban regeneration initiatives and new tourism contest enduring images of poverty and violence (Legg 2010).

As well meaning as these contradictory descriptions might be, their effect is to flatten rather than illuminate complexity and to repeat a distancing of Khayelitsha from Cape Town. As Kelly Gillespie explains, 'the township is reinscribed as a separate place, excluded from the imaginations of the city proper, continuously peripheralised. And as such, the kind of life that occurs in the township is imagined to emerge *sui generis* from the township "itself". And the problems that arise in the township are understood to be problems that must be fixed *inside* the township' (2014: 210, emphasis in original). Famously captured in Neill Blomkamp's 2009 film *District 9*, the township is *an alien place*; a trope that repeats across research, media, and public platforms as if there were 'one giant citizen roaming around there' (Mqombothi 2014). In the urban imaginary, Cape Town and Khayelitsha are configured as '*not the same place*', a slippage that denies recognition of the township as produced by, and as part of, the city (Gillespie 2014: 206, emphasis in original; see also Povinelli 2011).

When I first saw Vincent Bezuidenhout's striking aerial photograph I was struck by

the prominence of the ocean, which takes up at least half of the frame. I begin with this image to make explicit that this study departs from a different configuration of 'city' and 'township': I view these as part of one organism (Simone 2004, Povinelli 2011). The ocean is impartial. Its currents and flows are not bound to the same spatial and historical configurations that mark the land. As such, to foreground the ocean is one way to unsettle the usual positioning of Khayelitsha and to underscore that perspective depends on one's vantage point. To understand why Cape Town and Khayelitsha are so often framed as 'not the same place', however, requires a brief overview of the city's colonial and apartheid history.

Cape Town and Khayelitsha: colonial and apartheid origins

Cape Town's history is reflected in its landscape. As historian Rebekah Lee observes, 'Cape Town's spatial layout and still-evident racialised residential distribution attests to the city's active participation in apartheid social engineering on a grand scale' (2009: 2).

The segregation of peoples by race and class in the Cape spans back to the mid-1600s when the Dutch established the first European settlement. The early Cape colony comprised the Dutch settlers; indigenous Khoi and San peoples captured as slaves; and imported slaves from the Dutch outposts in Malaysia, India and West Africa. Slavery was abolished by the British following their annexure of the Cape in 1834, but was replaced by labour regulations that continued to restrict the power of non-whites in the colony (Legassick and Ross 2010). The expansion of the colony and the mineral discoveries of the 1870s prompted further stringent policies to provide cheap labour for the expanding mining industry. British-Dutch tensions over sovereignty and mineral

rights in the area of present-day South Africa resulted in the Anglo-Boer War of 1899-1902 and the formation of the British dominion of the Union of South Africa in 1910. This new government ratified racial segregation laws and excluded non-whites from the vote (Freund 2011). The 1913 Native Land Act demarcated 7% of the total land for African ownership and instigated the systematic relocation of Africans to reserves over the course of the twentieth century (Nattrass and Seekings 2011).

The National Party government elected in 1948 used development rhetoric to justify the conversion of the reserves into *bantustans* in 1951 (Wylie 2001). The 1950 Population Registration Act instituted a racial classification system, which delineated four categories: 'whites', 'Coloureds', 'Indians' and 'Africans' (Posel 2001). The 1950 Group Areas Act determined where one could live and work based on this classification; the *bantustans* were designated for people classified as 'African'. Under apartheid law, the 'citizens' of these independent states, which were not recognised by any other government, required passes detailing their legitimate employment to live closer to industrial centres, without which they could be 'deported' (Murray 1987). Influx control measures were particularly stringent in the Cape due to the Peninsula's Coloured Labour Preference Policy, which favoured employees classified as 'Coloured' over 'African' candidates (Goldin 1984). This supported the 1955 Eiselen Plan, which sought to remove all Africans resident in the city: those with employment to nearby townships and those without valid passes to the Transkei and Ciskei, the two rural 'homelands' designated for isiXhosa speakers. These restrictions became increasingly stringent during the 1960s and 1970s as the government attempted to institute 'orderly urbanisation' (Murray 1987: 314). The Cape administration employed an array of brutal measures, including the 'repatriation' of thousands of people to the homelands, the demolition of 'illegal' settlements under the

1977 Illegal Squatting Act, and the detention of 'illegals' found in the city. The early 1980s were thus characterised by violence and social unrest in the townships on the periphery of Cape Town (ibid.).

The plan for Khayelitsha - a new township some distance from the city where the African population of Cape Town could be consolidated - was presented as a solution to the problems of overcrowding and unrest in the existing townships. The state presented this plan as a form of 'community development'; local academics warned of the plan's disastrous social and economic implications (Dewar and Watson 1984). Despite resistance from community groups, opposition parties and academics, the construction of Khayelitsha, or 'new home' in isiXhosa, went ahead in May 1983. The initial plot comprised three towns, each with four villages, in a spatial design that facilitated internal segregation between blocks (Huchzermeyer 2003). One thousand 170 square metre plots were demarcated in the first phase, furnished with tin huts and bucket toilets. Initial amenities included one school, one clinic, a mobile shop, a mobile post service, two phone booths, and a bus depot (Surplus People's Project 1984). The original residents of Khayelitsha included those who had been forced to relocate and residents who had moved from older townships, often to escape state-led violence in the established settlements (Dewar and Watson 1984). Unlike other townships, Khayelitsha residents were offered a 99-year lease to encourage voluntary resettlement by those seeking secure tenure. Initial settlement was slow, but the township grew rapidly following the repeal of the pass laws and the Coloured Labour Preference Policy in 1986, and the Group Areas Act in 1991 (Spiegel and Mehlwana 1997). The mass urbanisation that followed the democratic elections in 1994 further accelerated Khayelitsha's expansion.

Apart from a few survey studies and pamphlets produced by activist groups, there is little research that can speak to experiences of Khayelitsha in its early years. Any construction of history in South Africa faces the difficulty of assessing the validity of historical sources and research outputs from the apartheid period (Lee 2009). As Rebekah Lee describes in her account of the lives of African women in Cape Town in the latter half of the twentieth century (2009), scholarship on township life in Cape Town in the 1960s (e.g. Wilson and Mafeje 1963) was followed by a lack of research in these urban areas until the 1990s. Andrew Spiegel and Anthony Mehlwana provide one of the first ethnographies of Khayelitsha in their study of the effects of migrancy on kin networks in this settlement (1997). The majority had settled 'illegally' in Cape Town in other townships or hostels before the abolition of influx controls and then had sought more secure tenure in Khayelitsha (1997: 9). The initial population had thus experienced both a rural-urban migration and a series of urban relocations. This study demonstrated that most residents retained links to rural areas and that there was significant movement, or 'domestic fluidity', between rural and urban, such that households in Khayelitsha did not conform to a nuclear pattern (Spiegel et al. 1996). Rather, Spiegel and colleagues found the 'formation and reformation' of domestic arrangements in response to economic and social demands at the macro and micro-level to produce a diversity of arrangements (1996: 13). The 'placement and re-placement of children' would occur as resources were freed up or constrained within the wider network, or children would move between households who had forged reciprocal partnerships around child-care (Spiegel et al. 1996: 21, see also Reynolds 1989). This picture of domestic flux is also present in more recent accounts of Khayelitsha; of importance is the continuity with which researchers describe women at the centre of these fluid social networks (du Toit et

al. 2007, Skuse and Cousins 2008).

In the present study, this pattern persists: for the majority of my interlocutors life was characterised by significant movement between Khayelitsha and homes predominantly in the Eastern Cape, especially over the December holiday period (see Figure 4). Following Ngwane (2003) and Lee (2009) however, I will attempt to avoid any over-determination of the 'rural' in relation to Khayelitsha in this thesis. As Zolani Ngwane has shown in his analysis of 'Christmas time' in the Eastern Cape countryside (2003), circulations between these homes by no means fit into a dominant model of urbanisation, while Rebekah Lee has documented how perceptions and experiences of the 'rural-urban divide' differ across generations (2009). Khayelitsha's position on the rural-urban axis in this dissertation is thus not taken-for-granted, but acts as another set of coordinates along which to decentre common configurations of township, city and homestead.



Figure 4. Rural-urban circulations: my interlocutors left Khayelitsha periodically (red) for their other homes (yellow), which were predominantly in the Eastern Cape. (Google Maps 2016)

Contemporary Khayelitsha

Based on the 2011 census figures, the Khayelitsha population in 2014 was estimated to be 450 000 (Khayelitsha Commission 2014). Some argue that the figure could be closer to one million residents (Brunn and Wilson 2013). In the Census, 98.7% of residents described themselves as black African. The most commonly spoken language was isiXhosa followed by English. Age groups 20-24 and 25-29 were better represented, which is attributed to a high rate of migration of young adults to Khayelitsha (Statistics South Africa 2013). The rate of formal unemployment at the time of the census was 38%, with slightly higher figures among the youth. Previous research has shown that modes of participation in the formal and informal economy are shaped by individual social capital and structural factors including mode of transport, commuting time and risk of exposure to crime (du Toit and Neves 2007, Battersby 2011). Median monthly income in the 2011 census was R2116 for men and R1526 for women, which would place three quarters of Khayelitsha households below the top food poverty line.[12] To understand this demographic snapshot of Khayelitsha requires a brief sketch of the current political landscape.

South Africa's transition to democracy, its Constitution, and its welfare programmes are often cited as a success story, yet South Africa remains one of the most unequal societies in the world (Makhulu 2015). Political scientists argue that this democracy's emergence was configured by the major global transition of the time: from nation-state centred development to economic neoliberalism, the philosophy that promotes an

[12] The food poverty line refers to the amount of money that an individual needs to consume an average maintenance energy intake, as devised by Statistics South Africa based on the Statistics Division of the United Nations (Statistics South Africa 2008).

economic model based on a competition-driven market (Seekings and Nattrass 2002, Bond 2007, Williams and Taylor 2010). These scholars have amply documented the shifts in South Africa's macroeconomic policies, from the African National Congress (ANC) government's initial 'growth from redistribution' policies that focused on the alleviation of poverty and inequality, to the revision of those policies in 1996. This reading echoes a general sense that South Africa's liberation coincided with liberalisation and that socialist aspirations gave way to market rhetoric to reproduce social exclusion along less distinct lines (Comaroff and Comaroff 1999). But the easy account of South Africa as 'neoliberal' overlooks the substantive welfare protection packages utilised by a third of the South African population (Ferguson 2015). The blend of economic liberalisation and social protection that characterises contemporary South African politics might cast it more readily as a 'neoliberal welfare state', as James Ferguson has argued (ibid. 2015: 2).

This contradiction seems especially pronounced in Cape Town, where the City has made explicit its shift in focus from the 'passive government-citizen relationship' of social welfare models to a 'proactive collaboration' between 'the city, citizens and business' (City of Cape Town 2014). From one point of view, Khayelitsha is a site of development in progress. A massive Urban Renewal Programme has taken place since 2001, with a net increase in housing and the opening of new public spaces, libraries, a network of clinics, a district hospital, and connections to the MyCiti bus network. Public transport also includes a train service (with five stations in Khayelitsha) as well as other bus companies and minibus taxis. However, development efforts since 1994 have failed to keep up with continued population expansion, and a sprawl of informal settlements now surrounds the original Khayelitsha plot. At least half of Khayelitsha's population

lives in informal dwellings (Statistics South Africa 2013); other sources suggest a higher figure - that at least 10 000 new informal homes are erected in Khayelitsha every year (Affordable Land And Housing Centre 2013). According to census data, 60% of residents have access to piped water, 60% have electricity, 70% have access to a flush toilet and 85% have their refuse removed weekly. Thousands of residents who live outside these serviced areas rely on shared taps and a bucket toilet system.

The City of Cape Town's optimistic rendering of Khayelitsha as a site of development in progress is countered by activist organisations that seek to make conditions in the township more legible to the City. Most notable are the on-going campaigns for improved provision of sanitation services and more effective policing. Social audits by the Social Justice Coalition and Ndifuna Ukwazi have highlighted on-going inadequacies in sanitation provision in Khayelitsha (Ndifuna Ukwazi 2014). In 2014, the Tokolos Collective stencilled 'THIS CITY WORKS FOR A FEW' on pavements, stairs, walls, doors, billboards and road signs in the city as a play on the administration's long-time slogan, 'This City Works For You.' The 2014 Khayelitsha Commission of Inquiry into Allegations of Police Inefficiency in Khayelitsha and a Breakdown in Relations Between the Community and the Police in Khayelitsha (henceforth, the Khayelitsha Commission) identified multiple failures in policing. The Khayelitsha Commission showed that Greater Khayelitsha (taking the remit of the township's three police stations into account) 'has the highest numbers of murders, attempted murders, sexual offences, assault with intent to do grievous bodily harm and robbery with aggravating circumstances nationwide' (2014). This is before taking into account that, according to the Commission, approximately 40% of crime in the township is not reported. To date there has been no ministerial response to the Commission's

findings and activist organisations have since filed a court application to compel the Minister of Community Safety and the South African Police Services to implement the recommendations laid out by the Khayelitsha Commission.

Khayelitsha's health profile reflects the abject living conditions of many of the township's residents. Khayelitsha is representative of South Africa's 'four concurrent epidemics': infectious disease and undernutrition, chronic disease and overnutrition, HIV/AIDS, and trauma related to high rates of violence and injury (Coovadia et al. 2009). My observations concur with previous ethnographic work that found that Khayelitsha residents utilise both public and private biomedical services, as well as alternative health systems (MacGregor 2003). High rates of child undernutrition have been documented in Khayelitsha since the 1980s (Le Roux and Le Roux 1991). Simultaneously, Khayelitsha's obesity prevalence is higher than the national average, with over 50% of women and close to 20% of men classified as obese (Malhotra et al. 2008). This is associated with a substantial burden of obesity-associated non-communicable disease (Puoane et al. 2012). Research on nutrition and non-communicable disease in Khayelitsha highlights three factors that impact on residents' health: (1) chronic food insecurity, (2) lack of opportunity for safe physical activity, and (3) high rates of stress and depression (Smit et al. 2015). Chronic food insecurity[13] is documented in 89% of households in a 2011 sample, and appears to follow seasonal pattern of two 'troughs' in January and June - the former a likely result of overspending and less employment during the festive season and the latter the likely outcome of fewer labour opportunities during inclement weather (Battersby 2011: 16). Recent research suggests a strong

[13] Defined as the sustained lack of physical and economic access to sufficient, safe and nutritious foods to meet dietary needs and food preferences (Battersby 2012)

association between food insecurity, postnatal depression, hazardous drinking, and suicidal ideation in women in Khayelitsha (Dewing et al. 2013). High rates of alcohol use during pregnancy in Cape Town's townships contribute to South Africa having the highest prevalence of Fetal Alcohol Spectrum Disorders globally (O'Connor et al. 2011). Concomitantly, Khayelitsha has close to the highest rates of HIV and tuberculosis infection in the world: one in three women test positive for HIV when they present for antenatal health care and tuberculosis is endemic in Khayelitsha with an incidence of 1389/100 000 (City of Cape Town 2012). It is clear that health in this setting faces multiple challenges.

Methods

Fieldwork spanned three preliminary trips in September 2013, December 2013 and March 2014, fifteen consecutive months from July 2014-September 2015 and a further visit in November 2015. I followed a timeline of three overlapping stages: (1) negotiating entry and mapping the field, (2) fieldwork in the clinic and (3) participant observation in the community.

This third phase would not have been feasible without the help of Mrs N, a social worker who I met through contacts at a local NGO. I stayed with Mrs N and her seven-year-old son in Khayelitsha for the first four months of fieldwork. Mrs N introduced me to Nomsa, who became my daily companion during fieldwork from August 2014-September 2015. I paid her a salary as my research assistant, but she also acted as a translator, a navigator, and a key informant. That Mrs N and Nomsa were indispensable to this project cannot be overstated. Mrs N's house was only a short distance from the

clinics where I initially spent much of my time, and she quickly orientated, (or re-orientated) me to Khayelitsha on shopping trips, visits to neighbours, family and friends, and to the local food garden nearby. Mrs N is well respected in her community due to her professional standing as a social worker and to an extent my affiliation with her facilitated meetings and legitimated my presence there. After four months however, I moved my home base to a village in the farmlands between Khayelitsha and Stellenbosch, a change of plan I will discuss later in this chapter.

The neat progression from the policy sphere to the clinic to the community is of course not how fieldwork played out in reality. In a broad sense, I spent preliminary trips interviewing policy makers and academics; I spent five consecutive months spending time in the clinics and then the following ten months with a group of fifteen women, following their daily activities. The three spheres nonetheless overlapped and entangled one another across the whole fieldwork period.

Policy makers and other key groups

During preliminary trips I interviewed a number of officials and project contributors to familiarise myself with local policy channels, including staff at the Nutrition Directorate of the Department of Health, the Project Manager for Basic Antenatal Care in the Cape Metropole, the head of Primary Health Care programmes for the Khayelitsha sub-district and academics who contributed to the formulation of the new guidelines. My preliminary interviews confirmed that the new antenatal nutrition policy had been rolled out in the City's antenatal clinics in early 2014. During fieldwork I conducted further interviews with staff at the Nutrition Directorate, the Project Manager

for Basic Antenatal Care in the Cape Metropole, the director of the Women's Health directorate, academics at the University of Cape Town conducting relevant research, and researchers on the Western Cape Department of Health's epidemiological surveillance team. In addition I conducted interviews with staff members of a number of local NGOs working on nutrition and maternal and child health, including local mentor mother programmes, nutrition education programmes and Médecins Sans Frontières (MSF), who have a Khayelitsha base.

I attended conferences and presentations at the University of Cape Town and Stellenbosch University that were of direct relevance to my study. Conferences and presentations that I attended and were of importance during my fieldwork included:

- 'The Road to Wellness: Healthcare 2030', an explanation of the framework for health policy for the Western Cape Province delivered by the Chief Director of Metro District Health to the Economics Department at Stellenbosch University on 4 September 2014.
- The Third Carnegie Inquiry into Poverty and Inequality, a one day conference at the Stellenbosch Institute for Advanced Study on November 17th 2014, which included presentations by Commissioners from the Khayelitsha Commission of Enquiry into policing in Khayelitsha and the Superintendent for Western Cape Education on early childhood interventions
- 'You are what your mother (and grandmother) ate: intergenerational effects of nutrition on health and disease', a lecture by scientist Christopher Kuzawa at the Sports Science Institute of South Africa, 27 February 2015.
- DOHaD 2015: the 9th World Congress of Developmental Origins of Health and Disease, held at the Cape Town International Convention Centre, 8-11

November 2015.

I approached these events as part of fieldwork, given that they were useful sites for understanding the place of South Africa, and the settlements of Cape Town in particular, in an African global health landscape. Such events afforded a local reading of the research that underpinned South African nutrition policy. The framing and presentation of ideas across these different platforms became an important ethnographic record for identifying some of the values and assumptions around concepts of health, disease and early life, as I discuss in Chapter Four.

In the clinic

The aim of fieldwork in the clinics was to observe the rollout of new nutrition policy, to interview clinic staff and to recruit participants.

I conducted formal semi-structured interviews with fifteen staff members (doctors and nurses) across the two clinics. The demographics of the clinic staff reflected important histories in South African healthcare and required some reflection in terms of my position in relation to each interviewee. The nursing profession was key in the cultivation of a black bourgeoisie during apartheid and continues to be an entry point to the middle class in contemporary South Africa (Marks 1994). Since 1994, quota-led enrolments of medical students have improved racial equity in the field and seen more women than men admitted to the profession (Breier and Wildschut 2008). Lastly, South Africa continues to be a popular destination for foreign trainee doctors. Interviews covered both specific questions on the new antenatal nutrition package, staff

understanding of it, and how it had been implemented in the clinic. This was also an opportunity for healthcare workers to give their own thoughts on the intervention and on the functioning of the clinic in general. The limitations of interviews for understanding health systems and the problems of interviewing health professionals are well documented (Lambert and McKevitt 2002, Le Marcis and Girard 2015). As Frédéric Le Marcis and Julien Girard note in their ethnography of a South African medical ward, health professionals present their 'care ideology' when discussing their work - the 'values, duties, tasks and responsibilities' that define their roles, which might be quite disconnected from their actual daily work (2015: 163). Much more is gleaned when interviews are triangulated with informal discussions as situations arise and participant observation of what happens and what does not happen - what Le Marcis and Girard call 'enacted ethics' (ibid.: 164). In addition to interviews, my participant observation included sitting in the waiting room, which was a useful space for having conversations with patients, clinic staff, visiting researchers, teachers and students; and observing the flow of people, medications, folders, and food through the clinic. I frequently had conversations with staff in the corridors and during lunch hours in the staff room. I sat in on the morning staff meetings, attended health promotion sessions and joined the weekly breastfeeding support groups.

Most importantly, the clinics facilitated my introduction to a group of pregnant women who would become the key informants for this study. At Sunrise Clinic, antenatal care was organised by Sr Cele; at Kunye Clinic, this was the job of Sr Josephs. Nomsa and would I set up three chairs in the corridors outside the sisters' offices and they would refer any new 'clients' to us after they had completed their clinical assessments. I elected not to study the clinical encounter or clinical records to avoid

being cast in a clinical role. Thus, at our makeshift meeting point in the corridor, Nomsa and I would sit with patients after their antenatal sessions and explain the details of the research. We communicated that I was an external researcher and not a staff member and answered questions in English and isiXhosa. We supplemented this oral explanation with dual language participant information sheets and we had individual discussions with each prospective participant to ensure that she understood the proposed research and could provide informed consent.

Beyond the clinic

71 women agreed to be contacted in connection with the study. Of this group, six later decided that they would prefer not be contacted further; one had a termination of her pregnancy, and three left for the Eastern Cape and did not return to Cape Town during the fieldwork period. For the remaining sixty women, each received a telephonic follow-up to record their delivery details, their infant's date of birth, name and birth weight, their feeding choices, and their experience of the clinic. For the remainder of the fieldwork period, we spent the bulk of our time with a group of fifteen of these women: Lumka, Bathandwa, Nobomi, Fezeka, Buyiswa, Anele, Lindiwe, Inam, Nandipha, Songezwa, Ndileka, Aviwe, Khanyiswa, Nocawe and Nonyameko.[14] After meeting each of the women in the clinic and obtaining their informed consent to be included in the research project, we would visit them regularly at their homes.

The difficulties of locating women again after meeting them in the clinic were not insignificant. This was especially the case for those who lived in informal housing and

[14] Names of interlocutors, clinics, and clinic staff have been changed to protect confidentiality

did not have a formal address. 'We're in shacks,' one woman sighed whilst trying to explain where she lived. 'We don't get post there. We don't get letters there. There's no address, there's no street. The numbers are chaos.' We relied heavily on being able to phone on the day we had arranged the first visit so that Nomsa could be directed over the phone. Nomsa had an impeccable memory for directions and once we had found someone's home the first time, we had no problem making our way back for subsequent visits. Sometimes a participant would express fear for our safety and anxiety about having a car parked outside her home. Some would arrange for us to park inside a yard, or direct us to park at a relative nearby. When we were meeting with women who lived closer to Nomsa, she directed me to park outside the local spaza[15] shop where she knew the owner, and instructed me to buy something when we returned.

I prioritised spending considerable time and forming established relationships with a smaller group of women over having many once-off meetings with a larger group. Fifteen women was a manageable number. The first visit centred on taking a life history and becoming acquainted with each other. The visits that followed over the course of a year were weekly or fortnightly so as to rotate between the women. Some informants had part-time employment and our meetings with them were arranged accordingly. Those that didn't work spent the bulk of their time at home. With this group, we would customarily arrive sometime after 10am and spend around five hours engaging in whatever activities were taking place that day. These days were unstructured and would include household activities, such as cleaning, doing laundry, cooking and shopping, taking care of children, engaging in entrepreneurial work, watching television, attending the clinic, studying and completing school work. Often, the day was marked only by

[15] tuck shop

some kind of visitor, as described in Chapter Four. Nomsa and I became acquainted with our participants' family members, friends, partners, neighbours and acquaintances. We saw our participants reach the end of their pregnancies and deliver infants that we had the pleasure of meeting in the first few days of their lives. By the end of fieldwork, these infants were between eight and eleven months old. Over the course of a year, I was able to form a picture of a household's everyday routine, with the caveat that the year of observation included the birth of a child, an event that no doubt alters that routine somewhat.

Apart from isiXhosa, most of the women with whom Nomsa and I spent our time were proficient in English. As such, our conversations would mostly move between the two languages, with Nomsa clarifying things when I was unsure of a word's meaning. I had learnt some isiXhosa at medical school, but in order to improve my everyday conversational skills I undertook additional language training in weekly classes with an isiXhosa teacher and Khayelitsha resident whom I call Veliswa. Veliswa and I had long conversations that provided me with many insights, and by the time we had completed our series of lessons, she had agreed to keep meeting me informally and became a key informant.

It is important to note that, apart from the perceived veracity that a consistency of observations and narratives over a period of time can afford (Reynolds 2013), there are few means by which I could verify all that was reported to me. As Pamela Reynolds notes, 'There are many ways of talking about the recent past. Different conversations record various kinds of recognition, often with an elliptical relationship to what actually happened' (2013: 23). In Reynolds' work on the role of youth in armed resistance during

apartheid, she drew on public testimonies at the Truth and Reconciliation Commission, which corroborated the testimonies of her informants. In a similar fashion, I started fieldwork in Khayelitsha just prior to the conclusion of the Khayelitsha Commission, which was formed in 2012 and concluded in August 2014. The Commission's findings would become one set of corroborating evidence to the stories of violence that became a frequent part of my field notes.

Throughout the fieldwork period, I recorded notes in A5 notebooks. I used an IPhone 5C to take photographs, to make voice memos for myself, and to record interviews and life histories. I typed up my notes and fleshed them out at the end of each day using Microsoft Word and Evernote. I anonymised all notes as they were recorded, storing one identifying file on a password-protected laptop. I backed up my field notes to two different external hard drives in separate secure locations on a weekly basis. At the end of the fieldwork period I had recorded 350 000 words of field notes and had taken 780 photographs. I continue to maintain contact with my informants via WhatsApp and email. My relation to 'the field' continues to shift, but the relationship persists. As Steffen Dalsgaard and Morten Nielsen contend, 'the instantaneous contacts and re-entries to the field made possible through modern media make it apparent that the separation of "field" and "home" is being challenged, not just as a spatial configuration, but equally important, as a temporal one' (2015:2).

Positionality and ethics

> …when I refer to those of us on the boat, the "we" that I conjure is both a joint and divided being…not all members share an equivalent relationship to a variety of resources, nor are we the outcome of equal kinds of social investments and the futures. We are engaged in a joint social project and yet each of our projects is slightly askance the other. We are a unified social group from the perspective of this social project and yet the "we" is divided, and this division not merely between them and me. Each of them has a different individual project…because of larger or smaller differences in upbringing, ability and aspiration. But apropos to the discussion at hand, they and I are starkly divided according to a broad set of social statistics.
>
> (Povinelli 2011:113)

The configuration of fieldworker and field site in this project produced a number of relationships that required careful attention and navigation. Reflecting on my field notes, the overwhelming feeling that coloured my fieldwork experience was one of unease. My position seemed perpetually ambiguous, regardless of whether I was in a policymaker's office, waiting in the clinic, or having tea in a Khayelitsha kitchen. My position as a white woman moving through predominantly black spaces was one axis to navigate. My professional identity as a medical doctor smoothed my passage into conferences and offices, and I was constantly explaining that I was in attendance as an anthropologist. In the clinics too, I was often mistaken for a staff member, despite never sitting in on clinical consultations. Yet there were instances in which I had to be a doctor. The ethical in this study did not occupy a clear-cut terrain.

Anthropology at home in the postcolony

As a South African who has lived in Cape Town for most of my adult life, one might

ask if I was doing anthropology 'at home'. Yet fieldwork here challenged me not in the sense of feeling too much like home, but in revealing a world very different from 'home', considering its proximity. Brunn and Wilson have highlighted Khayelitsha's surprisingly unmapped geography, but it is also unmapped in the sense that it is, as they say, 'a settlement that many lifelong white residents of metropolitan Cape Town have never visited, or probably wish to visit, even if thousands drive by it daily on the N2' (2013: 285). This city's segregated nature remains disturbingly unchallenged twenty years after apartheid's end. It is not surprising then that my frequent presence in the clinic waiting room and in people's homes often prompted curiosity. One day, while waiting in the over-crowded clinic with Inam, a man called out to her and motioned to me: 'Send her to reprimand them for taking so long!' Inam sighed and explained: 'There's this stereotype that black people are scared of white people, that's why you must do it.' Sitting in the waiting room, staff members would ask without a hint of irony who I was waiting for, despite the hours-long wait most of the patients had already endured that day. On another occasion, a neighbour of Nobomi's bustled into the house to see whose car was parked outside. I was introduced as a friend, and the neighbour laughed loudly - 'a friend! Don't lie!' Social niceties were momentarily breached to make everyone slightly uncomfortable. For a moment, I was called out, put back into my white researcher role - there for information, for data, for the collection of something, for profit. For a moment, our individual projects in this joint social project were foregrounded (Povinelli 2011). Nobomi tried to brush it off: 'that one, she's the joker'. And yet the neighbour had put her finger on an uncomfortable, unstable truth: this relationship between this white woman and this black woman was not an ordinary friendship, but one conditioned by a range of histories, hopes, and possibilities.

I do not know how the group of women with whom I spent the year perceived me. Perhaps I was someone who listened. Perhaps I was a potential resource: I had a car and connections. As Lindiwe put it, 'it is important to make friends with people who are better than you.' All of the women that participated said that it had been helpful for them to be a part of this research and how much they would miss our time together. At the same time, it is undeniable that our relations were carved out on an unequal terrain of power.

My positionality in the clinic was also determined by my appearance as a young white woman. I was frequently approached as a doctor, and I would do my best to direct the staff member or patient to the appropriate place. As physician-anthropologist Clare Wendland describes in her ethnography of medical training in Malawi, ' doctors' bodies are perceived as white, and medicine as a construction of global whiteness that surpasses national identity' (2010: 13, quoting Anderson 2003). In the clinics, biomedicine's covert conflation of 'the normal' with 'unmarked whiteness' (Anderson 2003) was most evident in the posters and promotional material, which often depicted white health care professionals attending to black patients (see Figure 5).



Figure 5. Clinic poster, photographed by author, August 2014

It was thus impossible to undertake this study without acknowledgment of my whiteness. Here, I use Frankenberg's definition of whiteness: as a 'location of structural advantage', not a 'transhistorical essence', but 'a complexly constructed product of local, regional, national and global relations, past and present' (1993: 237). In the South African case, Melissa Steyn's articulation is most succinct: 'As a white South African I am greatly implicated in racism and structural privilege; I am part of what I study' (2001: xxxv). More recent interrogations of whiteness in South Africa confirm Frankenberg's assertion that 'whiteness changes over time and space' (1993: 237). There is no simple narrative of contemporary whiteness, given the divergent voices within this group, and non-whites' diverse experiences of these. However, despite this fragmented identity, white skin remains a powerful invocation of old power relations and colonial histories (Fox 2012), in the field and in the academy (Nyamnjoh 2012). Closely linked to this is

the complex history of anthropology in the South African context. Contemporary South African anthropology is portrayed as a discipline in crisis, still reckoning with its uncomfortable historical alignments with colonialism and the apartheid project (Gillespie and Dubbeld 2007), and how it might contribute to social transformation in the South African context (Susser 2010). As such, this research required my careful attention to the many facets of whiteness across different spaces during fieldwork. The challenge for my fieldwork here was thus the continuous negotiation of a deep contradiction: the acknowledgement that whiteness is deeply implicated in the local/global power relations of the postcolony, and the simultaneous appropriation of this power for the co-construction of new subjectivities of whiteness through engagement (Fine 2000, Fox 2012).

The place of the physician-anthropologist

Close attention to the advantages and pitfalls of my particular view given my dual training in medicine and anthropology was also required. Before I began fieldwork, my presence in Khayelitsha had always been legitimated by my role as a clinician at the hospital there, a position of authority also fraught with the negotiation of power relations. Yet the shift in role from physician to anthropologist did not wholly obviate these hierarchical structures (see also Farmer 2001: 6). While it was my intention to act as anthropologist and not as clinician during this study, my medical training has been formative in shaping my world-view. In the field, it became quickly apparent that I could not easily discard my clinical training to assess gait when someone enters a room, for example, or to search for a pattern when confronted with a skin lesion. One might argue that the observations of the astute ethnographer and the astute clinician are not

too different. But the (clinical) signs immediately legible to the medical eye add an extra complication for the physician-participant-observer. To maintain a critical awareness of how my medical background shaped me as an ethnographer, I devised a system for recording 'clinical notes' in my field notes. The most pertinent example is my clinical familiarity with skin lesions that are associated with HIV. I was aware when someone might be immunosuppressed even if they had not communicated this to me.

Further, there were times in the field when I had to be a doctor. When Nobomi came back from the clinic empty-handed after presenting two-year-old Philisa, who clearly had a large patch of evolving impetigo on her face, I wrote her a quick prescription. Our first interview with Nandipha presented a more serious situation that called for medical intervention. After our first interview, it was evident that she suffered from depression and that this was untreated and severe. She told us that she was diagnosed with depression in 2010, but had not been on medication. Her own father had committed suicide in 2012. It became necessary to assume a therapeutic role during this encounter. I did a swift screen for active symptoms of depression and a suicide risk assessment. Nandipha was clinically depressed and had a history of parasuicidal behaviour, but she was not actively suicidal. We made a plan together. She went to the clinic the following morning to see the clinic doctor, and we followed up with her that afternoon. Nomsa and I visited her twice in the following week to check up on her. Nandipha started using fluoxetine, a selective serotonin reuptake inhibitor safe for use during pregnancy, and she attended fortnightly counselling sessions at the clinic. Nandipha and her partner Busi thanked us many times after this first interview for directing her to seek help for her depression.

This is not a novel position; a dual training in medicine and anthropology is increasingly common in the academy, but an examination of my forbears reveals two very different positions for the doctor-anthropologist in work on 'global health'. Bridget Hanna and Arthur Kleinman define the 'physician-anthropologist' as offering a distinct perspective that uses medical anthropological methods 'to hone a vision of health equity and social justice' (2013:16). They offer the examples of Paul Farmer and Jim Yong Kim, physician-anthropologists and cofounders of the NGO Partners in Health. Conversely, Didier Fassin points out the ease with which anthropologists with a medical background might adopt global health rhetoric and the moral stance it conveys (2012b). He challenges medical anthropologists to 'recognise the fine line between scientific detachment and moral involvement' in critical global health research (ibid.: 114). These different views speak to a long conversation in anthropology about the place of advocacy and activism in the discipline, under the rubrics of 'applied', 'public', and 'engaged' anthropology (Hastrup et al. 1990, Singer 1995, Susser 2010, Baer 2012, Hopper 2013). Whilst I hold Kleinman's view of the margin between medicine and anthropology as a productive and vital space (1995), I take seriously Fassin's contention that 'our sole legitimacy to speak and our sole claim to be listened to depend on our capacity to contest the untested assumptions, the most insidious being that on which we found our moral certainties' (2012b: 115). As such I align more closely with Michael Osterweil's take on engagement, as not 'something we do "out there"', but rather as a form of critical self-reflection that recognises and questions the common ideologies and epistemologies in which our practice is situated (2013: 617).

Ethics

Fassin's call for tempered reflection on one's own moral prescriptions is also useful for thinking through 'the primacy of the ethical' (Scheper-Hughes 1995). This became clear when I had my own encounter with the township vigilantism that first prompted Nancy Scheper-Hughes' 'proposition for a militant anthropology' (1995). On a sunny Thursday afternoon, Nomsa and I encountered what we thought was normal afternoon traffic on one of Khayelitsha's main roads. Rather, the congestion was due to a diversion the police had created around a section of the street cordoned off with yellow tape and two police vehicles, a crowd gathered on its edges. 'It's a stoning,' Nomsa said matter-of-factly. In the cordoned-off space lay a man face down, his clothes matted with blood, with ragged hunks of concrete scattered around his body. We stopped at the police vehicle further down the way to speak to the officer; he confirmed that the man had been attacked by a mob. I offered that I had medical training, but the policeman was firm that it would be unwise to intervene. The ambulance was on its way and it would better for them to take care of things. At the policeman and Nomsa's behest we left the scene as we had found it.

Following her own stint in the townships of Cape Town in 1993-1994, Nancy Scheper-Hughes invoked the theological image of ethnographer as 'witness' in her call for anthropology to be 'ethically grounded' (1995: 410), such that it might act as a 'tool for human liberation in the new South Africa' (ibid.: 415). But problems arise in casting the ethnographer in the role of 'central moral character' (Ong 1995: 430). As Gillespie and Dubbeld point out, such a position is itself historically situated, and anthropology in South Africa is better served by critical engagement that finds the lines between criticism

and activism, or theory and action, necessarily blurred, because critical scholarship is itself a political act (2007). On the face of it, mine was a more complex ethical dilemma than that of Scheper-Hughes, given my medical training. And yet it was an impossible situation. As a clinician, I had dealt with the aftermath of violence in Khayelitsha many times in the sanitised confines of the casualty unit. In the field, I discovered that violence and its effects could not be neatly boxed into a diagnosis and a treatment plan. There is no warning, no framework. It is, in Allan Feldman's words, an 'ethnographic emergency', where 'mental maps go a-kilter, where all things are askew... the ethnographer, like any rumour-monger, labours to connect confusions in the absence of totality, conclusion, and closure' (1995: 241).

The *Ethical Guidelines for Good Research Practice* produced by the Association of Social Anthropologists of the UK and Commonwealth (1999) provided a useful basis for the ethical considerations of my research. This study was approved by the University of Oxford's Central Research Ethics Committee; the Ethics Committee of the Anthropology Department at the University of Cape Town; and the Health Research Ethics Committee at the University of Cape Town. This extensive review ensured that the research proposal and methodology were ethically sound according to professional standards and attentive to the ways in which potential risk to participants might have been mitigated. And yet as I have discussed, there were many ambiguous moments and I adopted a cautious approach to 'the ethical' in my field site. My experiences as a clinician have taught me that outside of professional standards and legal obligations the ethical is always situated. This was especially the case in the context of what Kovats-Bernat terms an 'unstable field site' (2002).

The 'unstable field site': negotiating risk and writing about violence

Exposure to violent crime constituted the greatest risk of fieldwork in Khayelitsha (Nleya and Thompson 2009). I took seriously Kovats-Bernat's case for considering the field as 'datum itself' (2002: 212) that needs to be negotiated and I adopted a flexible methodology that could be responsive to often rapidly shifting situations. I attempted to mitigate risk as far as possible through the careful selection of accommodation and area of focus within the township. I did not spend weekends in Khayelitsha, when rates of violent crime increase, but spent that time in other parts of Cape Town that afforded other perspectives on understanding Khayelitsha and its place in the city and the city's imaginary. Additional strategies to minimise risk included travelling in and around the township in daylight hours only, travelling and conducting home visits with my research assistant accompanying me at all times, carrying minimal conspicuous equipment, and keeping abreast of any developments via local news coverage, social media, and my contacts at the district hospital who alerted staff when there was protest action. Protest action frequently affected the N2 highway and the main arterial roads into Khayelitsha during fieldwork, and on at least seven occasions necessitated a change of the day's plans. I soon learnt that news coverage would report on 'Khayelitsha' but would not specify where exactly protests were occurring and relied on my research assistant and my hospital contacts for more detailed information.

Despite all of these precautions, I confronted a field site that was far more volatile than I had anticipated. During the first few months of fieldwork I was overwhelmed by the number of violent incidents that were reported to me by Mrs N, Nomsa, clinic staff,

and the women with whom I worked. The baseline level of anxiety that comes with living in a highly unequal society was extremely amplified by shifting my perspective to look outwards from Khayelitsha and I had not foreseen the psychological effects of daily exposure to reports of violence. I was advised by both local academics and my supervisor to leave the township at the end of 2014 and I moved to a village in the farmlands between Khayelitsha and Stellenbosch in January 2015. I was a far more effective fieldworker after this move. I spent my days in Khayelitsha and returned to Stellenbosch in the evenings. This measure of distance enabled me to reflect on how the 'everydayness of violence' (Nordstrom and Robben 1995: 3) that I experienced in Khayelitsha had been shaping my perspective, and how it shaped those of my interlocutors.

This leads to the question of how to write about violence, a question perhaps most thoroughly attended to by Veena Das in her work on India's Partition (1995, 2007). As Das cautions, we should remain sceptical of our abilities to produce an account of violence on behalf of our interlocutors that does not distort their voices and distance us from their experiences (1995). In the South African context, Didier Fassin and colleagues highlight the difficulties of writing from a country with a history riddled with violence that, especially for women, has many as-yet uncovered dimensions (2008). Both Das and Fassin and colleagues address the limitations of writing about violence by working with 'fragments', which Das describes as 'different from a part or various parts that may be assembled together to make up a picture of totality. Unlike a sketch that may be executed on a different scale from the final picture one draws, or that may lack all the details of the picture but still contain the imagination of the whole, the fragment marks the impossibility of such an imagination' (2007: 5). I return to the fragment in Chapter

Six as a means of writing about the violence that marked the lives of my interlocutors, and how this powerful structuring force of how life is lived in Khayelitsha sat at odds with the extended temporal horizon that the first thousand days imaginary enjoins. But the story must start before this - in the spaces where policy is formulated and where the first thousand days campaign has had such currency.

Chapter 4: Scrambling for Khayelitsha - global health ideologies and trial communities in an informal settlement

Introduction

This chapter is about how discourse travels, how it comes to shape health care delivery on the ground and the modes of governance and self-governance it legitimises. It is divided into three parts, each of which addresses an important element in the assemblage of the first thousand days discourse that I seek to understand. First I examine sites of policy and knowledge production; second, the clinic as a mediating site of ideas; and third, scenes of the everyday. While the flow in reality is not quite so linear, I organise the material in this way for a detailed illustration of how global discourses of health shape interventions and how these come to bear on everyday life in Khayelitsha. As discussed in the previous chapter, Khayelitsha exemplifies a 'research archipelago' (Rottenburg 2009). The first thousand days campaign is only one of a number of projects that take place here. It is the latest in a series of maternal and child health and nutrition interventions and one of many public health and research interventions to which residents of Khayelitsha are subject. The key focus of this chapter is that these interventions share an ideological figuration of 'the maternal' and 'the child' (see Castaneda 2002) that permits certain forms of governance in a specified population: mothers and infants.

In the first section I pick up the thread of this discourse in an international conference where scientists, clinicians and public health experts must translate the

language of epigenetics into applied interventions. Their translation illuminates the legitimacy of interventions focused on the mother-child dyad, the shifting categorisation of disease as adult non-communicable diseases become linked to early life, and the economic priorities of contemporary global health projects. The section ends with a description of the practical implications of this new knowledge for provincial policy in the Western Cape.

The next section illustrates how the values just outlined come to bear on the clinical space, how they are enacted by staff and how they are received by patients. Murals, posters, pamphlets, health promotion sessions, NGO materials, the nursing staff's interactions with women and conversations between the women themselves illustrate the primacy of the child and her health and the mother's role in ensuring that this health is maintained and the child's full potential reached. In the last section, the ethnography moves from the clinic to the home, where the values embedded in the first thousand days' narrative and a global (re)turn to a focus on maternal and child health more generally inform and permit new modes of (self-) governance and surveillance by both state and non-state entities.

The concluding discussion reflects on the particularities that are revealed by this tracing of a discourse of 'global health' through national, provincial and local channels and the picture this offers of maternal roles in the 'African social' (Ferguson 2015: 69).

How ideology travels

> Combating the transgenerational risk of non-communicable disease in transitioning societies.
>
> Tagline, 9th World Congress on the
> Developmental Origins of Health and Disease,
> Cape Town, South Africa
> November 2015

In the Cape Town Convention Centre in November 2015, an eminent South African scientist introduced the proceedings of the 9th World Congress on the Developmental Origins of Health and Disease, highlighting that nowhere was this research more relevant than to the local context. 'In terms of Africa and in particular South Africa, we are experiencing transition in a very rapid time,' he stated. The scientist outlined the complexity of the South African situation, given the concurrent epidemics of obesity and HIV, and the lack of knowledge about the potential epigenetic effects of antiretroviral treatment during pregnancy. He concluded by affirming the particular importance of DOHaD research in this context and others like it.

I was seated in the audience in the plush conference hall, laid out cinema style with burgundy curtains and red velvet seats. Two huge banners reading 'DOHaD 2015' flanked the stage. The next presentation outlined the emergence of the field. 'The developmental origins of DOHaD,' the speaker quipped. He paid homage to David Barker as the founding father of DOHaD and traced the evolution of the field from the first conference in Mumbai in 1990. He ended by calling up the DOHaD logo: a fetus nestled in a womb in the shape of the earth. After noting its similarity to a breech presentation, he made the somewhat provocative joke that, as usual, 'the brain and the

placenta are in the North, and the South can take care of the nether regions.' Africa, he suggested, is 'the omphalos' - the source of nourishment. The global imaginary evoked here - of the belly of Africa as the primordial womb - has long authorised intervention on the continent (Bayart 1993) and most notably for the figure of the mother and child (Vaughan 1991).

I attended the three-day conference as a presenter on one of the poster panels (Pentecost 2015). I was in attendance both as a clinician with special interests in perinatology and the epidemiology of metabolic disease and as an anthropologist of science and policy. The conference was a fieldwork opportunity - a way to study the on-going formation of a relatively new research field that constitutes the central ideological underpinning of the first thousand days concept. That this conference took place in Cape Town towards the end of my fieldwork was not just serendipitous, but a confirmation of the strong presence of DOHaD research and the first thousand days project on the South African science front. The DOHaD focus on the global South was evident in the range of large-scale studies presented, taking place in the Gambia, South Africa, Tanzania, Chile, Brazil, India and the West Indies. As the symposium's tagline stated, these 'transitioning societies' are the core target of DOHaD interventions.

In sum, DOHaD 2015 encapsulated the global view of the developmental origins of health and disease, epigenetics and the first thousand days: as a cost-effective project to decrease the 'transgenerational risk of non-communicable disease,' as the conference tagline suggests. That DOHaD interventions are underpinned by an economic logic was evident: the conference devoted an entire panel to 'life course economics', which included presentations on 'Childhood exposures and adult human capital' and the 'Best

Buys in the First 1000 days for South Africa.' There was also a strong corporate presence at the conference. Representatives from Nestlé, Danone and Novo-Nordisk presented on topics such as 'public-private partnerships in NCD prevention' and during lunch breaks delegates were invited to explore interactive 'First Thousand Days' displays (see Figure 6). A key message of the conference was that evidence with an economic rationale is more easily translated into policy and a number of the satellite events featured sessions on methodologies that could address this need, such as better longitudinal cohort data analysis and how to conduct robust pre-conception studies. This fiscal argument for the first thousand days approach had recurred throughout my fieldwork across academic, public health and policy forums.



Figure 6. Image on display at DOHaD 2015; photographed by author, November 2015

Economic precepts: the currency of the maternal

The perceived cost-effectiveness of early life interventions and the currency of the mother-child dyad in the humanitarian imagination have revived interest in, and funding for, maternal and child health interventions. In a presentation at the University of Stellenbosch in 2014, Francisco Ferreira, the World Bank Chief Economist for the Africa Region, emphasised the 'substantial long lived impact' that comes with a focus on early life, and urged further investment in 'human capital.' Another public health specialist explained the current funding climate to me: 'As soon as you say we're going to focus on pregnant women and children then you get somewhere.' Non-governmental organisations in South Africa have also extended their interest in programmes that address maternal and child health. Médecins Sans Frontières (MSF), better known in Khayelitsha for their pioneering of the free provision of antiretroviral therapy in 2000, is one such example. MSF's authority and infrastructure, initially premised on an AIDS exceptionalism (Smith et al. 2011), now legitimises intervention in ordinary domains of primary care. I came to learn of MSF's new interest in a pilot study that would integrate maternal and early infant care from a chance meeting with an MSF employee, Dr A, on one of her periodic visits to the clinic. The idea would be to produce a 'one stop shop for maternal and child health', Dr A explained, which could improve the current fragmented approach to services and ensure that opportunities for additional education of the mother were not missed. The pilot, which would likely take place in the second half of 2015, would need to be in a clinic where 'reproducibility' and 'integration' of maternal-child health services could be demonstrated. The need for 'reproducibility' speaks to the common emphasis across the global health landscape to be able to 'scale up' (Adams et al. 2014), while 'integration' had emerged as a new focus for funders

around that time - the largest example being the 2015 'Grand Challenge: Creating and Measuring Integrated Solutions for Healthy Birth, Growth and Development' call by the Bill and Melinda Gates Foundation. In this climate, it is easy to understand why the first thousand days has such appeal to scientists and policy makers. As one epidemiologist put it to me, the first thousand days is 'where you get bang for your buck.' It is perceived as cost-effective, with measurable outputs, and its focus on the mother-infant dyad appeals to the humanitarian reason of contemporary governance (Fassin 2012).

DOHaD and NCDs: shifting categories of disease in South African policy discourse

The formalisation of DOHaD as a research field has renewed interest in the mother-child dyad as a key target for public health interventions on the premise that optimal early life nutrition will not only have immediate benefits, but will alleviate the growing burden of non-communicable diseases (NCDs) in developing settings. In South Africa, NCDs now represent a discrete arm of the country's 'quadruple burden of disease'. In a seminar delivered in Stellenbosch in late 2014, the Chief Director of Metro District Health in the Western Cape outlined four disease categories for the province's *Healthcare 2030 Road to Wellness* plan: (1) HIV and tuberculosis; (2) trauma; (3) NCDs; and (4) 'communicable, maternal, perinatal and nutritional conditions'. He described South Africa as having 'developing country syndrome,' and cited Khayelitsha as a key example, where 'all four are causes of death.' Of interest is the shift in how 'the quadruple burden' is described. What in the past were referred to as 'chronic diseases of lifestyle' (obesity, cardiovascular disease, diabetes mellitus, hypertension) (Steyn et al. 2006) now fell within the 'non-communicable diseases' category. 'Infectious' diseases were now framed as

'communicable'. 'Communicable, maternal, perinatal and nutritional conditions' were now considered to be part of a discrete category. While the implicit linkage between infection, nutrition and maternal and child health is not new, what is new in this formulation is the inclusion of new kinds of communicability in the framing of a certain nexus of pathology. In DOHaD frameworks, early life nutrition predicts for a potential future risk of NCDs: older notions of communicability are now expanded to include what was previously labelled as non-communicable.

I discussed the *Healthcare 2030 Road to Wellness* framework with a researcher on the Western Cape Department of Health's epidemiological surveillance team a few weeks after the Chief Director's presentation. She referenced the recently published Western Cape Mortality Profile (MRC 2014), which used the classification presented by the Chief Director to categorise cause of mortality in the Western Cape into four 'broad cause' groups: *Group I* - HIV/AIDS and TB; *Other Group I* - communicable, maternal, perinatal and nutritional; *Group II* - NCDs; and *Group III* - injuries. The production of a provincial mortality profile using cause of death data is a useful exercise to present a picture of the province's most pressing health issues and it informs funding allocations to address these. However, what constitutes 'nutritional' causes of mortality in this picture is not clear. 'Nutritional conditions' are ill defined in the Western Cape Mortality Profile report and the *Healthcare 2030 Road to Wellness* framework. The epidemiologist explained the grouping of 'nutrition' with communicable disease and maternal and child health on the basis that together these constituted 'diseases of poverty.' As such, the basis on which these mortality rates are grouped together may reflect the new scientific evidence that links these conditions, but might also reflect implicit judgements. Just as pregnant women and children constitute 'priority target groups' for the present nutrition policy,

the underlying assumption is that it is this group that is afflicted by 'diseases of poverty', which reflects long-standing views in public health about vulnerability (Wheeler 1985, Zarowsky et al. 2010).

Ultimately the new 'quadruple burden' articulated in the report and the provincial government's 2030 plan reflects shifting categories of disease importance informed by the wider shift to a focus on NCDs, the (re)emergence of maternal and child health as a prominent focus of health policy and the implicit linkage of the perinatal period with conditions associated with nutrition. In sum, as frameworks incorporate new science, in the way that DOHaD and epigenetics have been embedded in the first thousand days policy, policy categories and targets are recalibrated, with clear outcomes for resource allocation.

Practical implications for provincial policy

The national reconfiguration of policy priorities filters down to influence healthcare delivery on the ground via provincial mechanisms of policy directives, new protocols, revised funding allocations, and staff training. I had a better sense of the actualities of this process after interviewing an official at the Western Cape Department of Health. The offices of the Department of Health (DOH) in central Cape Town are located in a marble-floored building with a well-dressed concierge. It is a deceiving facade given that once one has entered the DOH office it is a maze of open-plan, partitioned desks covered in stacks of paper. My interviewee's side office was similarly packed with piles of documents, cardboard boxes (*Laerdal: Helping Save Lives*), food supplies, pamphlets, flip-files and clipboards. On his door was a now-defunct sign: *Countdown to MDGs: _ Days.*

The policymaker explained that national policy informs the development of provincial protocols across South Africa's nine provinces, which involves all of the district stakeholders who are involved in implementation. In the Western Cape, both the nutrition directorate and the women's health directorate had been involved in the formulation of the new basic antenatal care protocols, given that the new nutrition policy is largely directed at the antenatal and early postnatal period. 'The women's health, nutrition and child health sub-directorates now sit together around this issue,' the official explained to me. 'At our Annual Review meeting, the emphases were on maternal and child health and on non-communicable diseases - a great emphasis was placed on getting it right in the first thousand days, because if we can get the infant off on the right start, we can prepare him for a healthy lifestyle later…The new policy places a lot of emphasis on the importance of maternal nutrition.' He underlined the role of intensive counselling in the new protocol for all women. 'We felt that with normal pregnancy, you know, when a woman is of normal weight, she also needs counselling about maintaining her weight… we feel that obesity is where we should be focusing.'

The first thousand days idea was also shaping policy in other areas of government, notably the Department of Education. It is important to note that, apart from health care and nutrition, this concept also has huge currency in child development research. Speaking after the World Bank Adviser at the Stellenbosch workshop on 'Overcoming Poverty and Inequality' that I attended, the Superintendent General of the Western Cape Department of Education presented the new 2015 '0-4 years' curriculum. The superintendent spent considerable time on the role of mothers in this early life period, and again made her argument in economic terms. 'There are things you can do to

improve childhood development that cost no money,' she explained, 'like educating the mothers.' A clear link was made between maternal education and the capacity to parent effectively: 'Just keep getting the girls to Matric[16] because they are more likely to look after their children if they are educated.'

The words of the health official and the superintendent reveal a logic that traverses the health and education sectors, rooted in maternal responsibility for health outcomes and future potential. The implicit logic in the health official's words - that to intensify the focus on obesity requires closer attention to maternal nutrition - reflects a responsibilisation of mothers for obesity rates that has been well documented elsewhere (Maher et al. 2010, McNaughton 2011, Warin et al. 2012). DOHaD and epigenetic frames look set to widen the scope of policy attention to include all women capable of conception (Richardson 2015), which resonates with a contemporary focus in development circles on young girls (Adams et al. 2009).

The renewed interest in the maternal body as a key site of intervention in global health policy is thus constituted by a shift to focus on non-communicable disease, a simultaneous formalisation of DOHaD and epigenetics as research fields, and a widening of this body to include the pre-conceptional period. This collective global knowledge now shapes national and provincial nutrition policy in South Africa, of which the key site of implementation is the clinic.

[16] The end of secondary school

The clinic as mediating site

The clinic is the site of connection between the actions that create policy and the people who are the focus of that policy. It is the site where much of the work that constitutes global health projects takes place. My observations of the concrete clinical manifestations of the policy directives discussed in the previous section illustrate the first thousand days as one such global health entity. During fieldwork I observed the interactions between clinic staff, community health care workers, university research teams, NGO employees, and district level managers that constitute the particular version of 'global health' at work here. The clinic was a window into the continuities of new policy with pre-existing perinatal protocols. What set the first thousand days apart from some of its predecessors was the explicit linkage made to adult health outcomes for the infant subjects of the intervention.

The clinic as catalogue

The clinic can be considered a kind of catalogue of the various international strategies directed towards malnutrition. It is a catalogue in the archival sense that its mundane materialities reflect a discursive continuity (Foucault 1972), and in the dynamic sense that, to borrow from Samuel Taylor-Alexander, it is a site of 'adjacent temporalities'. Taylor-Alexander uses this concept to foreground the role of time and temporality in the stabilisation of emerging technoscientific practice (2015). In the clinic, practice is informed unevenly by interventions and campaigns that have historically shaped care, such as the selective primary health care strategies of the 1980s, or the micronutrient focus of later interventions, for example. The first thousand days concept - a new formulation of a longstanding focus on the perinatal period - thus travels

alongside older pre-existing frameworks for perinatal care, reflected in the everyday interactions of clinic staff, and the materiality of the space in which they conduct their work.

Old and new images

That maternal and child health and nutrition has long been a primary health care focus in the two clinics of this study is evident in the visual catalogue of campaigns on the clinic's walls. In the reception area of one clinic, a large mural depicts a child's first five years of life – on the left is a baby on all fours, then a standing toddler and on the far right a small child playing with colourful blocks. A rudimentary clinic card is painted in the top right hand corner, with the list 'birth, 6 weeks, 10 weeks, 14 weeks, 9 months, 18 months, 5 years'. At the top of the mural is the isiXhosa message: '*Abantwana bam basem -pilweni kuba ndibagonyisile ukuya kwiminyaka emihlanu*' ['All of our children are healthy, because they received all of their immunisations until 5 years']. The mural was painted by local medical students after the clinic's opening in 2005. Other familiar public health messages appear in posters around the clinic:

> 'Your child needs vitamin A. Take your child to the clinic every 6 months until the age of 5 years.'
>
> 'Introduce solids from 6 months. Fruit and vegetables are important.'
>
> 'Exclusive breastfeeding for 6 months is the best nutrition for your baby.'
>
> 'Adequate nutrition during infancy and early childhood is important in the development of each child's potential.'

A few months after I had arrived in November 2014, a stack of new booklets appeared in the observation room, where pregnant women have their weight and blood pressure recorded. The nurse in charge explained that they would be dispensed to every pregnant woman attending the clinic. The pocket-sized, peach-coloured booklets unfolded into a large poster that could be refolded into a neat square for easy transport. The brochure's title, 'Feeding Smart from the Start,' was accompanied by a stylised image of an African woman feeding an infant. It explained:

> The first 1000 days of a child's life (from when a woman falls pregnant to when her child turns 2) is a very important time for shaping a child's ability to grow and develop. Pregnant moms should eat a variety of healthy foods that are rich in vitamins and minerals. When moms eat well, so do their babies.

On the reverse of the pamphlet was the by-line: 'These messages are brought to you by the South African Department of Health: Nutrition Directorate and GAIN (Global Alliance for Improved Nutrition).'

In addition to the clinic's official information for mothers on the importance of the early life period, NGOs displayed posters in the clinic space. A notice in the waiting room read as follows:

> *Molweni BooMama*! [Hello mothers!] We are the team from Nonophela Centre and would like to talk to you about your babies… We are taking the first 3 years of life very seriously because it is during this time that the foundation is laid down for the future development of the child…If you are

feeling well then your baby will feel well and develop in the way you want it to. Just as you pay attention to your baby's physical needs, like food and immunisation, so you must pay attention to your own and your baby's emotional needs.

The changing visual material landscape of the clinic might thus be viewed as a dynamic catalogue of interventions in early life, and one way in which new concepts were communicated to patients. The catalogue was also evident in staff techniques and practices, and in their language and comportment.

Old and new terminologies

In a clinical education session for nursing students that I observed, the stern elderly nursing sister overseeing the session employed the GOBI-FFF acronym (Growth, Oral Rehydration, Breastfeeding, Immunisation, Food supplementation, Female Literacy, Family planning) to direct her clinical practice and teaching, despite the newer package advocated by the World Health Organisation (WHO) and the National Department of Health in the form of the Integrated Management of Childhood Illness (IMCI). 'Now we're going to do the GOBI-FFF,' she explained to the nursing students, one of whom was tasked with conducting the consultation with a mother and her six-week-old infant who had been recruited from the queue for this practical teaching session. Starting with Growth, the nursing students noted that the baby was growing well according to the growth chart. 'As long as your baby grows all along the line it is good,' the senior nurse explained to the mother, 'just make sure that the weight goes along the green line, if it goes above the line it indicates overweight. If under the line, underweight. Good. Now we will talk about Oral Rehydration, what do you know about it?' The mother knew that

it was a mixture but was unsure of its make up, and this was explained next. The educator then moved swiftly on to Breastfeeding. 'When do you feed the baby?' the nurse asked. 'When he makes that sound,' the mother responded. She mimicked the infant's grimace to explain, and this satisfied the nurse. 'Good! She is demand feeding. You should change nappies six to eight times per day *mama* – that is normal. You should breastfeed only until six months then add vegetables. You should also play and talk and sing to the baby to stimulate it. Have you applied for a child grant for the baby yet?'

'Not yet.'

'Are you using family planning?'

'Yes, Petogen.'

Immunisations were up to date according to the infant's Road to Health Card, and given that the infant was only six weeks old, Food Supplementation did not apply. At no point in the conversation did the nurses enquire about the mother's health, except for noting that she should get her blood pressure checked again. No enquiry was made about the child's father. The senior nurse ticked off the GOBI-FFF items, sticking to close-ended questions that quickly satisfied the protocol. In place of asking how the mother was doing, or allowing her to express any concerns, the questions were carefully framed to ensure that the consultation was performed efficiently. When the nursing sister asked if the mother had applied for a child support grant yet - the closest she came to enquiring about the mother's present social situation - the answer 'not yet' was quickly passed over. This interaction could be construed as a small instantiation of the 'selective primary care' that GOBI-FFF stood for, as a more feasible and cost-effective option than the comprehensive 'health care for all' that was the initial goal of primary health care set out in the 1978 Alma Ata Declaration. What is most noteworthy about it is the nurse's continued use of the acronym as a teaching tool, which shows how older

discourses of maternal and child health continue to circulate in the clinic.

The younger nurses I interviewed were all familiar with the newer protocol, the IMCI as endorsed by the WHO. One staff member explained this as important because the protocol also included looking for danger signs such as swollen feet, a protruding stomach or a skin condition. 'The baby might have a normal weight, the mid-upper arm circumference might be normal, so you need to check these signs,' he explained. The language used to describe conditions of undernutrition also differed - some staff members continued to use the language of 'kwashiorkor' and 'marasmus' to describe what others would refer to as 'protein-energy malnutrition, with or without oedema'.

The different protocols and terminologies in use by staff mostly likely reflect those that were in use at the time of their training. However, nursing staff were scheduled to attend additional training sessions held by the health directorate once or twice a year, on a rotating roster. As such, some staff were more familiar with newer clinical protocols than others. In the case of the new nutrition policy, the health promotions officer and the nurses responsible for antenatal and infant care had attended workshops first. This was the subject of a breastfeeding support group meeting I attended a few weeks later.

Communicating notions of transgenerational disease

Sr Qoma held breastfeeding support sessions on a Friday afternoon in her consulting room. On this particular day, there were four women in attendance and it was a tight squeeze to get the four mothers, their infants, baby bags and blankets in tow, Sr Qoma, the ethnographer and her research assistant into this small space. One of the young

women sat on the examination bed, two sat on plastic chairs from the waiting room, and one was offered Sr Qoma's swivel desk chair. Nomsa and I stood against a small counter behind the desk and Sr Qoma stood at her desk for the duration of the session. She started off delivering information about infant weight and breastfeeding and illustrating with the Road to Health Card (RTHC). 'The weight should be between these lines,' she said, pointing to the centiles on the chart. She explained that if the baby falls below the line, he is underweight and, if he is above the line, overweight. She went through each page in the RTHC, from basic information to vaccination schedules, speaking at speed. 'You should breastfeed exclusively whether you are HIV-positive or negative. You breastfeed your baby for six months. You don't give the baby water or anything else - you just breastfeed. If you mix feed the child there is a possibility that the child will be sick when he is older; he may get a disease.'

During this initial advice-giving, the clinic's health promotions officer Ms Tyani arrived and stood against the door of what was now a very crowded room. She interjected:

> When you mix feed your child, that *inwebo* [gut lining] can disappear. So whatever you give the child, it goes in that gut and it makes cracks, and those cracks are the entry point to any virus. That can happen to a child whether they are HIV-positive or HIV-negative. So you can't give a child food at all, at all. If you mix feed, you are introducing the baby to diabetes, to hypertension. You can see your child: maybe he gets diabetes or hypertension, because you as a parent, you introduced her to food at an early age. Those chemicals, they increase the pressure of a child to get fat, and then you will always have to go to the clinic. I'm sorry I'm late, I just wanted to add this thing...I just so wish that you would all continue breastfeeding. Start bit by bit. A journey of 1000 miles starts with only one step. Only one step.

The breastfeeding support group was less interactive than I had anticipated. Sr Qoma delivered a barrage of information and then the health promotions officer did the same. Both Sr Qoma and Ms Tyani were at pains to impress on the young women the very serious consequences of not breastfeeding exclusively for six months, regardless of HIV status, and made an explicit link between 'mixed feeding' and the possibility of disease later in life, based on an understanding that the infant gut is vulnerable and that 'chemicals' in food can enter the gut and have long-lasting effects on health. A clear message was given: that feeding practices in early infancy predict for the risk of overweight, diabetes and hypertension. The session was thus a moment in which the clinic was instantiated as a mediating site between the new nutrition policy and the clinic 'clients,' as staff members referred to them.

As with the senior nurse educator, Sr Qoma and Ms Tyani asked close-ended questions of the mothers, such as 'Has the baby had immunisations yet?' and 'Are you breastfeeding exclusively?' One young woman responded that her husband wanted the child to have both breast milk and formula to assist with weight gain: 'We are always fighting, my husband and I, because he wants me to give the baby formula. We are always arguing about this thing. So it is not easy for me…I tried to explain to him that things are different now, there are other diseases now, so it is a risk to give the baby formula.' The health promotions officer responded by impressing on the woman the need to 'explain' to her husband. 'Basically you need to make him understand,' she offered. Another young mother enquired about what to do when she returned to work, and both the nurse and health promoter discussed expressing breast milk and using a peanut butter jar to store milk, ensuring that containers are sterile and that the milk

would be warmed by the person feeding the baby. They did not enquire as to whether this would be practical for the woman's particular situation, a form of 'knowing not to know' (Geissler 2013) that I return to in Chapter Five.

After the support group, I had the opportunity to interview Ms Tyani to clarify some of the advice we had heard her give the young mothers. I started by asking: 'This idea that whatever we eat determines if we get chronic disease - you were talking about that in relation to what you introduce at an early age. Could you expand on that for me?' Ms Tyani gave a detailed response:

> Do they know how big their children's stomachs are? Because you find that it is challenging for this stomach, because of the amount of food that you... because the stomach it is a muscle...the amount of food that you put in that stomach, it is going to accommodate because it stretches, so the child is going to go grow knowing larger amounts of food in her stomach, you understand? So the child is not developing the right way the child is supposed to be developing. He or she is going to be overweight; she is going to understand t*he language* of being overweight, you understand? So when the child is overweight, he or she is at stake [risk] of getting this hypertension, this diabetes, those chest problems, because now her lungs are so squeezed up with fat and whatever, it is difficult for the child to breathe, you understand, because those chronic diseases, they don't start when the child is old, you introduce your child at an early age, you know, just mixed feeding him, or giving all that food, all those proteins, unnecessary protein, all the fat that a child is not supposed to be getting. Basically that is what we were taught in the workshop...that by introducing - diabetes, hypertension...

Ms Tyani explained that she had attended a recent workshop run by the National Department of Health where they had explained these concepts. 'It included the stuff that we are normally trained on, but this was one was a bit advanced,' she said. One of the nurses had also learnt these concepts at a recent training session. 'What I've learnt about is the problems with the gut, that babies have ulcers in later life that may even lead to cancer. Especially with the HIV-positive mothers. Today if someone has a problem with ulcers in the stomach and they don't know why, maybe it is because they were fed early,' she explained. During the course of fieldwork in the clinic from August to December 2014, the precepts of the new nutrition policy were thus implemented in a step-wise fashion, with staff being trained one by one, and new posters and pamphlets arriving in stages. What was of greater interest to me, however, was how those attending the clinic received these ideas.

Theory from the waiting room

As João Biehl contends, 'ethnographic subjects allow us to return to the places where thought is born' (2013: 577). In the way of theory then, my informants' words in the waiting room can attune our understanding of how the first thousand days idea came to be part of everyday understandings of health and life. My informants' experiences in the clinic confirmed that pregnant women were highly aware of the concepts illustrated by clinic staff, health promoters, posters and pamphlets, and that these concepts circulated among the women as well, particularly during waiting time. When my informants had a follow-up visit, I would ask to tag along. Obtaining one's folder, having measurements taken and finally seeing the nurse was a stepwise process that often took the better part of a day. We would pass the time in conversation, which often centred on the clinic

service.

Lindiwe related the story of her long queue at her two-month clinic visit. 'There's always a nurse standing there *mos* [obviously], when you are waiting, telling us we must breastfeed,' she told me. While Lindiwe herself was not following this advice, she relished describing how she had admonished the woman next to her in the queue for not doing so, based on the impression that her infant was overweight. 'It's too much!' she exclaimed, 'She will go to the day hospital for the rest of her life!' Lindiwe was concerned that the infant was already overweight, and that this might increase the risk of childhood illnesses, such as asthma, as well as diseases later, most notably diabetes.

Inam similarly linked early complementary feeding to later obesity: 'There's nothing wrong with being on a schedule for the baby to eat. Not 1-2-3 every time they cry you make a cereal and then feed them. Because then they just want bigger portions, they get bigger and bigger, and you have an obese child at age five. No: I like proper food, prepared in a certain way. If you get fat on junk, you're not fit. Then you get high blood, diabetes. And all these things could have been avoided.' She planned to start her baby on complementary foods between four and six months: 'I like a certain lifestyle. I want that lifestyle for him too. I'll start him on veg; not cereals, they're too sweet. I don't want to give him all of that sweet stuff…I really want to have healthy kids, really healthy kids. If he is not meant to be a child that is going to be big, I don't want to overfeed him.' She followed a website called 'Wholesome foods by Momtastic' for tips on what to feed him. 'They say you should start with things like avo and banana.'

Bathandwa was conflicted about the nutritional advice doled out in the clinic. 'It

must be something that I long for, because I come to [the clinic]. But I don't like it when I am told what to do, because we are not the same. Some people take the advice, because they see the danger ahead.' I offered that not everyone agreed that dietary advice should be part of medical care, but Bathandwa, despite her reluctance to accept advice, insisted. 'It *is* medical. The simple fact that you are there shows that there is something you are eating wrongly, or there is something you are lacking, or overdosing. The old people - they are never ill. Maybe colds or a stomach bug or something, but not really sick. It is because of what they eat. They were eating veggies, more veggies, *imifino* [spinach], you know, green stuff! Beans, original beans. Now we are ill. We are ill! Really. Everyone is ill. Sugar [diabetes], cancer, TB, HIV, you name it.'

Bathandwa's insistence that nutrition was 'a medical thing' was echoed by many of the women with whom I worked, as well as the notion that one should eat 'original' food instead of 'ready-mades', 'cheap brands' or 'imitation foods' to avoid health issues. However, the casting of food as a medical concern, and eating as medicating, cannot be solely attributed to information dispensed in the clinics. As significant work in medical anthropology has made clear, the clinic as an idea or a practice is enacted across multiple sites (Chatterji et al. 1998; Das and Das 2006, Goodfellow 2014, Carney 2015) and healthcare and health surveillance in Khayelitsha were not confined to the clinic facilities. As the next section illustrates, much of the primary care, surveillance and research taking place in Khayelitsha under the banner of 'global health' took place beyond the borders of the clinic: in the home.

Governing the home: global health and the everyday

Global health forms and actors are increasingly part of daily life in Khayelitsha. The households I came to be a part of during fieldwork were visited by trial recruitment teams, non-governmental outreach services, 'mentor mothers', community health care workers and even shady salesmen hoping to sell products with perceived health benefits. This section shows how non-state actors perform 'global health' such that trial participation, community surveillance and ideas of self-management are entangled and part of everyday life. Nobomi's household was exemplary: her mother worked as a research assistant and referred her adult children to studies that might come with some benefit for the participant. In addition, opportunities sometimes just came knocking on the door, as the following vignette describes.

Nobomi's trials

> It is late February 2015, and we have brought Nobomi some cake for her birthday. In the middle of our festivities, we are interrupted by a knock on the door. Nobomi motions to a man wearing a maroon-logo-ed T-shirt to come inside, and he is followed by a team of maroon-clad women. The women introduce themselves as recruiters for a large scale randomised controlled trial taking place in Cape Town. The women give a brief explanation in isiXhosa: it is a study to see what the effect on HIV prevalence would be if people started antiretroviral therapy as soon as possible. The study is covering Khayelitsha, Delft, Wellington and Paarl - eight clinics in total around Cape Town. The funders: 'Stellenbosch University and Bill Gates,' they tell us. A team member with an electronic device for recording data proceeds with a list of questions about who lives in the house. Nobomi explains that there are nine people: her mother, in her

fifties; her sisters aged 28 and 17; her brothers aged 26 and 19, and the children, aged 14, 2, and 3 months. The recruiter asks Nobomi to complete a 'locator form' with contact details, and she does so, baby on lap. The whole process is very efficient. The professional nurse arrives and explains to Nobomi that she will be taking blood. While the nurse sets up her kit, questions from the recruiter continue.

'What is your level of education?'

'Grade 11,' Nobomi answers.

'Do you go to church?'

'Yes.'

'Do you smoke?'

'No.'

'Do you work?'

'No.'

The nurse is ready to draw blood and the questioning stops momentarily. Nobomi hands the baby to Nomsa and stretches out her arm for the tourniquet.

'Just a prick, dear,' the nurse says brusquely, and takes the blood. She reserves some in a vacutainer that goes back into her cooler bag. She then pricks Nobomi's finger for the rapid HIV test. There is no pre-test counselling, but Nobomi is asked for her permission to test for HIV and she is asked to sign a consent form. She signs it. Questioning continues.

'Where do you have friends?'

'Mostly here in my area.'

'How many bedrooms are there in the house?'

'Three.'

'Do you have electricity?'

'Yes.'

Questioning over. The HIV rapid test takes some minutes. I ask if they only test for HIV and the recruiter responds that they also test for hepatitis B and syphilis. I ask how they choose their participants. She explains that they randomise by household. 'You must do one person in each household.' I notice that they are not interested in Nobomi's brother, who keeps walking

in and out of the lounge. I ask how they choose who in the household will take part. 'We do the head of the household,' says the recruiter. The nurse interjects and corrects her: they are supposed to randomise from all of the eligible participants in the house (age group 18-44). Conveniently, the computer has randomised such that Nobomi is the one to be recruited. I ask Nobomi if this is the first trial in which she has taken part and she says no. 'Last year there was a study in Site B.[17] They used a tube to test for TB. At Site B clinic they took blood, they tested for HIV. Then you go to UCT[18] for the tube. There was a professor there.' Nobomi was paid five hundred rand for her involvement.[19] The nurse is unimpressed. 'They make money my dear...We are just the data collectors, the ground workers. They are sitting in an office, and they'll make the bucks. When the media asks, their name will be there - Professor so and so. My name won't be on anything.' The nurse is frustrated about doing the work 'that makes the study run' without any recognition. They're off, breezing out as fast as they breezed in. I say hurriedly as they exit that I've noted down everything that has happened and may describe it elsewhere, but will anonymise the name of the trial and the researchers. The nurse smiles, 'No problem.'

Excerpt from field note,
24 February 2015

This vignette illustrates the 'everydayness' of research participation in Khayelitsha and my own awkward insertion into this research archipelago. Although it was Nobomi's birthday, she was very happy to accept the trial team's interruptions of her birthday party. This was her fifth trial. 'I like studies,' she said, 'it is good for me. If there is a sickness going on in me, I will know.' The normalcy of trial recruitment for people living in this township might usefully be described as part of the paradigm of

[17] One of the original plots of Khayelitsha
[18] University of Cape Town
[19] About twenty five pounds sterling at that time

'experimentality' that has been described for contemporary practices of global health in African life (Nguyen 2010, Petyrna 2009, Rottenburg 2009). As Adriana Petryna has noted in her extensive work on clinical trials, 'trial participation becomes a form of mainstream medicine' for those who might not otherwise have access to quality care (2009: 2). Nobomi's experience echoes other anthropological work with clinical trial participants in South Africa, where participants enrolled in trials on the premise that they would personally benefit (Stadler et al. 2008, Reynolds et al. 2013). For Nobomi, some of the trials reassured her that she did not have cancer or TB, or gave her access to HIV tests once a year without going to the clinic. For other studies, she said she took part because she was given supermarket vouchers or paid cash for her time.

During the course of fieldwork, such arrivals at an informant's door - trial teams, NGOs, mentor mothers, community health care workers - were common, and I came to understand that for the women with whom I worked, this was a normal and expected part of life in Khayelitsha. While Nobomi welcomed such visits, and saw them as resources, not all of my informants felt the same way. Nonyameko's experience is illustrative.

Nonyameko and the scale

During one of the afternoons we spent with Nonyameko, shortly after her baby had been born in March 2015, our conversation was interrupted by '*Nqo Nqo*! [Knock knock!]' at the door of the shack that she shared with some friends. Two women wearing light blue golf shirts with a small logo of mother and child over the left breast introduced themselves. 'I am the mentor mother for this lady,' the first one explained. They had

come to weigh the baby and clean the umbilical cord, as part of the programme they ran with pregnant women that they had met in the clinic or in the community. If the baby was not gaining weight sufficiently, the mother was referred to the programme's nutritional adviser, who could 'teach the mother how to eat and how to feed the baby', the mentor mother explained to me.

She put down her backpack and unpacked surgical spirits, some cotton swabs and her scale. She was efficient and business-like in her instructions and explanations as she went about her tasks. She set down the scale on the shack floor, a makeshift carpet over the sandy dunes, and explained that she needed to calibrate it first. She demonstrated how to zero the scale and checked that it was working by weighing herself first. She stood on the scale, but a warning light flashed up on the screen.

"Is it working?' I asked her.

'Yes it is working, but the floor is not level,' she said.

She picked up the scale, moved it to the other end of the shack and started the process again. This time she managed to calibrate the scale and read her weight: ninety kilograms. She nodded and asked Nonyameko to hand her the baby for weighing. To weigh the baby she held it while standing on the scale again and then subtracted her weight from the total. '4.2 kilograms.' She recorded this in a Croxley A4 notebook. After a rapid exchange in isiXhosa with Nonyameko, she packed up her scale and equipment and bid us a good day.

The mentor mothers had met Nonyameko in the last trimester of her pregnancy and had since visited periodically, but without prior arrangement. They would visit antenatally, then three days after birth, then at one week, at one month, and then

monthly. 'The problem is that when they come they are not phoning,' Nonyameko exclaimed, 'so it is not a good idea. This is not my house. It's not good at all - you should phone and ask. They don't give you a choice.' She contrasted this with our own time with her, given that we had always phoned to make arrangements for when would be convenient for her, and that the option was available for her to tell us that she didn't want to see us anymore. 'They don't say: "if you like".' She seemed distressed after this visit. The mentor mother was not pleased to hear about Nonyameko's plan to leave Khayelitsha to return to the Eastern Cape, and also disapproved of Nonyameko's decision to start formula feeds. 'She doesn't know the situation,' Nonyameko said.

The mentor mother organisation's website stresses that 'If you get the first 1000 days (including gestation) right your impact over the life course of a child is much easier; you get it wrong and you're playing catch up.' During pregnancy, the mentor mothers monitor a woman's weight; and then after birth, the weight and wellbeing of her infant. 'The scale is an important tool in getting entry into a household,' the website explains. 'Mothers are keen to weigh their children and the scale becomes the central point around which a discussion about child nutrition and health takes place.'

Carrying the scale

From my informants' perspectives, the arrival of a trial team, mentor mother, NGO, or community health care worker was either an opportunity with potential rewards for involvement or a frequent and unwanted intrusion that was nevertheless tolerated as part of everyday life in the township. At the same time, mentor mothers are themselves often using this work to navigate this landscape. The contradictions of being a 'mentor mother'

and a pregnant woman or parent became apparent in an interview Nomsa and I conducted with Zola, herself pregnant and previously a mentor mother, and her colleague Cebisa, who continued to work for the NGO that ran the scheme.

Cebisa explained how the NGO worked as follows: 'We are mentor mothers. We receive the list of mothers from the clinic and then we follow them and make sure that they have booked. Even if we don't have the list, if you see someone who is pregnant, you ask them if they have booked. Then we follow each and every thing after that.' She outlined their tasks, including discussing HIV testing, monitoring the baby after birth, checking the umbilical cord, promoting breastfeeding and assessing the infant's weight gain. 'We carry our own scales. Tape measures, surgical spirits, gloves, tools, everything, so we just go and visit. If she is three months, we visit her monthly. If she is six, it is fortnightly and when she is eight months, it is each and every week, because anything can happen then.' I asked how many households were visited in a day. Zola and Cebisa explained that they needed to see fifteen households each per day to earn the stipend offered by the NGO: about a thousand rand per month[20]. Both Zola and Cebisa relied on this income to support their families. 'My little stipend is doing everything at home,' Zola said. She supported her younger siblings and her own children. Cebisa wanted to finish her schooling but needed to support her six-year-old daughter. 'With what I get I must buy winter clothes, summer clothes, she must go to school, the food that we eat! I must work hard. I must carry that scale every day.' Cebisa said she didn't want to 'end up here', working for little pay, carrying the scale every day. Zola described herself as 'retrenched' from the NGO in the past few months. For these women, the work they did was not 'volunteering' as framed by the NGO, but a form of poorly paid and insecure

[20] About fifty five pounds sterling at that time

employment.

Both Nobomi and Nonyameko were visited in their homes by NGO staff like Zola and Cebisa. In Nobomi's case, the trial team had asked for her consent to participate before they proceeded, but the mentor mothers that followed up on Nonyameko did not. Rather, they assumed an authority that sanctioned their visiting Nonyameko, an authority that one might argue is legitimised by a normative understanding of the mother-child as 'dependent' and therefore in need of surveillance, as the following vignette shows.

Surveying the social

> Seated in a large, glass walled cafeteria at the medical school, two public health registrars explained their new pilot project to me: a maternal and child health screening tool that would employ household level community surveillance to assess 'vulnerability' and offer referral as appropriate. I had wanted to learn more about the pilot, and had offered that I might have helpful insights for the project's design given my fieldwork experience in Khayelitsha. But the senior registrar did not want to run the pilot there. 'There's so much going on in Khayelitsha,' he said. This was true: would another set of community health care workers be welcome, given that households in Khayelitsha are already covered by trial recruitment teams, mentor mothers, census recorders, door-to-door salesmen of 'health' products and more - all of whom I had already encountered with my informants in their homes? The two registrars agreed that the pilot would take place in another low-income area of Cape Town. The idea was to do an 'assessment of vulnerability' for each household, and complete a 'household registration', recording general information including the level of household income and education. The registrars disagreed about how to register people.

> The senior doctor preferred to use a national identity number, which would be consistent across sectoral platforms. His colleague wanted to set up a centralised data collection system, which would allow a health care worker to collect and view a wealth of information including immunisation checks, tuberculosis screens, compliance with medication and social work records of grant access or substance abuse. I agreed with the senior: this was too ambitious. And difficult to implement given the way that the government classifies programmes as part of 'health sector' services or as part of 'social development'. The proposal, the senior registrar concluded, would focus in on a set of measurable items related to maternal and child health - something 'sustainable'. He conceded that this focus had a downside: 'men are really pushed off the edge…really excluded from the net of the programme.' But his pragmatism seemed set to succeed over the idealism of his junior given the short time frame in which the pilot needed to be ready.
>
> Excerpt from field notes,
> Cape Town
> 12 September 2014

The surveillance project proposed by the registrars was highly ambitious in its scope: the end goal would be the on-going assessment of all households by community health workers - effectively turning the home into a satellite site for the clinic. This produces a question - as the disagreement between the registrars highlights - of what falls within the remit of health and how far that remit might extend into the social. This question is taken up in the discussion that follows.

Discussion

In this chapter, I have sought to illustrate three main concerns in relation to the first thousand days initiative: the underlying discourse that legitimises intervention; how that

discourse comes to configure intervention; and the new forms of governance that are constituted and legitimated as a result. During the course of fieldwork, I came to understand how global ideas about nutrition during the perinatal period made their way through policy channels, NGO campaigns, and the media, to land in makeshift dwellings built on sandy dunes where a scale must contend with the uneven floor. It would be easy to cast the presence of foreign research teams as 'neocolonial', the clinic's counsel as a neoliberal prescription for personal responsibility for one's health, or the ordinariness of home visits by NGO workers as a modern-day panopticon. I will argue that the scenes I have described here do not offer such ready diagnoses. Rather, when pieced together, these vignettes illustrate fragmentary logics that inform new forms of governance and intervention by both state and non-state actors today.

Concepts of 'life'

That focusing on pregnant women and children 'gets you somewhere' with both state structures and private donors is likely a function of the perceived economic payoffs of this investment, and of the currency of the mother-child dyad in contemporary global health on the African continent. Interventions like the first thousand days campaign appeal to the logics of both saving 'lives', and valuing 'life'.

The contemporary value placed on 'life', as Barbara Duden has argued, is a concept most fully embodied by the unborn child. Her work on the abortion debate in twentieth century Germany showed how 'in the course of one generation, technology along with a new discourse, has transformed pregnancy into a process to be managed, the expected child into a foetus, the mother into an ecosystem, the unborn into a life, and life into a

supreme value (1993:2)'. Didier Fassin, drawing on his work on the South African HIV pandemic, argues that 'it is possible - and indeed crucial - to differentiate evaluations having for their object the worth of lives, and judgments predicated on the value of life. The grammatical number (lives versus life) is as important here as the lexical variation (worth versus value)' (2012: 111). Underpinning the first thousand days intervention is a judgment of life's value, which is constituted in economic terms by the concept of 'human capital', newly shaped as an epigenetic outcome of nutrition in early life. Human capital formation is captured in indices of adult height, educational achievement, income, and offspring's birth weight. One can view these indicators, following Didier Fassin, as 'qualitative data offering political insights as to how societies produce and reproduce themselves' (2012a: 109; Canguilhem 1978). Interventions in the early life period centre on an economic logic that reflects a 'hard-nosed economic calculus' (Osmani and Sen 2003), a worthy rationale in an era that demands measurable economic outcomes and capital creation. In addition, pregnant and newborn populations are easy to count. In the 'systematic triage' (Nguyen 2010: 178) that allocates funding and resources, a population that is easily constituted, easily singled out for intervention, and easily counted - a governable population - appeals to the measurability, reproducibility and 'scaling up' that global health projects require (Adams et al. 2014). The first thousand days global health project is thus one instantiation of how the epistemology of market logics informs the life sciences and their application to public health concerns- what Kaushik Sunder Rajan calls 'the capitalisation of life' (2012: 1). That this capitalisation relies on epigenetic knowledge is exemplary of Fassin's summation that there has been 'a profound change in the recognition of the value of life, which has shifted from the political to the biological' (2012: 112).

The travelling technology of mother and child

If the image of the foetus is the paradigmatic emblem of 'life', the image of the African mother and child is arguably its other - the paradigmatic emblem of 'lives' (Fassin 2012b). Despite its global remit, the websites, posters, pamphlets and media of the first thousand days initiative commonly feature images of *African* women and children, many of which are reminiscent of those used to depict 'Third World' famine in the 1980s and 1990s (Burman 1994), and later, AIDS orphans in Africa (Fassin 2013). The deployment of the African mother-child dyad and the moral sentiment it seeks to elicit exemplifies the logic of 'humanitarian government' that Didier Fassin describes for the present era (2012b). The contemporary circulation of this assemblage - a trope closely tied to the invention of Africa (Mudimbe 1988), acts as a 'travelling technology' (Petryna 2009, Von Schnitzler 2013) that configures contemporary global health policy. In the pamphlets that circulate through the waiting rooms in the antenatal clinics of Khayelitsha, that trope reappears in the form of a stylised image of mother and child, and the message that 'The first 1000 days of a child's life is a very important time for shaping a child's ability to grow and develop'. Across this iconography, it is the image of the child which carries 'affective authority', as Liisa Malkki puts it, to constitute a transnational sphere of exchanges that can be thought of as ritual acts, given that they appear and are conceived of as 'apolitical, even suprapolitical', despite having clearly political outcomes (2015: 79). In Johanna Tayloe Crane's assessment (2013), global health projects in Africa today reproduce the colonial motivations of 'extraction' and 'salvation' that Nancy Rose Hunt has described as the main historical concerns of empire in Africa (1999). 'Salvation', in this formulation, has no better illustration than the repetitive images of African women and their infants that accompany promotional

material, donor websites, editorials, media campaigns, and the like. The first thousand days campaign is no exception in this regard.

Medicalising the African 'social'

The view that 'the house and domestic families are directly impinged upon by the forces of the state' (Carsten 2003: 50) has been a central feature of Foucauldian analyses of the home (Foucault 1978, Donzelot 1979). Clara Han, in her ethnography of Chilean households in debt in the wake of neoliberal reforms in the early 2000s, remarks that 'rather than thinking of the forces of the state as "impinging" on the house from without, however, we can think of multiple ways in which the state is layered in people's intimate lives' (2012:17). In the present example, it becomes clear that it is not only the state, but also a network of non-state actors, that could be collectively described as an archipelago of global health science that inhabits these layers of intimate life.

If Africa is still a 'living laboratory' (Tilley 2011), its power resides in such archipelagos, constituted by a set of links between a local university, research centre, or academic hospital, a scientific organisation based in the Global North, and a European or American university, international philanthropist, or not-for-profit organisation, or a combination of these (Geissler 2013). That Khayelitsha is one such island is indicated by the sheer number of research projects that take place there. The township exemplifies the desirable trial population, characterised by 'sufficient technical and bureaucratic infrastructure to run a clinical trial, with willing trial subjects motivated by poverty and a poor health care system, with motivated local research partners who depend on the income generated by this work, and with a legal system that is predictable and yet not

too closely knit and rigid for the interests of research' (Rottenburg 2009: 424).

The new forms of governmentality at work – defined as the collection of technologies and means by which individuals govern themselves (Foucault 2008) – are captured by the *trial* and the *scale*. The ubiquity of the former suggests that Khayelitsha in some ways exemplifies the contemporary African biopolitical configuration of trial community and experimental society described by Nguyen as 'experimentality' (2010). The presence of the latter in the backpacks of NGO employees who take them into people's homes is indicative of how maternal and child nutrition as a regime of knowledge and intervention is newly enfolded within the purview of new forms of governance.

The presence of the trial and the scale in the everyday in Khayelitsha could easily be glossed as a further extension of *medicalisation* - the expansion of scientific medicine's jurisdictions to new social domains (Zola 1972) - or *biomedicalisation,* characterised by changed political economies; increased biomedical focus on health surveillance and risk; technoscientific biomedical innovations; new modes of producing and consuming biomedical information; and new forms of citizenship and identity (Clarke et al. 2003). Nguyen argues that 'the social' on which prevailing formulations of medicalisation rests corresponds to a Eurocentric version characterised by a contract between nation-state and its citizens, whose shared membership constitute a common bond - a Durkheimian model that has little application in African settings (2015:59). For many African contexts, Nguyen states, 'society' in the Durkheimian sense is fragile and thus *medicalisation* might manifest quite differently. James Ferguson is similarly concerned with 'the African social' in his recent work on welfare programmes in southern Africa (2015). He argues that the

remit of 'the social' (Durkheim 1895) and its genealogy (Foucault 2003) to eventually constitute the European welfare state have little bearing in settings in the global South, such that 'neoliberal restructuring' in this setting 'represents not a "rolling back" of a Keynesian welfare state but the very context within which new forms of social protection have been pioneered' (2015:68). Ferguson historicises the realisation of the 'social' in southern Africa as linked to a notion of fostering "proper" African workers, 'living in "proper", "European-style" nuclear families' (2015: 71; cf. Ferguson 1999). This version of 'the social' remains prominent, as is evidenced by the trial team's concern with where Nobomi's friends live, whether she works or not and if she attends church.

Yet in South Africa the 'invention of the social' was premised on a logic of discrimination that extended welfare provision to inhabitants on a highly skewed and racialised scale (Ferguson 2015: 75). This is important for the present discussion given that, as Ferguson asserts, an analysis cannot start from a point of '*the* social' but must depart from '*this* social - that is, the historically particular and decidedly non-egalitarian "social" of white settlers and black labour aristocracies in southern Africa' (2015: 77). In *this* social, how might the increased purview of actors working under the sign of 'global health' be described?

Two considerations of the applicability of medicalisation are helpful here. Clara Han describes how her own early research on a national intervention for depression in low-income women in Chile 'fit key-in-lock within a critical inquiry of the biopolitical state and the medicalisation of the family, in which the mother is responsible for the well being of her children, the future of the population' (2012: 25). She came to see how such a description overlooked the individual circumstances, family configurations and

relations of her informants and makes the argument that, rather than conceiving of medicalisation (in the Foucauldian sense) as a totalising concept, we should attend to the fact that 'medicalisation has singular histories' (2012:26). This is especially useful for understanding the different experiences of my informants. While Nobomi saw the frequent visits by researchers, outreach workers and salespeople as opportunities for a health check, for information, or perhaps for a monetary reward for her involvement, Nonyameko was less pleased with having surprise visitors. Their reactions to recruitment and surveillance in these projects speaks to the varied configurations of what might be termed 'medicalisation', and a difference in what Veena Das describes as 'engagement with the non-local' (2015: 16). Emily Yates-Doerr, in her ethnography of public sector responses to obesity in post-war Guatemala, found that 'metrification' was perhaps a better concept than medicalisation for describing government interventions which focused heavily on body measurements and corresponding protocols (2015: 163). This concept is useful for considering the centrality of the scale in the surveillance projects I witnessed. That these scales were not part of a state surveillance system, but were carried by NGO staff, again highlights the legitimate engagement of non-state actors in such projects, authorised as I have argued, by a global discourse of the mother-infant pair as 'vulnerable.' This 'decentralisation of the clinic' delivers clinical authority to previously intimate spaces (Carney 2015: 198).

The maternal in the 'social'

The problematic normative use of the 'nuclear family' to describe social arrangements in South Africa has long been a focus of regional scholarship (Burman and Reynolds 1986, Ramphele 1993, Spiegel 1996). Ferguson argues that the 'nuclear family'

that constituted the desired 'social' of state interventions in South Africa no longer holds sway. Cash transfers are given to 'primary care givers'; kinship no longer configures welfare transactions. Ferguson concedes, however, that 'the privileging of the mother-and-child figure as the key recipients of cash transfers [has] arguably fed a global renewal of a kind of paternalism' (2015: 41). I would suggest that the first thousand days intervention is one reflection of this renewed paternalism, which is also fed by developments in the biological sciences that offer tangible links between perinatal health and nutrition and adult outcomes, with implications for future 'human capital'.

The creation of human capital requires labour. In this 'African social', the maternal figure is called to perform a particular form of labour - what Melinda Cooper and Catherine Waldby term 'clinical labour' (2014). Cooper and Waldby define clinical labour as 'the process of material abstraction by which the abstract, temporal imperatives of accumulation are put to work at the level of the body' (2014: 13), citing examples such as surrogacy, tissue donation, and research participation in clinical trials. As this chapter has demonstrated, the logic of the first thousand days campaign enfolds ordinary pregnancy and early infant care into a chain for the creation of capital, and thus constitutes everyday forms of clinical labour that in the context of Khayelitsha circulate with others, as indexed by the trial and the scale.

The ethnography presented in this chapter has shown that the first thousand days campaign expresses a powerful biological framework for life's value and the labour required to create that value, and how this logic configures health care delivery and legitimises forms of governance and self-governance in the domestic sphere. In the next chapter, I shift the lens from ideology to implementation.

Chapter 5: Perinatal practice and life between protocols

Introduction

This chapter takes the clinic as its site of analysis. The aim is to interrogate the practices of measurement, categorisation, audit and evaluation that constitute the clinical practice of perinatal care, as informed by national nutrition policy, in the local clinics of Khayelitsha. While 'the clinic' encompasses practices across multiple sites, as shown in Chapter Four, the ethnography now returns to clinics with walls, waiting rooms, stock, folders, sphygmomanometers and staff. I start with a discussion on how people engage this space, its infrastructure and layout and its function as a central component in assemblages of global health in Khayelitsha. Drawing on participation observation and interviews and conversations with clinic staff, the chapter discusses the material implications of how different aspects of the nutrition policy were implemented. I focus on three aspects of the perinatal policy package: the changing landscape of infant feeding policy in the context of HIV; the Nutrition Therapeutic Programme (NTP); and the antenatal lifestyle education package. The evolving infant feeding policy offers an example of the implications for staff and patients when protocols change. The NTP protocol is a case study in the metrics of nutritional status in pregnancy, and what happens when protocols fail, or when categories cannot hold. Focusing on the lifestyle education package reveals how protocols are variably implemented and how clinical practice and managerial decisions in this setting are shaded with a 'medical nihilism' (Lachenal 2015). At the same time, this chapter discusses the small moments of care I observed in the work of the burnt-out staff. Their oscillations between nihilism and

fatigue, and care and endurance, mirror patients' experiences of what I term life between protocols.

Clinical infrastructures

To understand the clinical implementation of nutrition policy, it is first necessary to contextualise the discussion to the clinic as a physical place: infrastructure constituted by a distinct set of materialities and institutional practices. Attending to the design and layout of the clinics points to materialities and histories that shape the implementation of policy directives, and reveals the clinic's place in local assemblages of global health. I start with a vignette that illustrates the latter.

Infrastructures of global health

> It is a windy September morning in 2014 and an early start at the clinic. At the gate, a vendor packs out sweets, chips, and fruit for people to purchase before they join the queue. There is an MSF vehicle in the parking lot. The queue starts well before the 8am opening time. Once the door has swung open, a security guard waves people through to reception. Patients request their folders and take a seat on the plastic chairs that fill the large waiting area. The space frequently fills up so that patients stand all along the windows and the walls, and the room murmurs with the low rumble of conversations and the shuffling of feet. In the entrance hall, a large noticeboard is filled with a series of posters on Ebola. The *International SOS* posters use cartoons to explain Ebola's symptoms and prevention:
>
> Ebola, don't catch it! You can catch Ebola from someone who is sick or dead. Keep away...

EBOLA is in animals and bats too. DO NOT touch or eat bush meat and don't eat bats.

Ebola: What is it? Ebola is caused by a virus. Causes a severe illness with bleeding. Up to 90% will die. No vaccine and no treatment are available. Many people can quickly become infected.

'WASH YOUR HANDS OFTEN. Use SOAP. DON'T TOUCH! Do not touch an infected person or their body fluids.

Nomsa and I weave our way through the bustling reception, where patients are shoulder to shoulder and trying to make out their names as they are called out on the loudspeaker. The clinic feels like one long congested passageway, with little seating for patients. Everything is slightly worn, but mostly clean. We step into the children's observation room – a tiny office, filled with parents and their babes in arms. The heater is on, the window is closed, and the room feels stuffy. There is no sister present. Further down the corridor, we find the Tuberculosis room, and then just outside, a small zinc container, with a large plaque and a USAID logo that reads: 'The United States President's Emergency Plan for AIDS Relief. The Power of Partnerships. This project is proudly supported by the American people through PEPFAR.' We find Sr Josephs after some enquiries, and I introduce myself as a student from the University of Oxford. She responds, 'Oh, from the States.' I correct her and she is surprised to hear that I've come from a British institution and not an American one, noting the frequency with which students from the United States pass through the clinic.

Excerpt from field notes
10 September 2014

South Africa remained free of Ebola infection during the 2014 outbreak. Nevertheless, signs of that event circulated in the South African public health sector as

part of a worldwide response that arguably constituted 'a transformative moment for global health' (Kennedy and Nisbett 2015). While some might argue that 'global health doesn't exist' (MacPhail 2015), the material signs and rhetoric that prop up the image of 'a global health response' are evident in this context, as are the actors that profess to work in the name of a collective action 'to achieve something called health in a way that is global' (Pigg 2013). Stickers on seating, posters on walls and doors and branded stationery in consulting rooms embed the logos of the United States Agency for International Development (USAID), the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) and Médecins Sans Frontières (MSF), among others, in the clinic space. Organisations like MSF have a visible staff presence in the clinic, which is often their point of recruitment for patients to current programmes. Walk through the clinic on an average week day and one will also meet one of the many groups of American students from prestigious US universities who come here to take part in a 'research collaboration' as part of their Global Health training (see also Tayloe Crane 2013).

The image presented here closely fits that of the archipelago of African global health (Geissler 2013), and yet it is not insignificant that *the clinic*, the classic frontline for the state, remains a central node in these activities. As I have discussed in Chapter Four, understanding global health and its projects in the South African context must depart from a different configuration of state, science and citizens: what Ferguson calls the 'neoliberal welfare state' (2015). In South Africa, the clinic does not share the dominant historical narrative of colonial and postcolonial medicine elsewhere on the continent, where the 'developmental nation-state' was often associated with a 'textbook' biopolitics (Geissler 2015b: 2). The enactment of 'global health' in contemporary South Africa rests on a far more recent history of nation building, and of a public health sector irrevocably

shaped by the HIV pandemic. These histories have material expressions in remnants of older interventions, in traces of racial and professional hierarchies and in clinic design.

Design and affect

As one clinic manager put it to me, the clinics where I conducted fieldwork are the outcome of 'historic processes rather than a rational plan'. I conducted fieldwork in two clinics in Khayelitsha: Kunye Clinic and Sunrise Clinic. Kunye Clinic opened in 2005; Sunrise opened four years later. The difference in clinic design and layout between these two spaces is testimony to the changing history of primary health care provision in South Africa and the integration of HIV management into the public sector's service provision. Kunye Clinic's design was similar to many of the older clinics of Cape Town where I have worked previously: a brick-face U-shaped building with a central courtyard (Figure 7). Patients entered one end of the 'U' for the reception and waiting area. Along either side of the corridor were consulting rooms and at the end a pharmacy and 'health education' waiting area. Consulting rooms in the building were divided into those for adults, for children, tuberculosis (TB) and antenatal care. The TB room was directly adjacent to the antenatal rooms and the patients waited alongside one another to be seen. HIV services were provided in zinc prefab structures sponsored by PEPFAR outside of the clinic building. This meant that although there was a clinical mandate to integrate general and HIV services, in practice patients were still required to circulate through more than one consultation room before heading to the 'temporary' PEPFAR containers outside.



Figure 7: Hand-drawn map of Kunye clinic at the entrance.

Sunrise clinic's design and flow avoided some of the problems of such a setup. Patients were divided at the door to direct them to the 'infectious' side for HIV and TB care services (on the right), or to the 'chronic' side for Antenatal, Paediatric, Adult and 'Wellness' services (on the left) (Figure 8). According to the clinic doctors, the 'adult chronics' comprised conditions such as hypertension, diabetes and osteoarthritis. The 'Wellness' clinic served HIV-positive patients not yet on antiretroviral therapy (ART). Patient flow proceeded in a similar fashion to the setup at Kunye Clinic, from the large reception waiting area where patients retrieved their folders, to the observations room, to smaller waiting areas where health promotion sessions took place, to a consulting room and finally to the pharmacy to collect medication. The difference was that the possibility of TB exposure for well patients was minimised, although Sunrise's

arrangement still meant that HIV services were not fully integrated into general primary care. The difference in maps displayed here - Kunye's a makeshift hand drawn sketch, Sunrise's a laminated plastic design - hints at some of the other aesthetic and material differences between the two clinics.



Figure 8. Perspex map of Sunrise Clinic at the entrance

Doing fieldwork in both clinics showed up these contrasts and the impact these had on staff and patient experience. That is, the clinic itself was an 'affective technology' (Street 2012: 45). In her ethnography of a Papua New Guinean hospital, Alice Street argues that hospitals (and clinics) need to be understood 'as historical as well as spatial infrastructures' (2014: 21). Street shows how layered histories of postcolonial buildings and the materialities of healthcare work - 'the relationship between people's everyday tasks in the hospital and the settings in which they struggle to complete them' - produce affective spaces of both hope and resignation (2012: 45). Like Street's general hospital, the clinical spaces where I conducted fieldwork conjured expectations of the 'nation' and modernity, but were also sites of improvisation (Livingston 2012) amid severe resource constraints. Bright yellow posters adorned the clinic walls, advertising the City of Cape

Town as the 2014 World Design Capital. In the staff room, the poster quoted Nelson Mandela: '*It always seems impossible until it is done*.' The by-line: '*African innovation. Global conversation*.' In the Wellness clinic, another quoted Steve Jobs: '*Design is not just what it looks like. Design is how it works*.' The by-line: '*Beautiful spaces, beautiful things*.' And in the observations area, a Chinese proverb: '*The best time to plant a tree was twenty years ago. The next best time is today*.' The by-line: '*Today for Tomorrow*.' The presence of Design Capital posters throughout the clinics stamped these spaces as part of the city's future-making project. Yet the long sit in the waiting room was often on a broken chair. Older posters with curled edges had their defects repaired with patient identification stickers. Make-shift Oral Rehydration Stations in the clinic waiting rooms consisted of a bucket of fresh water, an old Coca Cola bottle converted into a container for hand-washing liquid and an ice-cream tub filled with the rehydration mixture of sugar and salt (Figure 9). *Design is not just what it looks like and feels like. Design is how it works.*

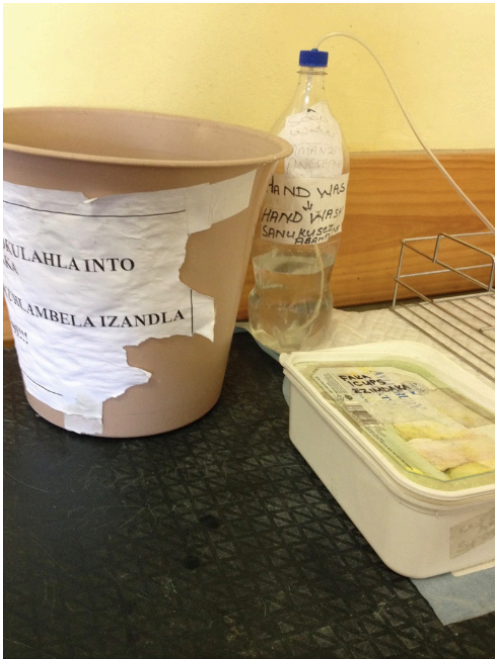

Figure 9: The Oral Rehydration Station

In both clinics, the Basic Antenatal Care office contained an old wooden desk and an examination bed. The desk had a calendar, a body mass index (BMI) wheel and dating wheel,[21] and a heap of paperwork - lab results, protocols and diaries. As was the case in all public clinics in Cape Town at that time, notes were still made with pen and paper. The examination area was equipped with a blood pressure cuff, a light, a tape measure, expendables including examination gloves, disinfectant and lubricant jelly and a plastic fetoscope: a hollow trumpet shaped device used to listen to the fetal heart beat. Designed by French obstetrician Adolphe Pinard in the nineteenth century, the device has been largely replaced by Doppler ultrasound in developed contexts and in the South African private sector. The fetoscope remains an important and effective tool for midwifery in primary care in South Africa, yet its use did not go unremarked upon by patients. 'I know this is not a private hospital,' Sindi told me one day in the waiting room, 'but I'd be happier if they could do a few scans'. The clinic was thus an affective space of both nostalgia and futurity; expectations of modernity embedded in its materiality made it a site of ambivalence for those who inhabited it (see also Street 2012, Geissler et al. 2016). As the remainder of this chapter aims to show, that ambivalence infused practices of implementation, audit, categorisation, and care.

Practices of measurement

The stratification of pregnant women into two groups - one deemed eligible for therapeutic nutrition supplementation, and the other for lifestyle and nutrition counselling - rested on the practice of measuring height, weight, and Mid-Upper Arm

[21] References to aid in the quick calculation of BMI and fetal gestational age

Circumference (MUAC). At Kunye Clinic, adult patients would weigh themselves on a digital scale in the waiting area, and report the number to the nurse on entering the observations room. 'You must weigh yourself, then you say *I weigh this weight*', Aviwe explained to me. 'You could say anything to those nurses,' she laughed, 'seventy kilograms instead of fifty kilograms!'

At Sunrise, a nurse supervised the weighing of patients on a digital scale or a balance scale in the waiting area. The nurse would weigh the entire waiting room in about fifteen minutes and then return later once a new group of patients had arrived to repeat the exercise. Over the course of four months, I frequently witnessed the ritual of the scale, captured in the following vignette:

> A child, two pregnant women and an elderly gentleman are crowded around the scales, and the sister directs each to take their turn. There is an old balance scale, and a digital scale with a large MSF sticker on its face. The child is instructed to take off her sandals and she removes them clumsily. She is weighed and her height is measured against the wall. The sister taps the scale forcefully with her foot to recalibrate it and the first woman steps forward. The sister does not ask her to remove her shoes. The woman is weighed with her folder in her hand. Next, the elderly man has removed his shoes, but not his bulky overcoat. The nurse instructs him to take it off and he drapes it over the balance scale and stands on the digital one. The second woman also wears an overcoat and is weighed in it without comment. For each patient, the nurse writes the measurements in black ink on his or her hands – weight on the right, height on the left. For smaller children, their measurements are written on their mothers' hands. These numbers will be recorded in the folder once the patient enters the observations room for blood pressure and glucose measurements.
>
> Excerpt from field notes
> 16 September 2014

Watching the ritual of the scale, I was most struck by the inconsistency with which the nurse would request that jackets, shoes, overcoats and folders be set aside before stepping on to the scale. For a measurement whose purpose it was to enable stratification and intervention according to an agreed-upon standard, there was little or no standardisation in the way that the measurement was taken. Moreover, this was not because such a practice was not possible due to a lack of resources or lack of knowledge. Rather, I would speculate that observing the ritual of the scale was an exercise in recognising the ethical, which comes into view with 'close attention to *the actual conduct* of life in the world' (Lambek 2015: 11). The nurse deviated from the technoscientific script (Akrich 1992) - perhaps because she was disaffected with her task, or perhaps because she was attending to another social script that accorded respect to some categories of persons. Having observed the ritual of the scale many times, I would hazard the former: that for the nurse, the task of weighing patients did not appear to *matter*, or at least not all of the time. Practices of measurement, in this case, undermined rather than aided the success of protocol.

On another occasion, a teenage girl was subject to the public weighing. Others in the waiting room made jibes, like *'Sjoe!* [Wow!] You look fat but you're still young, why don't you try to go to a gym or get some exercise every morning?' Both men and women in the waiting room commented amongst one another and laughed at the teenager. '150 kilograms!' Thus it was not just the protocolled stratification of patients for nutrition supplementation that was undercut here. Also at stake in the queue for the scale, and the routine inscription of numbers on hands, was the fine line between dignity and indignity, accountability and disregard. Such practices of marking the body have uncomfortable

resonances with earlier colonial attempts to enumerate and classify populations (Breckenridge 2014). If such tensions appeared in ordinary practices of measurement, they were far more pronounced in clinical decision-making, programme implementation and evaluation, as the next section shows.

Implementing policy

In this section, two protocols are used as the key examples to illustrate the ways in which staff navigated protocol implementation and change; the practices of measurement and categorisation that configured care and welfare access; and the audit and evaluation practices of the clinic. The first example is the policy on infant feeding in the context of HIV exposure. The second is the Nutrition Therapeutic Programme protocol, which stratified pregnant women into three groups according to BMI and MUAC measurements to determine whether a woman should be enrolled in the Nutrition Therapeutic Programme for food supplements or receive nutrition and lifestyle counselling.

'Things are written in protocols': HIV and infant feeding policy

The policy change on infant feeding for the Prevention of Mother-to-Child Transmission of HIV (PMTCT) in the Western Cape - to support exclusive breastfeeding and discontinue the free provision of infant formula - came into effect some months into my fieldwork. I was thus able to document how institutions and individuals responded to the new directive. My conversations with Sr Qoma, who had been involved with the PMTCT programme for some time, and Mrs Tshabalala, one of

the health promoters, offer two accounts of how health care workers had experienced the PMTCT feeding policy change in the Western Cape in practice - from exclusive formula, to a choice between exclusive formula and exclusive breastfeeding, and finally to the policy recommendation of exclusive breastfeeding for all women regardless of HIV status.

Offering a choice

During an initial interview with Sr Qoma, she was at pains to emphasise the importance of the choice that was available to pregnant mothers when the policy had still offered options. She explained:

> In the old days, we used to say that the PMTCT mothers are not allowed to breastfeed, but these days they are free to breastfeed as long they stick to the procedure. We tell the breastfeeding mothers: if they are positive, they can breastfeed as much as they want but they must give Bactrim[22] daily. If she can't breastfeed according to her circumstances, it is her choice, and we provide formula for those mothers here in our clinics. They make their own choices: we are not allowed.

I asked her if anyone who requested the formula could obtain it. She responded:

> No, not anyone who requests because there are mothers that made their choice that they are going to breastfeed, *ne* [not so]? But as the time goes, they suddenly stop breastfeeding and they expect that we are going to give the formula. The rule is not working like that – you must stick to the choice

[22] Bactrim is the brand name of an antibiotic given routinely to HIV exposed or infected infants for the prevention of *Pneumocystis jiroveci* pneumonia, a frequent opportunistic infection in the context of HIV

that you made while you were pregnant. And when we give them their choices we don't say to the mothers 'Tell us today', we give them time to think about the choices, *ne*? Those months, you know, those months that the mothers are pregnant is their time to think, what will they feed their babies with? But now the milk is no longer given in other provinces - it's only the Western Cape still doing that, and they will change it. There will be specific people who will get milk, like let's say, if the doctors say you cannot breastfeed due to certain circumstances, something like that, terminal stage or full blown AIDS mothers cannot breastfeed - so only them, they can get the milk.

Mrs Tshabalala (MT) similarly emphasised choice but also mentioned the AFASS criteria[23] that were used in assessing the suitability of formula feeding in the old policy:

MT: The feeding option - it is their choice, *ne*? But it is very important to explain to them, okay, exclusive breastfeeding goes like this: it is a package on its own. And the exclusive formula feeding: there are the AFASS criteria, whereby you have to accept yourself and you have to see if it is feasible, affordable...and what is it?

MP: Sustainable.

MT: Sustainable and safe. All those five. Fine. If maybe a lady is staying in a squatter camp, there is no water there, you are sharing one tap, there's no electricity, you have to use the flame, this person is not working…if there are those challenges, you are not qualified by AFASS criteria. Then it is her choice, she needs to say okay, "I'm going to breastfeed no matter what." It's okay.

[22] The acronym AFASS - Acceptable, Feasible, Affordable, Sustainable and Safe - first appeared in 2007 recommendations on HIV and infant feeding, and was designed to assist in assessing whether formula feeding was an appropriate choice in a given case, given that formula feeding requires adequate water and sanitation and the availability of means to prepare and store milk. (WHO/UNICEF/UNAIDS/UNFPA 2007)

In other words, if patients did not qualify for formula, they had to 'choose' breastfeeding. I discussed the new policy change with Mrs Tshabalala:

MP: I'm interested in what you think about this, because the government is now changing that. They are saying that they are no longer going to give formula-

MT: *Ewe, ewe* [yes yes], I meant at that time. Now there is a new protocol ... things are written in protocols, *ne?* But for those who were choosing to bottle feed, what was important was the hygienic issues.

MP: So now we are going to promote exclusive breastfeeding.

MT: Uh huh.

MP: Sometimes I meet someone who had a baby three years ago and they were told that you can choose and now they are pregnant again and now they are told no, you must breastfeed.

MT: So it is really confusing for them yes. But at the clinic we can say "Okay, now that you are pregnant, we are going according to a new protocol, so you have to handle the situation in this way, now, *ne*? Because everybody now is encouraged to breastfeed because the treatment, you have to take it no matter if your CD4[24] cell count is high. Even if a mother's CD4 count is so high that she is not on ARVs, for the sake of the child that woman has to take that pill to protect the child.'

During this conversation with Mrs Tshabalala, I was thinking specifically of Aviwe, whose account of the changed infant feeding policy reveals the confusion and frustration that can accompany 'going according to a new protocol'.

[24] The CD4 count is a lab measurement of the number of CD4 T lymphocytes and is used as a marker of immune function and disease progression in HIV infection. Historically it has been used to determine when antiretroviral therapy should be initiated. Since January 2015, all HIV-positive pregnant and breastfeeding women are initiated on lifelong ART regardless of CD4 count at booking (Burton et al. 2015).

Aviwe's account

During her first pregnancy in 2009, Aviwe learnt that she was HIV-positive and followed the PMTCT programme at that time. She had formula fed her first baby and he had tested negative. She started on lifelong ART in 2011 and had an undetectable viral load in 2014 when she found out that she was pregnant again. This time though, the PMTCT counsellors told her that she should exclusively breastfeed.

She recalled how she was sent to a PMTCT counsellor without explanation from the clinic sister, and gave an account of her experience:

> They take you to what they call the counsellors. When I was there, I asked the counsellor, "Why am I here?" The counsellor said, "Didn't the sister tell you?" I said, "No, she didn't tell me, but she said I must come to you. I ask you now why am I here." She said, "*Yhoo* [wow], it's a big question. You are supposed to ask the sister. *Sisi* [Sister] if you don't feel like you can be here, there's no point." Then she asked me "*Sisi*, are you gonna breastfeed the baby?" I said no. She asked me why. I said, "No, I don't trust this thing of breastfeeding while you are positive." And she said to me, "Why do you not trust it? Your CD4 - *ntoni ntoni* [what what], your HIV level is right - it is LDL [lower than detectable level], we can't see anything, the viral load is low." So she said to me, "No, you are going to breastfeed this baby because what we notice now, is that you positive people don't want to breastfeed, because of this milk government is giving you." And I said to her, "No sister, it is not about that. The problem is that I have never heard anyone that said *I was breastfeeding. My child is negative. It's 100%.* I have never...so I don't want to take a risk. My first baby, I didn't breastfeed him, I just gave him the bottle. So he is negative. So I don't want to risk." I told her I would go and ask my husband as well. When I came back, they asked me again, and I said "My husband said he doesn't want me to breastfeed because he doesn't trust this."

She laughed at me. "Wahaha! This is my first time hearing this - *my husband doesn't want me*- does it depend on your husband or does it depend on you?" I gave them the report *mos* [obviously]. They asked "Who's gonna buy the milk?" I said "I am gonna see what I can do. I'm gonna buy the milk." They said, "you won't get the milk [from us] because you don't have the virus, the virus is small in your body. You're gonna answer there by Harare [clinic], to those sisters, why you don't want to breastfeed. Because that's not a reason. If your husband doesn't understand you should have told him to come and hear what is a risk, what is not a risk." My husband says he doesn't trust that. If you are infected you can also infect the baby. He doesn't trust that, he is scared. I am also scared. And I said to her, the reason why I don't want to breastfeed is that I am working, and I must leave the baby. And I can't say "Don't give this baby water, don't give food, don't give what-what. Just give breast milk". Then the nanny feeds my baby. Then the milk is finished before I come back. What is she going to do? It is obvious. She is going to make a bottle. Because I am not back yet and the baby is crying. So that is the problem. She's gonna mix. So that is why I choose to just feed with a bottle. So that I can just give the nanny milk so that if I come later, there is no problem, she can just feed my baby, you see? It's not right, this "You're gonna breastfeed *Sisi*, until your baby is six months."

Aviwe's experience highlights the common difficulties of HIV-positive pregnant women faced with another change in infant feeding policy. Those who had pregnancies during the policy's previous incarnation and fed their infants with formula have personal proof that this method worked to prevent mother-to-child transmission in the form of their HIV-negative children. At that time, the risks and benefits of breastfeeding versus formula feeding were presented to them, framed in a discourse of personal choice and personal acknowledgment of the risks that accompanied their chosen option. As Nkululeko Nkomo has discussed for PMTCT antiretroviral access in South Africa, a focus on affording women a right to choose was part of a larger rights-based discourse

mobilised by HIV activists who 'recast a sense of hopelessness into self-responsibilisation, which concurrently involved nourishing hope in the preferred future for women with HIV to be afforded the right to individual choice associated with self-determination' (2015:163). In the history of HIV activism in South Africa, it is the figure of the pregnant woman who has borne 'the right to healthcare, autonomy and hope' (ibid.). Given that context, it is easy to understand how the removal of choice about infant feeding is received not as a newly calibrated, apolitical scientific recommendation, but rather as an emotive affront to the self-governance cultivated in HIV discourse in South Africa as 'an ideal personal and ethical quality of HIV-positive subjectivity' (Nkomo 2015: 167).

The new policy directive on exclusive feeding regardless of HIV status was issued on April 2nd 2015 (Circular 57 of 2015) towards the end of my fieldwork. It stipulated that as of April 1st 2015, no new HIV-positive mothers would receive infant formula, with the exception of women on second or third line ART for three months or longer with a viral load still exceeding a thousand copies per millilitre. I received this email on April 10th 2015 from my contacts in the Department of Health. Sr Qoma later told me that the new policy was communicated to clinic staff on April 23rd, but that she had not received her own copy of the policy document yet, and that she would wait for the formal written directive.

The Nutrition Therapeutic Programme

A Nutrition Directorate officer had explained the Nutrition Therapeutic Programme (NTP) to me during an early interview. The 2013 Western Cape protocols for Basic

Antenatal Care (Western Cape Government 2013) specified that BMI and MUAC should be measured at the first antenatal visit using the BMI wheel and the MUAC tape distributed to clinics. The policy officer explained that the BMI was used as an indicator of obstetric risk, whereas the MUAC provided a way to stratify women's nutritional status.[25] A BMI greater than 30 kg/m^2 warranted referral to the district hospital; greater than 40 kg/m^2 but less than 50 kg/m^2 to a regional hospital; and greater than 50 kg/m^2 to tertiary level care. The policy specified that those classified as underweight should be referred to NTP for six months of supplementation (fortified porridges, milkshakes and peanut butter paste) to be used in addition to 'normal family meals'[26], and those who were classified as normal weight, overweight or obese should receive dietary counselling.

The Directorate official was well aware of some of the obstacles to the smooth implementation of the new basic antenatal care policy. 'The MUAC has been done only for the past three years', he told me, 'so people are only getting used to it now.' He was exasperated that despite the training the nutrition sub-directorate had provided for staff on how to do these measurements, and the provision of MUAC tape measures to all the clinics, the clinical audits did not reflect that MUAC was measured consistently during antenatal visits and the staff frequently reported that they did not have the tools. 'They complain that there is just not enough time,' he shrugged. The directorate had tried to streamline delivery of the nutrition package by developing a nutrition checklist with basic messages that could be ticked off, such that not all of the counselling needed to be done at one visit. The official was sympathetic: 'We cannot expect midwives to be generalists,

[25] Most recently, MUAC has been incorporated into the National Maternity Case Record document as a simpler measure of nutritional status given that height does not have to checked, no calculations are required, and unlike weight, the MUAC is fairly constant throughout pregnancy (South African National Department of Health 2015).

[26] See Hansen et al. 2015 for a comprehensive guide to Nutrition Therapeutic Programme entry criteria and products specified for each target group

but the number of dieticians is limited.' He outlined the Metro Clinic arrangement: a roaming dietician visited each clinic once a month, which corroborated my observations in the clinics. Obesity, diabetes, or malnutrition warranted referral to the dietician, but in practice the staff used their discretion in referring given the limited number of cases the dietician could see in a day.

The register

I came to understand how these policies were actualised in the clinic during an interview with Sr Mimi at Kunye Clinic. She explained that each clinic keeps a Nutrition Therapeutic Register and after some shuffling of all the items on her desk produced the clinic's register for me. The large A3 booklet began by introducing the purpose of the register: to record 'the minimum information required to monitor the implementation of the Nutrition Therapeutic Programme'. There were detailed instructions on how to complete entries in the register: the date of birth, birth weight and the date of starting the programme was recorded. There was a checklist that included 'vitamin A'; 'exclude TB'; 'deworm'; 'nutrition education'; 'other illnesses' and 'feeding practices'. The patient's weight/MUAC (and height/length for children) was recorded at each monthly visit. Each patient was given a 'category code', and the product given and the amount were noted. Each patient was also assigned an 'exit code' after six months on the supplementation programme. Possible exit codes included:

S: *Successful* - adequate weight gain

U: *Unsuccessful* - inadequate weight gain, for referral to a dietician

I: *Interrupter or Defaulter* - failure to attend the clinic, may not be re-entered in the programme without dietician assessment

R: *Referred* - referred to the dietician before the six-month period ended

DC: *Deceased*

The clinic register shown to me by Sr. Mimi had records from April 2012. One quarter of the entries in the register had an (S) exit code indicating successful supplementation and weight gain. Three quarters of the entries in the register had an (I) exit code, indicating that the large majority of patients 'interrupted' or 'defaulted' from the supplementation programme. I found a similar situation at Sunrise Clinic, where Sr Radebe reported high attrition rates from the NTP programme. The officials I had interviewed attributed the attrition rate to women not wanting to queue for an additional service. They had tried to alleviate this by suggesting to facilities that they place the nutritional supplementation distribution as close to the antenatal clinic as possible. Sr Radebe had other thoughts on why patients were not returning. 'There's a stigma about getting food from the clinic,' he said, 'which causes people to default from the programme.' He also told me about a citywide stock shortage between March and August 2014, which had meant that patients who had in fact attended had not received supplementation for those months and then did not return:

> The clients will come in and we have to tell them no, we don't have. They will come and sit in the waiting room and then they must wait until they get their folder and then when their folder is in my room, that's when they find out - after two hours or three hours - that's when they find out that the stock is not here. Sometimes the child loses weight, but we have to keep the child on the programme, because we don't know when the milk is going to come to the clinic. So we just keep them on the programme and explain that we are running out of stock, and we are still waiting for the stock. Sometimes this causes interruption.

Given that such patients had not completed the programme, they could not be coded as 'successful' or 'unsuccessful' and could only be coded as 'interrupter/defaulter'. 'Defaulters' could not be re-entered onto the programme without a dietician's assessment, which presented a troubling situation: that patients were penalised for their 'failure' to complete a programme that was dysfunctional. I asked one of the professional nurses about this problem, but he was at a loss as to how to answer me. 'We recommend that the mother should be compliant,' he said. I asked what he meant by that and he explained that mothers should come to the clinic every month to check if the stock is available, rather than interrupt the programme.

Even in months when stock was available, the staff all noted that they repeatedly ran out of nutrition supplements before month end, along with gloves and toilet paper. Dr Lakay said that she was not surprised, given that for many patients the supplements constituted their family's main food source. 'Supplements are not really supplements because it's the only food that some households have,' she said. 'You can get away without gloves, but a tin of milk? I don't have a substitute for that.' She complained that the clinic focused on what was deemed 'therapeutic' and ignored 'preventive things like nutrition.' Keeping the pharmacy well stocked with antiretrovirals was important, she said, but the nutrition supplements were also indispensable: 'I mean, you must never say something like "undernourishment causes AIDS" because then you'll start sounding like Thabo Mbeki, but you know, if you're run down, and not eating…' Dr Lakay's hesitation to make her argument that a functioning NTP programme was as important as having enough antiretroviral medication is emblematic of the entangled history of HIV and nutrition in South Africa (Fassin 2007, Cousins 2015). What the NTP example shows is

that in the context of an already charged historical discourse around adherence to ART (Robins 2006), patient responsibility was extended to adherence to pharmaceuticalised food, even in the face of systemic failures.

When categories do not hold

Apart from fundamental problems of infrastructure, lack of stock, broken or missing equipment, and procurement and storage issues, my interviews with clinic staff revealed a number of other difficulties that they encountered with the NTP protocol. Inevitably, there were instances in which patients were not easily categorised. Sr Yolwa spoke about how sometimes a child's MUAC and weight-for-height measurements would not correspond - either one or the other would fall into the 'normal' category which then made it difficult to decide whether to refer to NTP or not. 'Then one must make a decision,' she told me. Other staff echoed that in such instances they had to use their discretion and that it was wiser to refer the patient than to miss a potential case of undernutrition. 'Sometimes you find that the MUAC is okay', Sr Radebe told me, 'and then you find that the weight is very low. Some of them they are so tricky, because you find out, their height for weight is okay, their MUAC is okay, but the weight, they keep on losing and going down. So that's when you have to decide - do I refer this child?'

In my interview with Sr Mbele, he added that measuring the weight, height and MUAC and charting these was not always enough. 'The socio-economic factors around Khayelitsha - some of them are not disclosing their info,' he sighed. 'But you will see when a person is poor - the appearance of the mom; the baby is dirty. So we check if there is a protruding stomach and we observe if there is oedema in the feet. If both feet

are swollen - that is one of the critical points of malnutrition.' Sr Mbele said that he referred about three children per week for NTP, but he was unsure if all cases were detected. 'Initially we were referring children that are very malnourished,' he said, although he did not clarify on what basis a child was considered to be 'very' malnourished. 'But the recent stats show that there are many children that we miss.' He attributed this to parents lying about exclusive breastfeeding or what they were feeding their children, staff spending too much time on excluding other causes of weight loss such as illness, and focusing on certain signs and not others. He explained that the new protocol stipulated that all infants should be followed up at the clinic on a monthly basis up to one year of age to prevent children being missed between immunisation visits that were sometimes months apart. Staff had also been reminded to look for additional signs of malnutrition. 'If you see that the hygiene is poor, or there's a skin problem, or the face of the baby is funny, that particular baby must be referred in. Because the baby might have a normal weight and mid-upper arm in some instances but when you check those signs, he has very long arms and a big stomach.'

Sr Mbele referred to these children as having severe malnutrition. My informants used the medical vernacular to describe such a child as a 'kwash' baby: a colloquial shortening of kwashiorkor. During a discussion with Songezwa, she explained that the clinic requested that children were brought frequently for follow up 'because they don't want the babies to be kwash'. I asked her what she meant by that. 'When you see a baby with dry skin, underweight, big tummy and big head and always the nose is running. It's more common in Ethiopia and Somalia - I have seen it on TV. But it is also common in the Eastern Cape and here in informal settlements.' Like Sr Mbele, Songezwa linked 'kwash' to poor social circumstances: 'It is common especially in those children of

parents who drink a lot. Maybe they go to a shebeen[27] for the whole weekend, and maybe they only feed the child on Thursday night and then leftovers on Sunday. In my area we have a neighbour like that. There were seven children in that house and the social worker has taken five of them already.'

As Sr Mbele pointed out, the kwash baby can confound protocol. Weight and length and MUAC measurements, and the mandatory check for pedal oedema as per IMCI guidelines, might be insufficient to detect severe malnutrition. To err on the side of caution is to allow for the subjective assessment of the health care professional, who might notice hair changes, dry skin, or a 'funny face' - features less easily captured and ticked off on a protocol. It is an instance in which intuition must override the 'instrumental rationality' of clinical medicine - the tendency to focus on instrumental knowledge as the basis for rational decision-making (Good 1994).

The increasing number of children classified as overweight posed a different challenge to clinic staff. The protocol called for referral to the dietician but did not specify follow-up. One of the paediatric nurses directed this question to me one morning: 'yesterday I saw a child who missed his last date and now he is overweight. Now what must I do?' I reminded her that I was not employed by the clinic, but we agreed that this was a good question: what is the protocol for the follow up or management of overweight children? A senior nurse clarified later that obese children should be referred to the dietician. In the context of the roaming dietician visiting the clinic only once a month, this seemed to me a piecemeal solution.

[27] tavern

Finally, my observations and interviews with staff in the clinic indicated that staff were not always clear about what to do with patients who might be categorized as 'food insecure' but did not meet the inclusion criteria for NTP. They were not all aware of the kinds of nutritional assistance available to patients and who was responsible for the NTP programme. When I asked staff during interviews about who was in charge of NTP, their answers differed. Some thought that it was Sr Qoma's job (she took care of stock), while others sent patients to Sr Radebe. Sr Radebe told me that 'everyone' was doing NTP work. He had taken on Sr Yolwa's extra caseload during her maternity leave and he could not do all the NTP referrals himself. Dr Mokoena, assuming I had some knowledge about the nutritional services at the clinic, asked me one morning to explain how the clinic's referral system to local food projects worked. She showed me the form that had been dispensed to the staff some months earlier: 'Referral for Nutritional Assistance at Local Feeding Site/Food Security Pilot Project.' The form read: 'This patient, who does not meet the inclusion criteria for the Nutrition Therapeutic Programme of the Health Facility-Based Nutrition Programme, is food insecure. It would be appreciated if you could supply the patient or household with the necessary food support. Thank you.' Dr Mokoena was not sure where to send patients after filling out this form. 'I don't know where to send them, so obviously the patient gets lost,' she fretted. I was not aware of any external feeding schemes and suggested that we ask the clinic manager. The manager confirmed that the clinic no longer had an external feeding referral site. As such there was no alternative for food insecure patients who did not meet the NTP inclusion criteria. I relayed this back to Dr Mokoena, who had completed the form a few times and kept it in patients' folders. The administration of the NTP programme in Sunrise and Kunye clinics thus corresponded with a recent evaluation of the programme in the Western Cape, which concluded that a 'lack of strategic

organisation and no clear responsibility for distribution at clinic level must be suspected of causing obstacles to efficiency and programme coverage' (Hansen et al. 2015: 4). This study also found that the programme was not subject to internal evaluation at clinics, which meant that such problems were not detected. At Sunrise clinic, auditing was a prominent feature of managers' and clinicians' workloads, as the next section shows, but NTP was also somehow overlooked.

The audit

It was Dr Foster's job to audit clinical folders as part of the clinic's quality of care evaluation. 'The audit looks at a variety of things,' he explained, 'like organisation of the folders, completion of the folder, record keeping, history taking, explaining investigations, physical examination, diagnosis, management of the patient, and health education.' He showed me the preformed audit tool and the clinic stationery that should be used by staff. 'It is a well designed form,' he said, 'it is a nice little summary of the patient and then because it is all outlined, you don't have to write much down, you just tick and classify. And then over the back, you've got room for their plan.' He took a folder to demonstrate how he would go about auditing it. 'So I start off with completion of the folder. The sticker scores most of that. And then the only other thing you're looking for is whether they took a next-of-kin detail and a phone number, which almost never happens. Then you go to' - he opened the folder to look for the standard form - 'this one doesn't have one; it just has a note. So already I know that this one is going to score badly - they have just done a more traditional sort of format. It is not to say that this isn't a decent consult and this patient is neglected, but because they haven't written down that they've checked a lot of things, it will score badly. So I've tried educating the

sisters about that concept: that if you don't write it down, it didn't happen.'

The preformed audit tool included a section with the heading 'Malnutrition/ Anaemia.' I asked Dr Foster what would be expected of the nurse for this section. His response illustrates some of the problems of a protocol-based approach to care:

> It's pretty simple stuff. They're just looking to plot the weight and see if it is tracking well and if it is normal. And for anaemia, it's really just whether they are pale or not. So it's really a gross evaluation. But that's one of the things where I've tried to, you know, educate that if that kid is not growing well you should test the haemoglobin. Don't just go on pallor. If you're concerned about nutrition you need to check. So this is only really designed as a screening tool and in most cases it results in appropriate treatment of the child, but it often misses things. There's not really anything on development in here, which would probably take too long to do in an assessment, but if the child is not growing properly then automatically you are supposed to do a feeding assessment. So the form works well as a screen. In terms of getting them referred to the right place, the form lets us down I think because if they have any other danger signs, they are supposed to immediately refer to the doctor. Whereas if they have got poor growth there's nothing that says they have to immediately refer which I think is a big miss. Because I see a lot of that in my audits: that the kid has been growing poorly for months now, and they have done a feeding assessment but then there is no real plan, we've just identified that that kid's got malnutrition or that something else is going on. But then there's no appropriate plan and follow-up made.

Children flagged as 'sick' based on the protocol's listed 'danger signs', such as respiratory problems, fever and diarrhoea, would be referred to the doctor. Children flagged as 'malnourished' based on their growth parameters were not referred to the doctor as the protocol stipulated their referral to NTP, and then to the dietician if this

failed. Dr Foster confirmed that he had no involvement in the NTP programme, and listed the 'immunisation and HIV sisters' as in charge of that programme. In sum, perhaps as another unintended outcome of instrumental rationality, the clinical audit tended to overlook nutrition.

Even as Dr Foster described these problems to me, he also defended his colleagues as having done their best in spite of resource constraints and did not equate the audit scores with quality of care. 'The problem is if you score badly on this it doesn't necessarily mean that you haven't taken good care of the patient,' he stated. 'These are just certain things that management have decided they want done. If there is a bad score, I'm not necessarily fussed with the way the patient was managed because it might be little things that lowered the score,' he explained. 'The sisters are not being deliberately neglectful; it's because they're not trained to recognise certain things. I mean you can't replace a doctor. Basically. And they do the best they can. But it is a useful tool in that it helps me to identify common problems in the management of children, and then I can address these. I usually go to the individual sisters because it is less confrontational. But I have spoken to all of the sisters a few times on certain things, like signing of notes, writing your name and designation and more general things that you can apply to adults and children.'

Dr Foster thus engaged in what Hannah Brown has recently termed 'empathetic bureaucracy', which acknowledges that management is not just about 'tools and techniques', but also about social relations, such that it comprises both governance and care (2016). Management activities are inherently relational, and thus the practices of audit and evaluation that policy implementation demands are shaped according to local

organisational contexts and carry affective valences (ibid.). The next section elaborates on how staff and patients navigated between these modalities of the technical and the relational: a space that I describe as *life between protocols*.

Life between protocols

Thus far this chapter has discussed infrastructure required for protocols to be enacted at all, the tensions that categories in practice invoke and the difficulties of changing the protocol. This section focuses more closely on the people who must follow protocol and the people who are their patients.

Staff accounts of the nutrition and lifestyle education package that is part of their clinical mandate revealed incongruences between what they knew should be said as part of health education during consultations and what they felt could be done by patients given their circumstances. The rote dispensing of advice might be one example of what Guillaume Lachenal has labelled 'medical nihilism': a renouncing of action given that 'nothing can be done' (2015: 107). By contrast however, my observations in the clinic also pointed to a web of care relations that did not fit into clinical flow diagrams. Health care workers' improvisations (Livingston 2012) in the face of stock shortages, high patient loads, missing folders, lack of stationery and failing infrastructure reflected a logic of care (Mol 2008) that navigated around and through standardised frameworks.

On the other end of the consulting desk, my informants' experiences of the perinatal nutrition policy package illustrated life's tendency to fall outside of protocol perimeters. In particular, a clinical approach to antenatal nutrition as a function of MUAC

measurements, micronutrients and ready-to-use therapeutic food made abstract the hard reality of hunger in the context of Khayelitsha, where a 'normal' or 'overweight' body mass index does not mean that a patient is food secure. A discussion of life between protocols however, must begin where it is most directly embodied: in the waiting room.

Waiting

A visit to the clinic is a whole day affair. Patients arrive an hour before the 8am opening time if they want to be seen first and even then they are likely to be at the clinic for four hours or more. Although staff have worked to try to improve the system, patient flow in the clinic is still onerously slow, with multiple stops (reception, observations, consulting room, pharmacy), each with their own waiting time. The bulk of a patient's time in the clinic will be spent in one or other waiting area, as the patient moves from one room to the next.

Table 1 illustrates Inam's visit to the clinic one month after delivery, and offers a snapshot of a typical clinic visit:

7:45	Arrive at clinic
8:00	Clinic doors open. Clinic card handed in at reception so that they can retrieve baby's folder. Inam offered a surgical mask on arrival but refuses to wear it
8:15	Waiting in reception area
9:08	Called and asked to also open her own folder: she needs another HIV test as per PMTCT protocol. She sits down again.
9:25	Clerk calls out retrieved folders, but not Inam's
9:30	Clerk suggests that Inam weigh the baby while they retrieve the folders and Inam goes to second waiting area for observations
9:34	Clerk returns: the folders cannot be found. Directs Inam to the help desk to fill in a form to create two new folders
9:40	Inam returns to the observations waiting area
9:45	Called to observations room to weigh baby. Undresses baby on counter. Baby weighed by sister and weight recorded on Inam's hand: 3,6 kilograms
9:47	Inam redresses baby in the changing room and returns to reception waiting area to wait for new folders
10:32	Baby's folder arrives; hers is not yet available. She is asked to wait.
10:51	Inam's old folder is found in the observations room. She is directed to HIV counselling for an HIV test
11:03	Inam returns and we move back to the observations waiting area
11:07	Called into the observation room. Nurse records observations in the folder.
11:14	Move to consultations waiting area.
12:55	Called into consultation room for baby's one-month check up
13:00	Consultation finished; follow up date given for six weeks
13:05	Inam hands in her folder at reception and we exit the clinic

Table 1: Inam's day at the clinic

'It's unfortunate in the public service that patients have to wait,' Dr Foster told me. 'You really are going to wait a long time.' On this score, Dr Mokoena said that 'patients can be difficult. There is a sense of entitlement. They want to be seen and they want to be seen now.' Dr Foster agreed that patients' expectations were problematic. 'It just never seems to sink in [that you have to wait]. Patients often jump the queue and they come straight to a sister or a doctor, despite being told repeatedly that that is not appropriate,' he said. 'It's a problem, just trying to explain to patients that they're not more special than other patients. Because their reasoning is that they shouldn't have to wait and other patients should. That's something I've tried to change with an appointment system and that's improved things but not fixed things.'

Inam's clinic visit for a routine one-month follow up post-delivery took five hours and twenty minutes. Of that time, she spent approximately twenty minutes with different health professionals, and approximately five hours waiting in different parts of the clinic. Amongst my informants, this would be considered a 'good' day, given that Inam was 'out by lunch time.' Spending more than five hours in the clinic on appointment days was in fact common amongst my informants. Worse, some had sat in the clinic until closing time only to be told to return the next day. For example, Nobomi had been asked to return to the clinic for test results a week after blood was taken. At her return visit, the nurse had difficulty accessing the laboratory results, but asked Nobomi to wait as she had hoped to get through to the laboratory by the end of the day. She could not access the results in the end and Nobomi left the clinic after an eight-hour wait with the advice that she should return in the morning. It is unclear why the nurse did not offer to phone her with the results when she learnt that the system was offline. As such, my informants usually spent between four and eight hours in the clinic for their appointments, with one exception: grant day.

On grant day, the waiting in the waiting room was displaced to queues that snaked out of banks, supermarkets and halls across Khayelitsha. 'People are elsewhere sorting out their financials,' Sr Mbele explained to me. Grant days are the first two working days of the month, when patients are not attending the clinic because they are collecting their social grant payments. Each person who receives a grant (child welfare grant, pension, disability grant) takes their South African Social Security Agency (SASSA) card to draw their monthly funds from a cash machine if they have a chip pin card, or to swipe the card at a participating supermarket to pay for groceries, or to draw the cash at the till (Shoprite, Spar and Pick 'n Pay participate in this scheme). 'On grant day, they separate

the tills,' Nomsa explained to me: 'some are SASSA only. The money must be withdrawn by the seventh day of the month. If it is not, they might not give you the money. They will see that you are not desperate.' When not queuing for healthcare, people were queuing for welfare payments, food, or both.

Waiting is central to the patient's experience of public sector health care in South Africa. While for the most part patients sit without much activity taking place, there are some distractions: health promotion talks take place a few times a week, the oral rehydration station is purposefully kept in the waiting area so that dehydrated children are not out of sight and the scale stands in the waiting area so that patients can be weighed while they wait. The waiting area is frequently so full that patients stand against the windows or convert the clinic trashcans into makeshift stools. Some of the blue plastic seating is cracked and mothers roll up their baby blankets to cushion the seats. People chat, toddlers gurgle and there is the sporadic rustle of a chip packet. Some people have smart phones for entertainment; others close their eyes and try to nap. Children pace and bounce between the aisles of plastic chairs.

My participant observation in the waiting room was predictably characterised by fatigue, boredom, hunger, restlessness and agitation. As a white woman most frequently cast as a doctor in this space, it was also punctuated by the ironic refrain from staff and patients alike: 'Who are you waiting for?' The ethnographer's malaise however, was the patient's common experience. Yet the waiting room was also a microcosm that revealed the endurance and care that characterised my informants' dispositions in everyday life. Sitting in a waiting room with one's child is often punctuated by entertaining, comforting or feeding the child as the hours pass by. The lollipop - that universal treat that comes

with a trip to the clinic - is not a caloric item, administered against public health advice, but a gift, a panacea for the boredom, and a therapeutic adjunct to the kiss on the forehead that makes the child well again. Waiting, in this frame, becomes an act of love: a suspension between the now of the child who demands constant attention and presence, and the later, the potential that is promised - if only one will wait.

Therapeutic nutrition?

On paper, the antenatal nutrition protocol is straightforward: based on BMI and MUAC measurements, women are either categorised as 'undernourished' and qualify for nutritional supplementation, or they are categorised as 'normal' or 'overweight', in which case they should receive counselling about 'nutrition and lifestyle.' As the cases of Inam and Sindi show, these classifications elide social questions about food security and hunger.

Inam was started on the nutrition therapeutic programme after being classified as underweight. Sitting together in her small kitchen, Inam shrugged and told me that she had always been thin. Trained as a journalist, she was working for a media company in central Cape Town when she fell pregnant and her work schedule meant that she often skipped meals. She also confessed to being 'fussy' about food: she had adopted a vegan lifestyle some years ago, but was reluctantly incorporating more animal protein into her diet now that she was pregnant again. She opened one of the kitchen cupboards to show me the cereals, milkshakes and peanut paste sachets she had received. The porridge packaging stated that 'apart from the direct benefits [of this product] on the immune system, long-term benefits regarding prevention of degenerative diseases of lifestyle are a

distinct possibility.' The peanut butter paste, called 'Imunut', was labelled a 'ready-to-use food supplement, RUTF F-100 formula.' These products are made by a Cape Town based company (slogan: 'Manufacturers of food for wellness') that according to its webpage aims to serve both the South African nutraceutical market and 'nutrition crisis zones around the world.' Inam followed the nurses' advice to use the food supplements despite her dislike for them. 'You can taste the medication in there,' she grimaced. The milkshakes and porridge were manageable, but not the peanut paste, which she described as too sweet. Inam took the peanut butter sachets from the clinic anyway: they would always be consumed by someone in her large household. Inam lived with her mother, two sisters, two cousins, two nieces and her own child; the children would frequently eat the porridge, milk and peanut butter that was dispensed with the food package. Inam was the breadwinner for this household of seven. She was employed and food secure, unlike many of my other informants, who were categorised as 'overweight' at the clinic and who were not eligible for food supplements, but who experienced frequent hunger. Nevertheless, Inam was unhappy when the supplements were stopped post-natally as she was concerned about weight loss from breastfeeding. 'After the baby's born, they don't give it to you anymore,' she shrugged.

Sindi was categorised as 'normal' weight and received nutrition and lifestyle counselling during her first antenatal visit as well as pamphlets to take home with her. During one of the long waits in the clinic, she told me about her frustrations with the dietary information that the clinic dispensed. 'I know what a healthy diet looks like,' Sindi started. 'It's just a matter of money. If I had money I would eat and do whatever I want to do. I know my diet is not good enough, so I take a supplement - Centrum Maternal.' Interestingly, Sindi used the word 'supplement', and not 'vitamin' or 'medication'. She

was aware of the advice to follow a certain diet and to exercise but explained: 'These things are there, we see them, but we can't really do them. It's not really accessible.' Her food choices - where she shopped and the purchases made - were financial choices. She went to Shoprite rather than the rival chain Pick 'n Pay because it was cheaper, if a bit 'untidy'. She shopped in Khayelitsha given that transporting groceries from further away was difficult, but was very aware that in the township 'some foods are not really accessible.' If Sindi had more money she would buy food from outside Khayelitsha and goods not on offer in the township (such as fresh fish and strawberries). 'If I had money, I would limit my food intake and eat smaller portions. I'd eat a different diet everyday, rather than the same rice, *pap* [maize], cabbage,' she says. 'I know I eat too much carbohydrate - rice, potato, butternut, cabbage, carrots, samp and beans - not the fancy food that you see on TV.' Like many of my informants, Sindi emphasised that following nutritional advice - having smaller portions, eating a variety of foods, and focusing on fruit and vegetables - was possible only for the financially secure. For everyone else, there was little option but to buy cheaper food that kept you feeling 'full.' As Songezwa put it, 'You can't be full with only vegetables, but in the clinic they don't mention *pap* or rice or samp and beans. Vegetables, chicken liver, fish, meat, milk and yoghurt, but no *pap* or rice or samp and beans, even though we know that they [the nursing staff] eat that as well!'

For some, the clinic's failure to provide a meal during the antenatal visit, and especially after giving birth, was an affront. Lindiwe compared her experience at the local Midwife Obstetric Unit (MOU) with a friend who had delivered at a private hospital: 'a friend of mine gave birth at MeloMed [private clinic] and afterwards her boyfriend took a photo of her with this nice meal. The local clinic, they don't give any meal.' At the

MOU, women are discharged six hours after uncomplicated deliveries and receive tea and a slice of bread or biscuits during this time. Aviwe recounted how a local NGO had provided meals for pregnant women waiting for antenatal care at a clinic she had attended during her first pregnancy:

> At that clinic they cook for the pregnant patients. They ask you, "Did you eat?" If you didn't eat they take you to the side to eat something and they say "Come back after you have eaten." They don't even ask here - they just give the injection. They say "*Sisi*, I'm going to give an injection because you have a discharge. I'm going to give you these pills." You see. I said okay. But I know it is not right. Because what if I didn't even have a banana in my stomach? Maybe you feel dizzy, you feel hungry, you see? Sometimes some of us don't have something to eat...Some of us don't even have partners now. Some partners left when they were two months, three months pregnant, you see? And this person is not working, she is struggling, you see man, they are supposed to give food for people that go there. They can't just - they didn't even ask me before they injected me.

My informants' perspectives on the nutrition therapeutic programme, the nutrition counselling and their despair that the clinic did not provide meals illustrate the tensions between food and pharmaceutical in perinatal policy. Cooked food offered during waiting time, nut paste in sterile sachets and over-the-counter vitamin supplements are substances that connote 'food' or 'pharmaceutical' in different measures. While the clinic was able to provide supplements for those who met the inclusion criteria, the clinic did not provide food. Clinic staff were well aware of the challenges described by my informants and as the next section shows, dealt with these in a manner that shifted between engagement and fatigue, or care and nihilism.

Bracketing advice: nihilism and care

The range of affective orientations amongst staff members towards the lifestyle education package might be described as a spectrum between nihilism and care. It was part of protocol and thus part of the staff mandate to offer health and nutrition education to clients. Yet healthcare workers were acutely aware of what Sr Mbele referred to as 'the socio-economic factors in Khayelitsha'. Staff members dealt with this disjuncture in a number of ways. Many would frame socio-economic problems as beyond the remit of the clinic. Others offered well meaning but unrealistic suggestions for how patients might adhere to the health and nutrition advice. While it was clear that many staff members were resigned about the boundaries of their abilities to deal with the significant challenges faced by their patients, it was also apparent that many of them were dedicated to offering care.

'The environment is not therapeutic'

Almost every staff member interviewed expressed reservations about whether the clinic's nutrition and health advice was easily taken up given the community's constraints. Sr Radebe threw up his hands during our interview. 'The environment is not therapeutic,' he told me, 'we are seeing diarrhoea in children because of water dumped in front of their houses. And the dirt - there's no vehicle picking up the bins. Lack of sanitation. Maybe five houses using one toilet. Father is not working, mother is not working. There are programmes that give out food parcels but that doesn't happen often. And that does not alleviate the poverty in the house'.

Sr Josephs similarly framed the issues that hindered patients from following nutrition and lifestyle advice as related to 'poverty' - a word that, as Akhil Gupta has argued, obscures violence to make its bureaucratic management 'unexceptional, a matter of routine administration' (2012: 22). As was the case in many of my conversations with clinic staff, Sr Josephs cited these issues as falling under the social workers' jurisdiction:

> I don't know how to put it…financially - most people don't work so they can't afford to buy things, you see. Vegetables for them are like so...they think they are so pricey. But *ja*, they do get grants some of them, somehow, but they cannot actually buy groceries that will be nutritionally good for them. It's a very poor area socially, most people are not working and they're staying in shacks and they share. You find that it is a family of six, sharing one shack and she has to feed all these children and she's not working. She's getting grants for two babies maybe –that is now the social grant that they get here in South Africa, it's three hundred rand[28] or something, you know – so she must now buy groceries and you can see that she will not be able to feed herself and take care of the baby that she is pregnant with if she has to feed that whole family. It goes way back, because people in this area, they are financially deprived, their way of living is not that good, they are poverty-stricken I must say, I must say it like that...you see, so it is quite, it's quite difficult to actually come up with a...I don't know...that will help these clients. You have to look into all those aspects. And to be honest, we have nothing here. No facility that helps them regarding that, but we advise them to see social workers, who can actually attend to them and help them, because social workers will go to their households and see what is going on and see how they can assist them.

Dr Mokoena expressed empathy for patients' circumstances, but was similarly

[28] Approximately sixteen pounds sterling at that time

resigned about the boundaries of her role in addressing these:

> It is really really difficult to say to someone who is very obese or overweight "Eat healthy", because that entails having vegetables and having money to buy all the healthy things, whereas the little money they do have is to buy your basic grains - your *mielie* [maize] meal, your samp, your porridge and your oil, and that's what they live on because it is sustainable and it is what they can afford, so *ja*, when we educate we are always going on about healthy diet healthy diet healthy diet, but in the back of our minds we know that it is difficult. Even though I advise them to have more vegetables and more fruit, some of them will say to me "But doctor where must I get money for that? The money I have is only my grant money and that's enough for my 2,5 kilos of *mielie* meal and samp." And I hear what they are saying. I am not in their shoes. All I can do is advise them, tell them the risks of what they are eating, you know, but at the end of the day honestly there's really nothing I can do for them.

Making do, and the myth of the urban garden

Some staff explained that they tried to shape advice bearing the 'client's' circumstances in mind. Staff acknowledged the difficulties of preparing healthy food for a large family given that everyone in the house 'eats from the same pot,' and given that family members might not agree about new cooking methods or adding more vegetables. They advised buying inexpensive food items that were designated as 'healthy' in the nutrition protocols, such as lentils, or making small changes such as adding less salt to food, and many referred to food gardens as a way for 'clients' to increase their intake of healthy food.

This was the case in my interview with Sr Mbuli (SM):

SM: We always encourage the free stuff like vegetables, fruits, water...
MP: When you say 'the free stuff' - is it available? Fruit and vegetables?
SM: No, but if they can plant fruit in their houses, it will be free after that...
MP: Right. Do you think that's quite common, that people plant things in the garden?
SM: There are, there are...but very few.

This idea was echoed by Mrs Tshabalala (MT), one of the health promoters:

MT: Sometimes when you tell them 'you must eat this and that', they will ask 'where are we going to get that?' So we introduce to them the veggies, the garden. Maybe they don't have the space, you know. Maybe they are living in a squatter camp and their shack is behind the others. So then maybe it is a container garden. So for them, it's...
MP: It is very difficult to garden?
MT: It's very difficult, but there are those who are making the container garden.

Dr Mokoena also thought this was a good idea but it needed to be a broader community project:

> If you say to someone, "Have your own vegetable garden" - where? You know, they are living on top of each other, where are they going to grow these vegetables? I remember some communities have vegetable gardens that they do as a combined effort for that particular community. I've seen one on Spine Road[29]. There is a little garden there. It's quite small, it won't feed the whole of Khayelitsha, but it is probably a food project that someone started.

[29] A main road in Khayelitsha connected to the N2 highway

> I think maybe that in townships each block should have a little food garden and maybe you share whatever comes out of that. Because there is no space, people don't have space, because they live in shacks.

Sr Radebe was less enthusiastic about community food security programmes. 'There are programmes that give people food parcels or set up gardens, but that doesn't happen often.' This aligned more closely with research findings on food security in Khayelitsha, which have shown that small scale urban agriculture is hardly practised and does not significantly contribute to food security (Battersby 2011). Zekiswa, a young woman who lived in one of the most deprived parts of Khayelitsha, expressed a similar sentiment about the short-lived community development projects in her area: 'I'm telling you - after a week, you'll no longer find that new project, there's no money in it, and those people who came with that project, they will eat the money.'

Other staff members simply advised their clients to 'work with what was at home'. Sr Yeka explained this to me using the example of a child who is not gaining weight: 'It is not that they [mothers] don't want to cook or what, they just don't have the stuff to cook for the children. I advise to cook porridge in the morning. If they have margarine or a teaspoon of cooking oil they can add –five millilitres a day for the child. Now we have peanut butter for the nutrition [programme] so they could use peanut butter if they have…or the sort of thing they have at home. You have to turn it into the food for the child. I try to advise them - whatever you have at home, just turn it into a food for a child.'

As these vignettes show, staff were at a loss as to how to approach the difficulties of offering nutritional advice in the knowledge that this advice was incongruent with the

daily realities of life in Khayelitsha. As such, there was a hollow note to their statements, which did not reflect a lack of concern on the part of the healthcare worker, but rather desperation - to offer something instead of nothing. The challenges of clinical work in this setting should not be underestimated: the high patient volume; the frequent lack of equipment and stock; staff shortages; the difficulty of obtaining lab results; the inefficiencies of patient flow; and the loss of patient folders (and thus clinical records) were common problems. The impact on service provision, as staff explained to me, was significant and often at the expense of clinical time with the patient. Staff were sympathetic to the difficulties faced by their patients, but given the constraints of the clinic they mostly confined their engagement with patients to a more narrowly defined clinical mandate, which also tended towards routing responsibility back to the individual. As Sr Qoma put it, 'I can only do what I can, and all I can do is just explain to the client.' Such a statement encapsulates a kind of 'medical nihilism': at worst, an apathy and disregard at odds with the values the health profession espouses; at best, a reflection of the fatigue and burnout that characterises healthcare workers' experiences of the public sector. I suggest the latter, given that I also observed many instances in which staff members extended care.

The pragmatics of care

Despite the feelings of helplessness and frustration that staff described, my observations in the clinic more often than not indicated that staff were deeply invested in offering care. They navigated protocols and recommendations so as to maximally benefit the patients; they frequently worked after hours to ensure that all the patients were attended to; and they actively engaged with clinic issues such as the flow of patients

between different sections, even trialling an alternative triage system during my time there to help improve waiting times.

Sr Mbele, among others, worked late if there were more children to be seen because he feared that if he sent them away, they would not return. 'We see more than four hundred patients a day. And you feel like, "I'm not doing [this] properly". You are looking at the time.' Sr Mbele shook his head. 'It is not supposed to be like that.'

In terms of perinatal nutrition policy, staff would err on the side of referring clients to the nutrition therapeutic programme rather than not. Sr Qoma, distressed by the nutritional supplement stock shortages and concerned that patients would 'interrupt' the programme, did not request as some other nurses did that patients simply come back once a month to check if the stock had arrived and to tick off their attendance. She gave her mobile number to her patients so that they could send her a text message to see if the stock had arrived before making the trip to the clinic. During the stock shortage, she also began to ration the supplements so that all the patients on the programme would get something. While this was far from ideal as per the protocol, it was more pragmatic to offer each client half the usual supplement package than to stick firmly to the rules and supplement less patients. Sr Qoma was also diligent in her recalling of patients who had not returned. After a skipped visit she would phone them and if that failed, she would ensure that a community health worker went to the home address given by the patient to investigate the patient's failure to attend.

Sr Qoma's navigation of the infant feeding policy transition was to continue to give formula to HIV-positive women who requested it for as long as possible. 'I just give

[formula]. As long as the government is giving out and I can still order those two hundred tins a month, why not give?' she told me. 'I'll keep doing that until there is something written down.' At the same time, she was discerning about when to follow the existing written directive (give women a choice), and when to go on the tentative recommendations of managers to promote exclusive breastfeeding pending the formal policy notice. If a patient was working, for example, Sr Qoma would tell her that she could not provide formula on the basis that employed women could buy their own. In this way, she allocated clinic resources to the patients she perceived as most needy through selective adoption of the new preliminary policy when it was useful.

Care, for some of the staff members at least, was bound up in a close affinity with the challenges faced by the clinic's patients. While the nursing profession in South Africa enjoys a respectable authority and middle-class status, many practitioners share their patients' backgrounds and thus occupy contradictory social positions (Marks 1994). This may reinforce paternal and moralising forms of care (Le Marcis and Girard 2015), or as in the case of Sr Lolo, accentuate empathy with patients' hardships. Sr Lolo lived in another township nearby. She worked in the observations room and saw all of the children for their weight and height measurements. On the wall at her station, she kept a faded sepia photo of herself and her own son, born in 1987. She told me that he is her eldest child, now in his late twenties with a daughter of his own. She had two more children, but the second-born died in his teens following a fatal stab wound. Sr Lolo had both a commanding presence that marshalled mothers and babes in arms in the small space of the prep room, and a soft demeanour that quickly consoled toddlers screaming at the prospect of having to sit on the scale.

Staff cared for each other as well, and the satisfaction derived from working in a close-knit team was mentioned in nearly all of my interviews at the clinic. Sr Lolo turned sixty at the end of 2014, and the clinic staff threw a party for her in the tearoom, complete with cake, soft drinks and a large banner that read 'Happy 60th Birthday!' The banner remained on the tearoom notice board, a happy reminder of the staff party. Parties for colleagues, daily morning meetings and sharing tea together were some of the ways in which the clinic workers supported each other. The nurses all wore their crisp, white, formal uniforms on Spring Day - a 'morale booster', as Sr Qoma put it. The doctors often took their tea breaks together, which provided not only a respite, but also a chance to help each other with clinical difficulties. In this way, health care workers endured the inherent contradictions of work that connotes the alleviation of suffering, but in actuality must 'unknow' suffering that cannot be alleviated by means of a protocol (Geissler 2013).

Discussion

The protocolled categorisation of individual patients, based on bodily measurements, dictates the clinical package of interventions each patient will receive. These practices are in turn subject to their own assessment in the form of clinical audits and evaluations. On paper, these processes fit into linear flow diagrams. In reality, as the examples in this chapter have conveyed, they must flow through fixed material infrastructures; they must contend with bodies that do not neatly conform to categories; and they are subject to staff improvisation when tools fail or time is constrained. The clinic presented here cannot be easily analysed without careful attention to what lies outside a traditional lens of biopower (Biehl 2011). Ethics, care, and the shifting philosophy of what constitutes

life and its value as reshaped by the relatively new biologies represented in DOHaD and epigenetic frameworks sit somewhere beyond the edges of biopolitics (see also Marsland and Prince 2012; Yates-Doerr 2012). Rather than ascribing the clinic practices I have described to either another instantiation of 'surveillance medicine', or to another version of the 'neoliberal' displacement of responsibility to individuals, the South African example of the clinic presented in this chapter reveals particularities of the forms of biomedical practice that characterise contemporary African global health, and shows that this practice is always relational.

The postcolonial clinic and the metrics of motherhood

While the ideas and practices that constitute the clinic extend beyond its physical borders (Chatterji et al. 1998; Das and Das 2006, Goodfellow 2014, Carney 2015), this chapter has proposed that the material infrastructures that constitute clinical spaces should not be overlooked. Secondly, I have hoped to demonstrate that the clinic - a contested image in fragile states elsewhere (Geissler 2015a) - still constitutes an important space of governmentality in the South African context. As Lauren Muller has written in her work on 'the geography of the clinic' in the Western Cape, local primary health care is constituted by 'particular facilities and communities, places which are not merely sites of instrumental biomedical practice, but buildings, spaces and associated social relations with particular meanings and attachment for individuals and communities that use and occupy them' (2004: 54). As such, protocols and their sites of implementation, as in the examples presented in this chapter, have a 'local universality' in that their 'universality always rests on real-time work, and emerges from localised processes of negotiations and pre-existing institutional, infrastructural, and material

relations' (Timmermans and Berg 1997: 275). In one vein, this seems self-evident. For policy to be enacted, actors must interpret it and use their discretion to best apply it in their contexts. Given that standardised protocols cannot make provision for all possible contingencies, health care work is necessarily characterised by a continuous negotiation of formal policy and clinical pragmatism (Timmermans and Almeling 2009). Dr Foster's approach to the audit exemplifies this 'policy-practice problematic' (Hoag 2011): he follows up with nursing staff when issues arise, but is also willing to overlook deviations from the protocol if he is otherwise satisfied that the quality of care was adequate. In another vein though, there are subtler underpinnings of the uneven manner in which policy is practised: the examples presented here resonate with the previous chapter's discussion of the disjunctures between global health rhetoric of life as sacred, and the practice on the ground of the distribution of care and resources (Fassin 2012a). Lives are evaluated differently, and in the case of perinatal policy, that evaluation rests on body mass indices, mid-upper arm circumference measurements, CD4 counts and HIV viral loads. These metrics determine level of care, access to additional food supplementation, method of infant feeding and the moral prescriptions that accompany nutrition education. The use of these metrics also variably configures women in the role of welfare recipients, self-making responsible citizens, and guardians of the future.

Food, supplements, and pharmaceuticals: citizens, patients and clients

My informants' experiences of the different arms of perinatal nutrition policy underline the tensions between categories of 'food', 'pharmaceutical', and the hybrid 'food supplement'. Aligned with these are the shifting categories of 'citizen,' 'patient', and

'client', and a constant negotiation of the uncertain boundaries between when rights-based discourses of access to state provisions are legitimated (as established by the history of ART access in South Africa), and when the right-bearing subject is called on to care for the self. In the context of the first thousand days policy however, this logic extends to include care for a future individual, herself configured as both a citizen endowed with future human capital, and a patient or client, whose future biological risk is attenuated by prescriptions of ready-to-use-therapeutic food. RUTFs then, in this context, are not emergency provisions in humanitarian interventions as described elsewhere (Redfield 2012, Scott-Smith 2013, Stellmach 2016). In the same way that Donna Haraway has argued that agribusiness technologies and computers in financial capitals are as much reproductive technologies as sonograms and IVF (1997: 208), RUTFs in this context are reproductive technologies that secure the future (Pentecost and Cousins 2016a).

Similar to how ART provisioning in southern Africa has revealed a chronic hunger that unsettles notions of adherence (Kalofonos 2010, Cousins 2016), the NTP programme and the nutrition and lifestyle education of pregnant women in the present setting reveals contradictory logics of rights and responsibilities. The perinatal nutrition policy and its categorisation of patients into two broad categories - those who receive assistance in the form of food supplementation, and those who are called on to make responsible choices, and self-make as citizens - thus in many reflects the new 'politics of distribution' in South Africa (Ferguson 2015). Inclusion and exclusion from a stake in state resources hinges on more than citizenship or its therapeutic variants (Nguyen 2010). It is also predicated on forms of intimacy seen as worthy (Berlant 1998, Povinelli 2006) - in this case the mother-child dyad - and on a normative notion of agency whose

opposite is irresponsibility, noncompliance, incapability or intransigence (Berlant 2007). This logic configures the distribution of resources and the disposition of institutions tasked with distributing them. In the context of the clinic, it allows for knowledge of what staff termed 'socio-economic factors', without the acknowledgement of the reality of hunger that this term obscures (see also Cousins 2016). It allows for the 'unknowing' (Geissler 2013) of hunger, on the premise that nothing can be done.

Nihilism and care

In his work on HIV in Cameroon, Guillaume Lachenal proposes *nihilism* as 'a heuristic hypothesis to examine the place of hubris, simulation, and pretense in the politics and techniques of global health in Africa' (2015:132). Lachenal uses this heuristic to problematise a common narrative of public health in Africa that exaggerates the emergence of novel biopolitical forms with the advent of a globalised neoliberalism and retreating nation-states. If we wish to examine how African biomedicine has changed in the era of global health, Lachenal suggests, we should look not only to the material effects that signal such changes, but also to what is purposefully *not said or not done*. The action, or more often inaction, of healthcare workers in my observations can be understood as shaded with a medical nihilism: a renouncing of action given that 'nothing can be done' (ibid.: 107). In nearly all of my interactions with clinic staff they resorted to platitudes such as 'There's nothing I can do'; 'To be honest, we have nothing here'. There is a finality to these summations. As Dr Mokoena concluded: 'At the end of the day honestly there's really nothing I can do for them.'

And yet clinic staff must deliver nutritional advice as part of the clinical mandate.

Encouraging 'the free stuff' or suggesting that people living in tightly packed shacks build a food garden starts to border on pretense. Producing registers and completing forms *represents* a functioning system. As Lachenal and other scholars have noted for the contemporary era of global health, 'spectacle, under this regime, is what matters' (2015: 133). It matters that there is a visible sign that warns of the potential threat of Ebola infection, a token of the global biosecurity complex at the entrance to this small clinic. *WASH YOUR HANDS OFTEN. Use SOAP. Do not touch an infected person.* It does not matter that residents of the informal settlement served by this clinic live in some of the most unsanitary conditions in the city, with raw sewage frequently flowing past their yards. It matters that a register exists with a record of all the patients enrolled on the Nutrition Therapeutic Programme. It does not matter that three quarters of those patients have 'defaulted'. It matters that Dr Mokoena has done the paperwork to refer her patient to a 'local feeding site'. It does not matter that such a facility no longer exists.

Drawing on Achille Mbembe's rendering of postcolonial state logics and aesthetics as obscene, or even absurd (2001), Lachenal 'pictures global biomedicine in Africa not so much in terms of greed, extraction and surveillance, but rather as a world of inaction and impotence' (2015: 108). While the constraints of clinical work in Khayelitsha are real, they are also often a justification for just ticking the boxes and overlooking the boxes that are not ticked. The 'therapeutic nihilism' (ibid. 2015: 107) that characterised the first decade of the HIV pandemic in South Africa remains a powerful affective force in the present, despite the availability of life-saving antiretrovirals (see also Le Marcis and Girard 2015). In addition, the colonial trope of the biomedical doctor doing his best under harsh conditions that Lachenal also points to is often invoked in narratives of South African health care, dominated by images of burnt out junior doctors and

overworked nursing staff (Pentecost and Cousins 2016b).

And yet to leave the discussion there is to offer a flattened rendition of the clinic: an image of theatrical bureaucracy. As Hannah Brown's work on Kenyan health care has illustrated, even bureaucracy can be empathetic (2016). Brown reminds us that 'management is something which is *always* done through personal relationships as well as through technologies of conduct' (2016: 15, emphasis in original). Too square a focus on tools and techniques risks 'a fetishisation of the technical' that overlooks the relations at stake (ibid.). Dr Foster, like the health managers Brown describes, approached his nursing colleagues with empathy and a willingness to overlook small oversights in his audits. As other examples in this chapter have also illustrated, protocolled practice is interspersed with moments of care and relating. Staff may even engage in acts of *subversive care*, as in the case of Sr Qoma dispensing formula for as long as possible, so long as the tins could be ordered and no written directive had yet landed on her desk. Staff may go to extra lengths to care for patients, staying after hours, following up all their cases closely, or allocate deservingness of care based on estimations of a patient's background. Thus, as Julie Livingston's intricate study of a Botswana oncology ward also shows us, 'moral sentiment and political efficacy are fragile in ways carefully revealed in the intimacies of care' (2012: 91). Or, as Le Marcis and Girard observed in their ethnography of South African medical services (2015), staff may disinvest in a particular case, on the justification that the patient has 'defaulted' too many times. In this instance, care becomes a burden, and '[w]ithdrawing from a caring relationship is for health professionals a way to carry on working' (Le Marcis and Girard 2015:176). As Akhil Gupta notes in the Indian setting, 'uncaring' in such instances is integral to the functioning of the state, such that violence may be inflicted at 'the very scene of care'

(2012: 24). In sum then, *the pragmatics of care* outlined in this chapter echo work that has shown how care has limits (Han 2012, Livingston 2012), care has its own politics, or antipolitics (Ticktin 2011), and how care can be viewed as a form of situated ethics (Le Marcis and Girard 2015). In Clara Han's words, 'care is a problem rather than a given' (2012: 24). Drawing on the work of Veena Das (2008), Han proposes that 'attending to care is similar to attending to violence' (Han 2012: 24). Neither conforms to a script or set of practices that can be observed, audited, and evaluated. Both are deeply implicated in the moral, which Han defines 'not in terms of moral judgements but in the very ways in which self is implicated with others' (2012: 24). As the next chapter attempts to show, care and violence are closely imbricated in the limiting and realising of potential in the lives of women and their children in Khayelitsha.

Chapter 6: The politics of potential - aspiration and violence in post-apartheid Cape Town

Introduction

This chapter is about the disjunctures between the orientations to the future that the first thousand days concept seeks to invoke and the future as it is articulated and experienced by my interlocutors. In other words, what are their imaginations of and aspirations for the future, and how does the future as a 'specific cultural form or horizon' (Appadurai 2013: 286) shape their experience of the present? The ethnography presented in this chapter sketches the important temporal frames that overlapped to produce the futures of my interlocutors. These were not 'stable temporal maps', but rather, following Veena Das, openings to attend to the 'particular mode in which the subject is immersed in the temporal [which] shapes the contour of the event' (2007: 97). This chapter does not purport to offer a totalising vision of how my interlocutors articulated the future; rather, I present some of the interlocking strands that structured subjectivities, and thus temporalities. The ethnography is broadly divided into two parts: the first attends to my interlocutors' ideas, hopes and aspirations, in a representational sense; and the second to their experiences of anticipation, in an affective sense,[30] in a context where there is a constant potential for violence.

I start by showing how aspiration was unequally available to my interlocutors depending on their different material contexts. Desired futures were built through

[30] I understand the relationship between the representational and the affective in terms of Elizabeth Povinelli's reading of Gilles Deleuze's distinction between ideas and affect (Deleuze 2007) that there is a differentiation 'between a mode of thought defined by its representational character (ideas) and a mode of thought that is not defined representationally (affects)' (Povinelli 2011: 8).

disciplined saving and the navigation of bureaucratic processes to 'make something out of nothing', while at the same time debt and bureaucracy eroded those aspirational futures. The discussion then approaches the difficult task of attending to violence. Violent events in and of themselves disrupt and distort time. Specifically, this chapter draws on Das's rendering of potential in thinking about violence, and the relation of fear to violence: 'Potentiality here does not have the sense of something that is waiting at the door of reality to make an appearance as it were, but rather as that which is already present' (2007:9).

The distribution of aspiration

Unsurprisingly, my informants' desired futures were very similar: they all wished for permanent and well-paying jobs, a house, a car and a good education for their children. However, not everyone believed that such goals were attainable. Drawing on Ghassan Hage's concept of the distribution of hope (2003: 15), and Appadurai's notion of 'the capacity to aspire' (2004: 64), I consider the disparate views of the future I encountered among my interlocutors as part of a *distribution of aspiration*.

It would be easy to cast this distribution of aspiration as a question of class. Drawing on political economic analyses of the class structure in post-apartheid South Africa, one might describe some of my interlocutors as low-income, characterised by informal housing, informal employment and low levels of secondary school completion, and others as emerging middle class, characterised by formal housing, stable employment, high levels of secondary school completion and some tertiary education (Seekings and Nattrass 2002, 2005). My informants did not fall neatly into one or other category.

However, there were stark contrasts between the most well-off and the least-well off in the ways in which they described themselves and their aspirations. For example, Songezwa and her husband Sithembele were forthright in describing themselves as living in poverty. By contrast, Lindiwe's maxim was: 'everything is possible.' I offer these contrasting perspectives here not to suggest that a sharp binary existed in how people conceived of the future, but rather to illustrate the tensions between aspiration and endurance in world-making projects amongst my interlocutors.

'Everything is possible'

'Everything is possible, there's nothing impossible around,' Lindiwe exclaimed, during one of our conversations over the din of the large television in her sitting room. Lindiwe was twenty-five and pregnant with her second child when we met. Born in Khayelitsha, she had dropped out of high school a year before completing secondary education and gave birth to her first child shortly afterwards. She started working for a pharmaceutical company in Cape Town on the factory floor and had been there for five years on sporadic contracts. She now thought of those years as 'a waste of time', and regretted not focusing on long-term goals. 'Twelve hundred rand a week[31]. That was enough! On Friday I got paid and then it was the weekend. I go to the ATM[32] and I've got money. But all that time I am playing with my life. Not anyone's life, but my life, my own thing.' Lindiwe described a shift: from a need for instant gratification as a young person to the adoption of a longer-term plan that would require hard work now for rewards later. Lindiwe looked to friends of hers whom she perceived as having done

[31] Approximately seventy pounds sterling at that time
[32] Automated teller machine

well. 'They say success is a hard road: it is not achieved in a day. They are driving this Golf Five [car], they own a house in Ilitha Park[33], a nice house, with nice things in the house, and they say "You don't know where I am from, what path I had to walk. I had to strive. It's not that I didn't fail. I did, but I carried on. Go for education. If you want a luxury life, go for education."' Lindiwe did not see an end to her ambition though: 'If you get to buy a house in Somerset[34] and drive a Citi-Golf, then you will want to live in Constantia.[35] You will still be hungry, hungry for other things, even if you have money. I'm not just hungry for food, I'm hungry for ideas, for improving.'

Veliswa, a thirty-year-old teacher, spoke similarly of a hunger not just for food, but for a certain life, and she asserted that she did not want her children to experience what she had experienced. Veliswa and her husband were both employed and sent their children to a school outside of Khayelitsha. 'I don't want them to experience hunger,' she told me. 'I want them to have options. Us at home, we didn't have options. We didn't even have a fridge. It was *pap* [maize meal] and *amasi* [sour milk]. That was it. I want them - if they open the fridge there is milk, cheese, eggs, bacon, everything. But I'm not just talking about hunger for food. I want them to be free, independent. Which is why I want them to get the best education ever. That is what I am working for. I want my children to have their money for themselves, to travel, to see the world.'

Lindiwe was also determined that her own children would not struggle as she had, and like Veliswa, she described her aspirations for her children with images that denoted mobility:

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[33] Khayelitsha's preferred suburb for the emerging middle class

[34] Somerset West is an affluent suburb around the Helderberg Mountains, east of Khayelitsha

[35] Constantia is a high-income suburb in central Cape Town

> For my children, I want the best for them, the best. Not that everything they want they must have - they must know how it comes - but I'm going to take them to another level. Where there is quality, not quantity. Where everything is happening about the future. Where they can be guided. Where they can come every day with a new thing and say "Mom, I didn't know this is how it works" and I can say "*Ja* my child this is how it works." I want to also know new things from them, for them to come and say "I've learnt this thing." Maybe I didn't know that, I didn't learn it at school, you see? I want them to know the technology. No one can take what is in your knowledge. Education is the best.'

She recalled the words of her mother: *'Ndingafundanga nje, ndizakuba fundisa abantwana bam* [I did not have the opportunity to learn, but the children will have]. Those words our great grandmothers said to our grandmothers; and our grandmothers to our mothers; and my mother to me. No, I don't want to repeat that.'

Like Lindiwe and Veliswa, Bathandwa and her husband were ambitious. At each visit with Bathandwa, I complimented her on a new addition to her living room: new curtains; a new lounge suite; a mirror for the wall; a new cabinet for the large plasma television; a tiger-print rug. Bathandwa changed her hairstyle frequently and had her nails manicured. In response to my compliments, she would retort that her friends had just bought a house with four bedrooms, a swimming pool and built in cupboards, in a nicer suburb. This couple already owned two houses in Ilitha Park. 'They've got these properties, and a Polo [car] and every time they want to take a vacation, they take a vacation. They are living the life,' she sighed. Bathandwa's husband worked in the film industry, but they both thought that he should be moving on to something more

lucrative. Her husband had wanted to study accounting, but had studied broadcasting at a technical college instead and regretted the decision. 'Private equity, venture capital - that's where I want to play,' he told me. Like his friends, he had a property portfolio in Khayelitsha that he was working to expand. 'Cape Town is expensive. Soweto or Khayelitsha, Clifton or Umhlanga Rocks[36] - across the board, Cape Town is more expensive,' he shrugged. 'But there is a reason why it is expensive. Because you are going to make your money. And if you don't get in now, you won't get in. It is the only province where there is still low unemployment.' He lamented that he had not bought a house in Khayelitsha when he arrived in 2001, when they had cost seven thousand rand. The same house in 2015 was worth a hundred thousand, and in Ilitha Park, the houses would sell for five hundred thousand[37]. 'It's a seller's market,' he concluded. Bathandwa likened her family's journey to climbing a mountain and like Lindiwe she was optimistic that reaching the top was possible, because others had done it. 'When I go to the mountain, I always reflect on how this lifetime is very challenging, very tiring, very hectic. Some of us are faster than others. So if you see these people who can make it, it shows you, it encourages you. You can have anything in life if you sacrifice everything else for it.'

Inam was perhaps the most upwardly mobile: she had a tertiary education and permanent employment. Her sister was married to a prominent councillor in Khayelitsha and lived in a big house that even included a home gymnasium. 'The real housewives of Khayelitsha, that's what I call them,' Inam said of her sister and her friends. For her, the next step was becoming a homeowner, and she was looking for a government-subsidised

[36] Soweto is the largest township in Gauteng Province; Clifton and Umhlanga Rocks are affluent seaside towns in Cape Town and Durban respectively

[37] According to Bathandwa's husband, a house in Khayelitsha would have cost £540 in 2001 and £6000 in 2015; in Ilitha Park in 2015 a house would have sold for £30000.

house in Kraaifontein, a suburb that she preferred to Khayelitsha. 'At least in Kraaifontein they [informal dwellers] are not right next door. Because you can't get rid of them; eventually they are going to come for lunch.' Inam was clear about her aspirations: 'I want to say this is *my* house, not my mother's house, *my* house.'

Lindiwe made similar assertions:

> You can make of your life anything you wish. They say you must not allow the past to dictate your future. And everything that I'm doing, I must make sure I put extra time, extra effort, because I know that I wasted time. They say life begins at forty. I'm asking myself: when my life begins what assets will I have? The assets that are under my name? Can I say: "I'm governing. This is mine." You understand? Not clothes. I'm not talking about clothes. I'm not talking about shoes. I'm talking about the qualifications, I'm talking about the house, and I'm talking about the car. Not a luxury life, but something that I can say: "I have worked hard for this. Here is my house guys; I'm paying a bond. This is my second bond. This is my car; this is my business. This is mine." You see? So this is what I am searching for. I want my own assets, my own things. I want to hold something. I want to have my life.

Lindiwe's assertion that she wanted to 'have' her life illuminates the question: What does it mean to have a life? Posing this same question in the context of the United States, Lauren Berlant asks: 'Is it to have health? To love, to have been loved? To have felt sovereign? To achieve a state or a sense of worked-toward enjoyment?' (2011: 117). For Lindiwe, to have sacrificed, to have had patience, to have achieved a desired future for oneself and for the next generation were essential qualities for making a meaningful life. Lindiwe's desire 'to govern', to 'hold something', and to be able to say 'here are my

assets' reveals what it means to her to 'have' her life: it is to be recognised by her society as having accomplished her goals, to have 'made a life' for herself. Returning to Ghassan Hage, he argues that the 'key to a "decent" society is above all this capacity to distribute these opportunities for self-realisation' (2003: 16). As is evident in the next vignette, these opportunities are not distributed equally.

The receding dream

Songezwa was thirty-three years old when I met her. She was born in the Eastern Cape, but had moved to Cape Town in 2000. She fell pregnant in her final school year and failed her final exams. She had since worked intermittently as a cleaner. Her first-born child went to stay with his grandmother in the Eastern Cape. Songezwa met her husband Sithembele at a meeting about funeral policies and they married in 2007. Her second child, a girl, was born a year later. The new family built a zinc shelter in Nkanini, the newest informal settlement on Khayelitsha's edge, and have lived there since.

Songezwa would have liked to 'have a house, rather than a shelter', but had little hope of moving soon. Each month was a struggle to make ends meet. It sometimes meant that the family went hungry, which made it especially difficult for Songezwa and her husband to take their antiretroviral medication. Both had been diagnosed with HIV during Songezwa's second pregnancy. Sithembele was a construction worker, but did not have permanent employment and was frequently at home. Often, he was 'waiting on an email': a friend conducted job searches on the Internet for him. On most afternoons, we would find him watching parliamentary debates and the discussion would quickly turn to politics. 'What did you do for your sixty seven minutes?' he asked us after

Mandela Day, in reference to the annual event that calls on South Africans to spend sixty seven minutes on charitable work in memory of Nelson Mandela's sixty seven years of activism and service. We discussed the local hospital blanket drive that I had contributed towards, and then asked him about his sixty-seven minutes. He responded angrily:

> The sixty seven minutes means nothing to me. I worried for *myself*. For a job for *me*. I never get anything better. I can't go and busy myself with that and come back hungry. So I stayed here and cleaned my own house. I saw people painting schools on television and I thought, come to me! Do something for me! I don't blame anyone. It is the government. They are lying, lying to poor people. There is no work. Everyone is crying. The youth here are very cross. Me, I'm old already. I'm forty-five and I don't have anything. *I just have to wait for that time when they are going to make it right.* When my daughter is finished with school she is not going to go to university because her father was not working. In the olden days education was easy. After Standard Six,[38] you could find work as a teacher or a nurse. Now you have to do Grade Twelve[39] and you still won't find work. During apartheid, there was order. There is no order after democracy. We sit here for many hours, and there's nothing. No food. The fridge - empty. The vase - empty. Only dust.

He made a sweeping motion with his index finger, and held it up to the light, as if to show us the dirt on his invisible counter.

In contrast to the hoped-for future to which Lindiwe aspired, Sithembele expressed the despairing realisation that things were unlikely to get better. Returning to Berlant's question, having a life in this case more closely resembled 'the process to which one gets

[38] The first year of secondary school
[39] The last year of secondary school

resigned, after dreaming of the good life, or not even dreaming' (Berlant 2011: 177). Sithembele linked the advent of democracy to deterioration in 'order' that had allowed for the arrival of foreigners, who would work for less money than South Africans. 'Zimbabweans, Somalians, Nigerians, it's too much man!' he exclaimed one day. 'Those people from Somalia - it is easy for them to open a business. The government doesn't support one of *us* opening a business,' he said, gesturing to include me, Nomsa, and his wife in this statement, united by our South African citizenship. 'The Nigerians do business here selling drugs,' he continued. 'They own shoe shops in the townships, but there are drugs behind the shoes.' Sithembele expressed a surprising nostalgia for elements of the apartheid state, a phenomenon noted elsewhere in South Africa. As reported to Amber Reed by her informants in the Eastern Cape, 'at least life was "certain" then: a person knew where he or she stood in the social structure and could envision the future' (Reed 2016: 99). Jacob Dlamini offers a more nuanced stance on how we might understand nostalgia for apartheid, as a way in which 'present anxieties [are] refracted through the prism of the past' (2009: 16). Dlamini argues that this nostalgia is less of a reactionary sentiment, and more a remembrance of the social structures of solidarity that supported the struggle to end apartheid and gave rise to a vision of an equal and just future. For Sithembele, that hoped-for future had not arrived, and he was at an age where the opportunity for betterment seemed already to have passed him by, the chances of his family escaping poverty increasingly slim. His capacity to aspire, compared to that of Lindiwe's or Veliswa's, was severely limited, and he resigned himself to a state of 'waiting until the time that they will make it right,' what Hage would refer to as the 'heroism of the stuck', which is not about what one actively achieves, but about the ability to endure, to wait out one's stuckedness (2009: 100).

That aspiration was unevenly distributed was more often articulated as a function of one's work or effort to succeed. Zekiswa, a woman in her early twenties, oscillated between sympathy for the hopelessness of others in the informal area where she lived and affirmation that people should take responsibility for themselves. She would reiterate that while people's circumstances were hard, they 'wasted' their chances. '35% of people here think about the future. For the rest, the problem is that there is no future. That is the problem with this freedom thing,' she told me, 'we are too free, so we are also *dom*! [dumb!] We don't think about our future.' People were not motivated, she said. People just sat at home. She related her own experience: 'I was also like them. How can you be motivated [to study] when you know that there are people with Matric elsewhere who are still unemployed? I spent two years not doing anything. You have to decide for yourself to change.' Zekiswa explained that one needed to use the opportunities available: her mother's employer had supported her to complete a course in administration. 'Some of us have many chances,' she said. 'But many of those with chances are after drugs and alcohol. The youth want to try everything before they will change. If you ask my seven-year-old cousin, she will say that she likes this place because the elders just drink and have a good time.' Zekiswa felt that it was important for people in her community to have role models. Young people needed family support. 'We need people who were once there. We can be encouraged by people who have changed in the same area. But it is the support you get at home. We don't get the love that we need. You will never hear a mother saying "I love you" to her children. It is very rare. So we are looking for what we don't know, we are trying to catch fishes with our hands.' Zekiswa's position articulates the ambivalent centre between the call to act as a responsible, entrepreneurial agent of the self (Foucault 2008), and the material circumstances that mitigated against that project. That she cited love and support as

important foundations for the capacity to aspire highlights that aspiration is founded on and nourished by certainty.

Naming the future

The differential capacity to aspire between more well-off informants and those living in severely constrained circumstances manifested in differences in families' abilities to complete the necessary rituals associated with life events, such as the ability to complete marriage rituals, or to properly conduct funeral rites. The naming of children, however, was one moment in which parents, however rich or poor, could express aspirations for their offspring.

Most of my informants chose names that evoked *beauty, brightness, the future, power, greatness, recognition* or *gratitude*.[40] The Xhosa practice of naming a child in accordance with the parents' feelings or aspirations, the conditions in which the child was born, or as a message to the ancestors, was important and necessary for many of my informants. Veliswa explained this to me with some examples. The birth order might be reflected in the name: '*Anele*: it's enough.' This would be the name given to the last born, but never to the first-born, Veliswa explained. 'You can tell how the parents were feeling according to the name at the child's birth: *Vuyo* means joy; *Nwabisa,* bring joy. And also what the parents hope the child will have, or be, or become. For example, if they wish for the child to be a nurse, then her name will be *Mongikazi*. *Nomfundo*: they are wishing for that child to be educated. When we name our children we hope that they follow their names and most of the time they do.'

[40] See Simelane-Kalumba 2012 for a full dictionary of South African names and their meanings

For Veliswa, names were imbued with potential, which also meant that great caution was required in choosing a child's name. Veliswa gave her first-born child a name that means *to dream*. She recounted how an acquaintance of hers had heard this name without knowing that she was pregnant and then later gave it to her own child. 'I dreamt the name! I came up with the name!' Veliswa lamented. 'She is one of those people who doesn't really dream for her kids. She stole the name.' Veliswa was concerned that people were no longer taking care with naming their children:

> Young girls carry babies these days and they just name the babies. They hear the name in the clinic and they think it is a nice name. In the olden days, the naming of the child was a very important ritual. We don't just name, we think. A child's name is a big thing to Xhosa people. These days the parents are just hearing the names in the clinics and they are stealing the names. I tell the nurse to call out the surname! Because these parents steal the names. The names don't mean anything. Parents don't have a direction for their babies; they just find the name on Facebook! Each and every parent has a dream, a wish for her child. Why don't you sit down and think about the future of your child? Why don't you sit down and plan? The name can mould a child. It can destroy a child. That is why it is really important that you think. For my children, I don't steal. I think. I dream.

For Veliswa and others, choosing the correct name was an important investment in a child's future, but as Veliswa observed, naming practices for the younger generation were changing with the times (see also Suzman 1994, Guma 2001). As Bodenhorn and vom Bruck's work on the anthropology of naming has shown, there is a 'profound political power located in the capacity to name' (2006: 2). The detachability of names gives them both political agency and a commodity-like value. Naming embeds infants in a set of

relations that they will in turn also influence and thus both infants and names have agency (Bodenhorn and vom Bruck 2006). That names could be stolen, in my informants' views, indicates their commodity-like value in this instance and their recognised power in creating potential and opportunity for one's child. As such, it could be inferred that the exchange (or theft) of names and the departure from older ways of naming in some way reflects the distribution of aspiration discussed here, which is contingent on its availability, circulation and exchange (Hage 2003). Similarly, when abject circumstances almost entirely negated the capacity to aspire, then even aspiration in the act of naming could be lost. As Veliswa uttered darkly, 'If there is a war on, we will name that child *Umfazwe* [war]. I have a friend called *Sikaneko*, which means "incident". He was born on June 16, 1976[41]. And I know someone who named their child *Umdlala*, meaning poverty. But you should never give a child a name like that. Then he will struggle for the rest of his life.'

Thus, as Veena Das has observed, 'the name can provide a window into the way in which everyday life is imbued with the dark hues of violence, betrayal, and the corrosion of relationships' (2015b: 15), but naming could also be an important form of future-work - a means of making certainty (see also Krøijer 2015). For many of my informants, another important place for such future-work was the church.

[41] June 16 1976 was the day of the Soweto uprising, a mass youth-led protest against the addition of Afrikaans as a medium of instruction in schools. The apartheid police killed hundreds of protestors, many of them children. In 1994, June 16th was declared a public holiday (Youth Day) in remembrance of this event.

Dealing with uncertainty: all in God's time

Nearly all of my interlocutors were members of a Christian church. The majority belonged to African Zionist congregations, while others attended Catholic, Anglican, Presbyterian, Seventh Day Adventist or Pentecostal Charismatic Churches in Khayelitsha. Understanding that my informants were part of different congregations and Christian orders and thus different local worlds to which I did not have access, I am not able to offer comparative thoughts here about how their outlooks may have differed depending on their religious affiliation. This is less important than the commonalities of those of Christian faith: that their aspirations and uncertainties, and the future-work they did to manage these, was held within another framework of time: God's time.

Many of my interlocutors articulated their aspirations, hopes, disappointments and uncertainties within a faith-based framework. For my Christian informants, church attendance and donations were thought to offer assistance with the achievement of aspirations and special protection from misfortune or witchcraft. For a number of congregations in Khayelitsha, one attended church on the day of the week that corresponded to one's needs: at Nobomi's church for example, Tuesdays were for protection against witchcraft; Thursdays were for prayers for the unemployed or imprisoned; and on Fridays it was 'the love service' for relationship problems or desires for marriage. Many of my informants' homes were decorated with church calendars, photographs of church leaders or events with printed slogans such as '*Silondozebawo* [You must protect us God]'.

There was a shared notion that good, God-fearing people would be rewarded. Nomsa, who described herself as Anglican, and Ndileka, who was a member of a Zionist church, agreed that in order 'to have good things, one must be a good person.' Songezwa and Sithembele were members of an evangelical congregation - 'the kind with a keyboard,' they explained. While both professed religious values, they did not extend a Christian generosity to 'foreigners' who came to South Africa looking for work. For Sithembele, prosperity was meant to accompany democracy, but had not. The deservingness of citizens was threatened by the influx of 'foreigners'; and religious fervour and xenophobia were not incompatible. Rather, these seemingly conflicting attitudes were but two aspects of an aspiration for a receding dream of redemption and reward for those who had won the long fight for citizenship in the land of their birth. Both attitudes spoke to a need for 'order', for things (and people) to take their rightful place. The notion of entrepreneurial spirit and responsibility that Zekiswa had articulated was bolstered in some cases by my interlocutors' affiliations to churches that appeared to cultivate a self-confidence and an entrepreneurial spirit in members, and operated on the narrative that giving generously to the church would reap material returns (see also Maxwell 2005, James 2014, van Wyk 2015).

Religion was thus one available explanatory framework for life's successes and challenges that my informants could draw on to create some certainty, an observation in keeping with previous work in African contexts (Meyer 1999, Haram and Yamba 2009). Disappointments or setbacks were often framed as part of 'God's plan.' Bathandwa had wanted to become a doctor, but explained that 'sometimes you want something but God has another plan for your life.' Ndileka asserted that her religious faith set her apart

from others: 'I feel it is God who going to put me where I want to be. It's only God who knows what I want, only God who can protect me from the devil. We all have challenges we are facing, but I believe it is God who is going to be the one who is protecting me. In my heart I always feel the grace of God even when I am walking. I can say that I am different from others.' A number of my interlocutors found comfort in the notion that 'God makes His own plan in His own time.' Nobomi agreed with her mother, who professed that if God wanted a certain outcome, it must be accepted. 'She believes in God in every little thing,' Nobomi smiled. Lindiwe similarly reasoned that 'God responds in His own time, not your time. They say it is God *mos* [obviously] who is controlling everything.'

Although witchcraft was considered to be a common phenomenon, my religious informants viewed it as less powerful than the will of God. 'It is only God who can see what is good for us. Things are too hard in life. Witchcraft is strong, but if you believe in God then nothing will happen,' Ndileka explained. Nomsa agreed, citing the example of one of her recent dreams. 'I had a dream about coins. It might mean that I will lose money in minor things, or that maybe someone is jealous that I am working now. I must be very aware not to give a person a coin if they ask to borrow money: they will use it for another purpose. They will take the five rand or ten rand and use it so that you cannot spend your money on good things. You know these people by face, but you don't know them by heart. The one who is going to hurt you is also the one who smiles at you. If you have a bad dream, you must just pray in the morning.' Nomsa's dream resonates with the close entanglement between faith, witchcraft, and financial wellbeing documented in Southern Africa (White 2001, Pfeiffer 2002, Ashforth 2005, Niehaus 2013). However, apart from attending to the spirit, my interlocutors employed a number

of other strategies to secure their financial futures, or, in the words of Cebisa, 'to make something out of nothing.'

Making something out of nothing

This section describes how women stitched together resources; engaged in entrepreneurial work; balanced savings and debts; and navigated bureaucracy for access to other forms of support to take steps towards their goals. Making something out of nothing was contingent on one's ability to navigate bureaucratic and social landscapes. Here too, a comparison can be drawn between those who could successfully cobble together state provisions, an entrepreneurial spirit, and networks of care, and those who, by virtue of their low social positions, had less of this navigational capacity. My informants' differential capacities to aspire had their tangible expressions in what each could achieve with their available means, and to what extent each could engage in the reciprocities that smoothed social relations. For women like Lindiwe, relative financial and social capital allowed for a better stitching together of resources. Success, however, came with pressure to support one's extended family, pressure to consume and an increased vulnerability to the witchcraft of jealous acquaintances. For the less well off, 'making something out of nothing' was less about achieving aspirations, and more about avoiding the indignity of seeking charity from neighbours. This section ends with a discussion of how, while aspiration is unevenly distributed, everyone shared the common obstacle of bureaucracy.

Stitching and saving

Many of my interlocutors articulated rich ambitions and hopes for their futures, and for the futures of their children, but were all too aware of the challenges to these aspirations, and the pragmatic spirit required for overcoming them. '*Ndikwelo phulo* [I'm on it, I am making an effort],' Cebisa said, 'if you want something, you can do something out of nothing. In life you must have Plan A and if Plan A fails you must have Plan B. Some things are impossible, *ne*? [Not so?] Impossible. There are Mission Impossibles in life. Unless *wena* [you], you decide "I want this future for my child" and then you have to do something out of nothing.'

To do something out of nothing required a stitching together of different resources. My informants' incomes were comprised of salaries (for the employed), government child support grants, unemployment maternity benefits, money made from small entrepreneurial projects or from moneylending, and support from partners. Lindiwe's household exemplified this arrangement. 'I can write down my responsibilities, each and every thing,' Lindiwe asserted. Lindiwe lived with her mother, her teenage cousin, her five-year-old son and her recently born second child. She managed the household's finances. The household's income was comprised of her mother's disability grant for her mild intellectual impairment (fifteen hundred rand per month); her cousin's disability grant for her physical disability (fifteen hundred rand per month); child support grants for each of Lindiwe's two children (seven hundred rand in total per month); Unemployment Insurance Fund (UIF) maternity benefits (seventeen hundred rand per month for four months); her boyfriend's contributions for the baby (five hundred rand a

month), and Lindiwe's earnings from her informal loan scheme and small businesses (variable income). In addition, during the holiday season she rented out portable gas stoves for a hundred rand per day and sold bulk bags of chicken that she had bought from a local butcher. Lindiwe's household income thus comprised government grants, maternity benefits, profits from her small businesses and micro-loan scheme and support from her partner. This combination of incomes and methods of saving was common among my informants (see also Collins et al. 2009, du Toit and Neves 2014). With the pooled money, Lindiwe bought a monthly hamper of maize, rice and sugar for three hundred rand. She spent two hundred rand per month on electricity, and about four hundred rand on fresh food. Other expenses included water, transport money, school fees and stationery, and cable television.

An additional expense was what Veliswa referred to as 'paying the tax': the claims made on one by one's extended family. Scrupulous saving and self-discipline to reach 'the next level' could be eroded by making purchases that denoted status, and by honouring obligations to less well off kin. 'I want my children to be whatever they want to be,' Veliswa said. 'Because what we are doing now - we are still working for our families, like paying a tax.' Even though she and her husband were earning well, they had extended family to support on their incomes. Inam reported similar demands from her siblings: 'We'll go hungry while you still have money,' they would chide her. She blamed this for why she had not yet bought a car. Bathandwa explained that both her and her husband's family expected support now that Bathandwa's husband had work in film. 'There are expectations,' she complained. 'They don't see that it is still not a lot of money. His industry depends on the season. Maybe four months he is not working, then he works for two months, then we must pay the bills from four months back. Then

maybe we are left with empty hands. But they don't understand that you can't look after them, that now you are married and things have changed. Everyone expects that we must give back to them.'

Apart from monthly household expenditures and 'paying the tax', those with the means would engage in some form of saving, most commonly a '*stokvel*' - a method of community saving. 'Everyone has a *stokvel*,' Ndileka explained. 'It starts in January and it ends in the first week of December.' Ndileka took part in a *stokvel* with her mother and three other women. Each contributed five hundred rand per month, and each month one member would receive the pot of money. Ndileka used her turn to buy a dining room set for her home in the Eastern Cape. 'I believe that when I have money I must do something that is important,' she explained, 'so that I can say that the money I had that year, I did that and that with it.' Lindiwe was also part of an annual food savings group in which each member made a monthly contribution until December, when the group bought food hampers or sheep for the holiday season. In her work on debt and consumption in South Africa (2014), Deborah James links the proliferation of *stokvels*, or savings clubs, to the growth of the middle class and argues that they play an important role in preserving communal values. As James explains, 'in the midst of rapid upward swings in wealth and swift descents into impoverishment, clubs provide members with the means to communally identify and engage in reciprocal mutuality, and - guarding against the possible collapse of trust and interchange - to differentiate themselves from those of unequal means who are unable to reciprocate' (2014: 125). For my interlocutors, being able to contribute to a *stokvel* was not only a means of saving for larger expenses, but was also a marker of stability and the ability to manage a household. As was the case in James's study, I observed a 'complex set of reciprocities' (ibid.: 59) that buoyed

households, urged competitive consumption and dictated kinship obligations. As the next section attempts to demonstrate, honouring such reciprocities was also future-work that maintained one's dignity and inclusion in a social net of aspiration.

Debts and credits, charity and dignity

In contrast with the pride and dignity that accompanied belonging to a number of *stokvels* (Nomsa had three), seeking loans from neighbourhood moneylenders (*oomashonisa* in isiXhosa; also referred to as mashonisas in colloquial English) was viewed as a sign of desperation, poor planning, and irresponsibility given that the moneylender could charge an exorbitant interest rate. Two of my informants were themselves neighbourhood moneylenders, while other informants planned carefully to avoid having to call on mashonisas for a loan, or on a neighbour for charity. Nobomi and Lindiwe's moneylending, and Aviwe's careful planning to avoid January debt, point to some of the forms of risk, speculation and anticipation that configured these actions.

While they never referred to themselves as *oomashonisa*, Lindiwe and Nobomi both lent money to people and charged a high interest rate on it. Nobomi was part of a group of women who worked together. Everyone contributed money at the beginning of the year. The group was divided into two teams that took monthly turns to lend the money and earn interest. The clients were required to pay at the end of the month and then the increased pot of money could be lent out again. At the end of the year the earnings were divided and the process commenced again. Nobomi earned about twenty thousand

rand[42] a year with this business. In the months when Nobomi was lending, our time with her would be punctuated by the sporadic arrival and exit of clients, especially on Fridays and at the end of the month. Nobomi hid her Croxley A5 notebook with records of loans and payments under the couch. As soon as a client had left she would motion to me to retrieve it for her to make a quick note. Sometimes though, a client would miss a payment. Nobomi had one case in which she had not received the money after four months. 'I don't like to run after people,' she said. In such situations, she found it better to ask for the loan to be returned without the interest, given that the client was unlikely to have it. Retrieving the money originally loaned was important, because it needed to be returned to the communal pot. If Nobomi could not extract it from the client, she would have to pay it herself. Her strategies in such situations included going to the client's place of employment; requesting that the family pay her or give her a fridge or television in lieu of payment; or asking local taxi bosses for assistance. The latter was a method of last resort, as the taxi boss would request payment and employ unpleasant intimidating tactics that Nobomi was reluctant to elaborate on in our discussions.[43] 'You have to be very firm,' she shrugged. 'The best thing to do when you make the loan is to take the ID [identity] book and the payment card. Then at the end of the month, you go together. He draws for you, and then for himself. You don't have to shout, you don't have to do anything.'

Lindiwe's own experience as a moneylender had shown her how those who appeared to be most well off might sometimes be the most indebted. Apart from the cable television, Lindiwe avoided the purchase of luxury items. 'I would rather save and be

[42] Approximately eleven hundred pounds sterling in 2015

[43] This accords with fieldwork for the Khayelitsha Commission by anthropologist Kelly Gillespie, who stated that the taxi associations 'run a formidable alternative justice system' (Khayelitsha Commission 2014: 139).

patient,' she said. 'People end up drinking because they are going after something they can't have. If you want something, you will get it, but you must work hard and make much effort. I can see people get under pressure and they buy unnecessary things.' This was especially the case in December - 'the month of wasting money,' as Ndileka put it. She spoke darkly about *oomashonisa* who took advantage of people who were desperate after the excesses of Christmas. Some made advance plans for December and January expenses in addition to their *stokvel* savings: Aviwe filled her pantry with maize, sugar, flour and non-perishable items before the start of the holiday season. She would bolt the pantry door before departing for the Eastern Cape, safe in the knowledge that there would be food for the family in January. Then one did not need to seek help from moneylenders or neighbours.

Calling on neighbours for charitable assistance was a method of last resort. My informants were clear that, unlike the situation in one's rural village of origin, in the township one did not ask neighbours for help. 'We come from different families here,' Aviwe explained. 'Some don't even know how to share. If you go and ask for something, especially if your husband is not working, that person will say, "*Yhoo* [Wow], she was here, she is struggling. *Shame* " '. The exclamation 'Shame' in Aviwe's example refers to a common refrain in South Africa that in this context would connote pity, embarrassment and indignity. Aviwe's reluctance to share her problems with her neighbours was bound up with the preservation of her dignity and personhood in the eyes of her community, an observation that accords with Fiona Ross's careful research in another of Cape Town's informal settlements (2010, 2015). Aviwe explained further: 'If you go to someone and try to explain that your husband is not working, that there is no food in the house, that your baby doesn't have money for fees - if you take out your pain, you

will hear it from someone else that you did not want to tell.' Nomsa agreed: the neighbours would gossip. Aviwe had one close friend in the township who she could trust. 'There are few people like her. People with a heart, they are so difficult to find.' If Nomsa needed help, she called on her sister. Bathandwa was frank: 'I don't want to know them [the neighbours]. I just greet them in the street.'

The careful cultivation of dignified relations between neighbours could, however, be quickly exposed and undone: in the words and actions of a child. At Nobomi's house, her daughter Philisa's five-year-old playmate Lungi frequently joined us. Lungi was a quiet child who would hover bashfully next to her two-year-old friend. She was severely stunted for her age. 'She is the same weight and height as Philisa,' Nobomi exclaimed. 'When her mother told me that she will go to school soon I didn't believe her. They don't feed the baby. They like to drink.' She was angry with Lungi's parents, who she suspected of using their grant money for alcohol rather than food for the family. Lungi's father had asked Nobomi for a loan of four hundred rand and she had given it interest-free, but he had never returned the money. 'He is working, but he doesn't buy food. It is not that they don't have the money. They just don't care. I can't just watch him buy beers every week. It is a favour what I did. I have never seen a person who is so irresponsible like that. Can you believe that Lungi didn't have a new dress for Christmas? And she's got a grant? They are just making credits [taking loans] for alcohol. Every day they are drunk.' Nobomi thought that there had to be limits to generosity in this case, but felt compelled to help Lungi. 'The whole week, I'm *maintaining* Lungi. She knows when I'm going to give Philisa porridge - early in the morning she'll be here. And then Philisa says to me: "Mommy give for Lungi too." But sometimes I say no. If I count, this [porridge] is going to last two weeks, so I rather don't give. It is too much. On Friday they [Lungi's

parents] get paid and they buy Lungi chips, but they don't share with Philisa. They are wasting my food on Lungi and then when it is their turn they don't share. On Fridays, you won't see Lungi here - she knows what is happening. So sometimes I say no, I'm not going to give her today. And then you see that she is hungry and then you feel that pain. It is not her fault. Sometimes she'll come here and sit here and just look down. I'll ask her if she is hungry and she will nod. And then you are going to give.' Children, as Pamela Reynolds' work in Cape Town has shown, will also try to make something out of nothing: they will 'maximise their resources and opportunities under the circumstances in which they find themselves' (Reynolds 2000: 157; see also Ross 2015). Nobomi's kindness was, however, a meagre resource. 'I don't know how she is going to go to school. When Philisa's shoes are too small, I give them to Lungi. They won't even have a uniform for her. If she was healthy she would have been clever, because you can see that she is clever.' The social workers were aware of Lungi and Nobomi was waiting for them to take her away.

In her work on debt and care in Chile, Clara Han highlights that 'the boundary between neighbour and friend/intimate kin makes more vulnerable the boundary between asking and begging' (2012: 78). In Khayelitsha, these boundaries are made of 'highly gendered and spatially stretched care chains' between urban and rural locations (du Toit et al. 2007:534). As du Toit and colleagues' work has illustrated, women are at the centre of a network of institutional and social relations that are sensitive to gossip that could quickly whittle away one's social capital. Lungi's parents were seen as without dignity in their community: their child went hungry and was without a new Christmas dress; they had succumbed to alcoholism and did little to conceal their poverty. By contrast, Aviwe carefully prepared for lean months and she had a chosen trusted

confidant for moments of need. As Fiona Ross writes of her informants in another of Cape Town's informal settlements, 'personhood is central to the management of debt and dependence. Dependence on the state (e.g., for social grants and indigence assistance) and indebtedness to it (e.g., rates arrears, school fees, hospital bills, etc.) are differently weighted to dependence on and indebtedness to one's neighbours' (2015: S105). In Clara Han's words, 'concealing allows for the enduring to endure' (2012: 86). In the anxious stitching of incomes, drawing on a close network in times of need does not impinge on one's dignity; it maintains an important pretext for what Han terms the 'quiet moral striving' (86) that keeps one working towards an aspiration. Agency in such instances, to borrow again from Berlant, is 'an activity of maintenance, not making' (2011: 100). In the context of Khayelitsha, making something out of nothing might be about just maintaining things, or about the precarious shift between maintenance and making a life.

Navigating bureaucratic time

Whether we consider Bathandwa's lament that her husband had not yet bought another property, or Songezwa's desire for a home and not just a shelter, there remained a common set of obstacles that people faced in crafting their desired futures: state bureaucracy. To achieve one's aspirations, to make something out of nothing, or to simply get by, required a fluency in the navigation of state structures that provide access to identity documents, child support grants (CSGs), title deeds, health care and public schooling. Granted, these obstacles were more readily overcome by those with stronger social networks. Even then, as the following vignettes illustrate, plans could be obstructed for months or years.

When I first met Nandipha, she was twenty-three years old, but she did not yet have a South African identity document (ID). She had tried to apply for an ID in the Eastern Cape in 2009, but at that time did not have a copy of her birth certificate. 'They said I could apply for both. So I got a birth certificate, but they made a mistake with my name and my date of birth. So they had to redo it, which meant they had to redo the ID. The ID never came. And then I moved. In Cape Town, they said that I couldn't apply for an ID because on the system it showed that I had applied for an ID in the Eastern Cape. They couldn't do anything.' It had been six years since she had made the application. When she fell pregnant her partner Busi was very concerned, because without the ID, Nandipha could not register for a CSG. He had spent countless hours telephoning the Department of Home Affairs (DHA) to resolve the problem. 'They say they can't verify the fingerprints,' he told me, exasperated. He hoped that if he 'phoned and bothered' them enough that they would sort it out. He continued to phone the DHA throughout Nandipha's pregnancy to no avail. Eventually, some months after his daughter's birth, Busi was helped by a colleague who had previously worked at the DHA and Nandipha finally received her credit-card sized proof of identity. She proudly produced it for us when we next saw her and I asked what she would do now that she had acquired it. She listed her plans on her fingers: 'Apply for college. Apply for a grant for [the baby]. Get a bank account. Do my learner's licence.' She described receiving the ID as 'like winning a prize. I thought I was dreaming. My younger brother and my cousins got IDs before me, you see. They were going further with their studies and I was stuck here. I didn't vote. My grandmother used to say that it doesn't matter who you vote for, as long as you voted. That paper makes a difference when you go to look for a job. My younger cousins and my brother voted but I couldn't, because I didn't have an ID. It was painful. Some

people asked me why I was not voting and I told them I had lost my ID to shorten the story. I felt like I was nothing'.

To register for state grants, elective public health care, subsidised housing and public education in South Africa, however, an ID is not sufficient. One also needs pay slips and proof of address. My informants navigated around these prescriptions in a number of ways. When applying for a child support grant, it was commonplace for women to travel to the Eastern Cape to apply there instead of in Khayelitsha, where officials enforced rules about declaring spousal income. When making the application it was generally agreed that it was best not to disclose any informal work. At the same time, those seen to be abusing the system were frowned upon: the money was meant for those who were 'suffering', as Ndileka put it, and not for those whose husbands were employed. In keeping with previous work on social grant use in Khayelitsha (du Toit and Neves 2009), CSGs were frequently reallocated to more pressing concerns. For a number of my interlocutors, their CSGs were drawn directly by another family member (usually the child's grandparent), and spent on other children living in the Eastern Cape with their grandmothers or allocated to other expenses. For example, Bathandwa's child grants supported her mother, who did not yet have a pension.

For public health care and public schooling, South African citizens are eligible at the clinic and school nearest to their place of address. Those who wished to access schools and hospitals in other areas found an alternative address in qualifying suburbs. Many women preferred to deliver their babies at the secondary level maternity hospital in Mowbray, an affluent suburb closer to central Cape Town. 'You need an address,' Veliswa explained to me. 'That is what is tricky about our democracy. It's been twenty

years but now still this!' Veliswa viewed the differential access based on one's residential address as discriminatory, given that residence in Cape Town is still highly segregated along racial lines. 'I think you should be able to go where you like, where you feel safe. So I had a friend living in Mowbray, and I had to say that she was my cousin and that I was living with her. I had to do an affidavit. And then no problem, everything was perfect.' Lindiwe was similarly anxious to find an address in Cape Town's Southern suburbs so that she could enrol her son into primary school there. She obtained proof of address for Kenilworth, another affluent suburb, through one of her teachers. 'You must take your children to white schools,' Nomsa agreed. 'All of the children in my family were taken to white schools. That's why everyone speaks English. I don't want to be blamed when my child is older: if he is eighteen and he can't speak English, who is he going to blame?' Nearly all of my informants echoed the desire for children to attend school in Cape Town's more affluent areas where English was the medium of instruction. Inam, who had attended a formerly whites-only public school in Cape Town, wanted to send her children to private schools - 'for an education that not just anyone could afford.' As Mark Hunter has similarly observed in the context of Durban, schooling choice in contemporary South Africa is closely tied to racially inflected perceptions of social and symbolic capital (2015).

Property acquisition was also an exercise in patience. Bathandwa and her husband had bought a house in 2007 from a woman on the government-housing list. They obtained an affidavit from the police as proof of payment and had since been trying to obtain a title deed. Bathandwa moved into the property for a few weeks while it was being renovated, in the hope that the officials might come by with the deed in that time as promised. 'They say that if you are not at the house, they are going to give a title deed

to whoever is there at the time,' she said. She had heard stories of people coming back to their tenants to find that the tenant has been given the title deed. 'You can go away and come back and this person says "I have a title deed, this is my house now." ' Bathandwa and her husband's wait for a title deed exceeded the national average waiting time of around five years for titles for those allocated houses by the government. The perception that housing officials were corrupt and might hand out title deeds to someone other than the rightful owners was common, and perhaps not entirely unfounded (Rubin 2011). The negotiation of housing allocation and property acquisition, then, was also subject to the negotiation of a state bureaucracy that could only be described as hopelessly inefficient (see Hoag 2013), and translated into a slow politics of 'waiting for the state' (Oldfield and Greyling 2015). The importance of this for the construction of futures around which this chapter turns is that, as Colin Hoag has described in his ethnography of the South African Department of Home Affairs, 'powerful bureaucracies control and contort time' (2013: 411; see also Gupta 2012 on bureaucracy in India). As my informants' battles with identity documents, health care, schooling and housing have shown, bureaucracy can stretch out time, and delay the future. As Hoag contends, bureaucracy can place people in a liminal state, 'in an orbit of bureaucratic hope' (2013: 414), but 'bureaucratic time can be simultaneously linear and circular, fixing a destination on the horizon that by turns approaches and recedes from view' (ibid.: 423).

The first two parts of this chapter have shown how one could make something out of nothing through the constant negotiation of opportunity and obligation, both financial and social (see also Ashforth 2005, James 2014); and how one's ability to do so was closely tied to notions of personhood, dignity and belonging (see also Ross 2015). My informants' ideas about and aspirations for the future, which could be embodied in

their infants' names, were configured by bureaucratic and religious time; by a nostalgia for a past order; or by the seasonal ebbs and flows of debt and credit, Januaries and Christmas times. The third part of this chapter is about the moments when time stops, when the future is suddenly and irrevocably tethered.

Anticipation in a different register

I turn now to how my interlocutors' hopes and aspirations for the future were underscored by other potentialities that shaped their landscape, most notably the potential for violence. This section fulfils a difficult but necessary task: it portrays the violence done to aspirations, such that living in anticipation of a hopeful future coexists with the fearful anticipation of that potential future being cut short. I present two close accounts from Nobomi and Nomsa of violent events that occurred during the course of fieldwork. These vignettes are fragments, to borrow from Veena Das: 'different from a part or various parts that may be assembled together to make up a picture of totality. Unlike a sketch that may be executed on a different scale from the final picture one draws, or that may lack all the details of the picture but still contain the imagination of the whole, the fragment marks the impossibility of such an imagination' (2007: 5). They are recorded here not for their spectacular nature, but because their comprehension is central to an understanding of how the women with whom I worked in Khayelitsha related to the future. As a key example, I discuss how, contrary to what I had expected, the majority of my informants wished for girl children, who were perceived as less vulnerable than boys to drug addiction and gang recruitment. While the previous section has described my interlocutors' aspiration and hopes, what we might call the future in its

representational sense, this section is about the future in its affective sense: the ordinary anticipation that structured everyday life.

Two events

I start with an account of a single day in the first thousand days of Philisa's life.

Nobomi was heavily pregnant and we were expecting her to deliver soon. She answered the door in ripped jeans and an Equal Education T-shirt with the slogan: 'Every generation has its struggle.' On the back: 'My struggle should not be my children's struggle.' She told us that she had bad news. The previous Monday, a man had run into her kitchen around noon. Nobomi was in her room with two-year-old Philisa; her sister was in the bathroom. There were four shots fired in the kitchen. They found a man dead on their kitchen floor, next to the fridge; they did not know him. A neighbour alerted the police who arrived shortly afterwards and took statements. 'The police were here asking us questions,' Nobomi said, 'but we didn't see nothing. They made as though we know.' She described how they were told not to touch or move the body: the police said that everything would have to be left as is until the forensics unit had arrived. That was around five o'clock, some five hours later. 'Forensics took pictures, they took statements and they put some stickers under the gunshots,' Nobomi recalled. The body was finally removed at 7pm that evening. Nobomi said that she had asked the police how a body could lie in someone's house all day when it was not even the family's house, but they responded that their hands were tied. 'That day, I thought I was going to deliver,' she said. Another neighbour had helped to clean up afterwards. 'We know the family of the guy, but no one came to check the mess,' Nobomi shrugged. 'In the fridge we have

bullet holes and in the cupboard as well.' She pointed them out to me: two bullet holes in the kitchen cupboards, one in the side of the refrigerator and one that was only visible when Nobomi opened the refrigerator and pointed to the bullet hole at the back. The fridge was otherwise bare. The bullet holes were marked with small measurement stickers so that the viewer could intuit the size of the hole from the photographic image. Nomsa, in her pragmatic fashion, asked if the fridge was still working after the shooting. 'Yes,' Nobomi answered, 'but I don't think that it will work for a long time. My grandfather says that we must change this fridge and the cupboard doors, because every time we look at these we are going to have memories.' I wondered how Philisa had responded to this, and Nobomi explained: 'She said, "Mama these people are going to come back and they are going to shoot us." The counsellor said that before she falls asleep, we must whisper in her ear that nothing will happen.' Nomsa elaborated: 'It's like when someone in the family dies, we normally let the child know. *Siyamhlebele endlebeni* - to speak in a baby's ear, so that they forget for now. One whispers *Akhonto izakwenzeka* [Nothing will happen]'.

Nobomi recounted this story as a terrible event, but of a kind that repeated itself frequently in Khayelitsha. She placed the man's death in the context of the on-going gang activities in her area and could recall some of the precipitating gang fights over the previous weekends. The deceased man, Nobomi understood, had been threatening rival gang members in the week prior to his murder. His brother was also attacked and sustained severe head injuries. Nobomi recalled that when the dead man's mother had found out, all she had said was, 'This time, my baby didn't do nothing.' Nobomi feared that her brother Dlame would suffer the same fate given his involvement in the local

gang. Nobomi described Dlame as a *skollie*[44] - a thief. Dlame, who would come and go during our visits with Nobomi, arrived home just as she had finished recounting the story. Nobomi motioned to him to lift his wayfarer sunglasses to show us what had recently happened. He lifted the glasses to reveal a fresh scar that ran across his right eye, about ten centimetres in length, with sutures still *in situ*. Nobomi and her mother had pleaded with him not to take revenge on the rival gang for this attack. 'There's no better place in Khayelitsha,' Nomsa offered. She had frequently witnessed gang violence in her area and had vivid memories of a tavern shooting a few years ago. 'Men wearing black leather jackets. They shot everyone in the street and then went to the tavern and kept shooting. When their guns were empty they started to stab people. They shot a guy who was working on the public phones, a taxi driver, the owner of the tavern and a woman who was running away. She's in a wheelchair now. They didn't take phones or search anyone. They just shot you.' Nomsa too had a *skollie* in the family. We saw Siseko frequently on the street corner when Nomsa and I made our way around Khayelitsha. By the end of our fieldwork together, Siseko was dead.

Siseko was Nomsa's nephew. The first time that I encountered him, Nomsa and I drove past him at a busy intersection in Khayelitsha, where he was hanging out on the corner with a few others. Nomsa was surprised and upset: 'There's Siseko! He's not in school again.' She relayed his story. He was her mother's first grandson, born in 1994, in the same year that her mother's mother had passed away. Nomsa was ten years old at the time. 'I remember that my mother was very excited at that time, although I was very little. Everybody was excited, because they had freedom and it was their first time to vote.' It was equally exciting that Nomsa's sister gave birth to a boy. In Nomsa's telling

[44] On the figure of *the skollie*, see Jensen 2008

of the story, her next important memory was of February 28th 2010, a day she remembered distinctly as the day Siseko's mother had sent her a message to say that she was not feeling well. She was diagnosed with tuberculosis. 'I was the one who was looking after her,' Nomsa explained. 'She was sick for a long period of time. Her doctor was confused. She stopped the medication because she didn't know what the problem was. Instead of getting better she was getting worse. We changed the hospitals, but every time it was the same. On June 4th 2010, she died.' Nomsa made all the arrangements for the funeral, which took place in the Eastern Cape. Siseko was thirteen years old and orphaned. In Cape Town, he started to do 'wrong things', Nomsa said, 'he started to rob people.' Nomsa's family attributed this to drug use, and so they sent him to the Eastern Cape where he could stay with his grandmother and attend the local school. Siseko did not complete his schooling, and came back to Cape Town to live with Nomsa's sister. Every time Nomsa and I passed him on the street, she would shake her head and tut and talk about how bad it was to drink and smoke *tik* [methamphetamines], how Siseko had met the wrong crowd and joined the gangs.

I heard about Siseko's death on August 28th 2015. It was a Monday morning like many others during fieldwork, characterised by the slow collection of reports of violence over the weekend. The story went that Siseko had been relaxing at a friend's house that Sunday when they were interrupted by a police drug-raid. The police allegedly demanded that the four friends lie down to be searched. Nomsa contended that Siseko was terrified of arrest and attempted to run away. The witnesses at the scene reported that a white policeman had shot Siseko four times as he fled, and that he had fallen in the sand between two shacks in Z section. The police had called an ambulance. The paramedics had certified him dead. His body was cordoned off and the forensic team arrived some

eight hours later. No drugs were found on the scene. The family first became aware of Siseko's death when his aunt came across his body on her way home from church. She alerted the family immediately to intercept the other children and to take them on an alternative route. The policeman was not suspended. 'We thought he might come to apologise,' Nomsa said, 'but nothing.' Nomsa said that the children in her family were beside themselves. Her five-year-old son kept asking about what had happened to Siseko; she could not answer. Life had not just been punctured and punctuated by this event, but configured and reconfigured by it, such that plans had to change, new journeys made and children consoled.

Gendered futures: 'don't give me a boy'

My interlocutors largely expressed a preference for girl children. In the context of the stories just told, it is easy to understand why. In addition to the fear that a boy child might eventually produce trouble, my informants thought that girls were more likely to reciprocate care and look after their parents later in life.

Nobomi's fears about boy children had a direct expression in her brother Dlame, who had dropped out of school at age fourteen, and her cousin Sihlobo, who had been expelled from school after he attempted to stab a teacher. At age thirteen, Dlame had joined a local gang and formed a drug habit. 'He is now one of the *skollies*,' Nobomi said, 'and he is smoking *tik*. On weekends, he doesn't sleep at home, and there are a lot of reports coming. He doesn't want to go to school. He can go for a week, two weeks, and he doesn't take a bath. Because of that *tik*. He was not like that. But ever since he started smoking *tik*, he doesn't wash, even his teeth. We've tried everything. Now we just leave

him. If he doesn't come home we don't look for him. We used to stress, but now if he is not here we just leave it. If he is back, he is back.' Nobomi explained that he had started to steal to fund his drug addiction. 'He takes people's stuff. He steals something here that we are not going to notice now - maybe the CDs, or the CD player or a charger - the small stuff. He takes my necklaces, my earrings. I can't leave anything lying around. Sometimes the babies don't have anything to eat, because he is wasting my babies' food.' Nobomi repeatedly complained that Dlame ate the lion's share of the household's groceries. 'He eats alone, because he knows that he is going to eat more. Not two eggs: he wants four. I must hide food. Maybe I want to buy sausages, but they come in packs of thirteen. The babies will eat one and the rest will go in the fridge. When I look again they are gone. Then I ask why he doesn't just leave one for the child. He says he doesn't have a child so he doesn't think about it. These fights with my brother are stressing my mom. But I have kids now, I must buy more now, and he is going to keep wasting and then there are two babies crying for me. He doesn't understand, and if he does, he doesn't care.'

Fifteen-year-old Sihlobo, Nobomi said, was even more of a disappointment because he had been given so much. 'They live in a better house, they drive a better car and on weekends they don't cook - they eat out. He's wearing brands - Carvela, Red jeans, nice jackets. It's such a disappointment.' He had also started using drugs. His mother found out that the expensive tablet computer she had bought for him was not lost or stolen as he had said: he had sold it for a paltry sum. His mother was distraught. 'I've wasted enough hoping that Sihlobo is going to be someone or something one day,' she told Nobomi, 'I don't want to waste any more money. Rehab will be expensive.' Sihlobo had cried, knowing that he would likely be sent away to live with his grandmother. 'What

about my tears?' his mother had asked. 'Growing a baby is not easy.' Nobomi took him to the local clinic's drug centre where he had tested positive for methamphetamines and cannabis. She was not sure about sending him back to his grandmother, who had 'raised him well' and then sent him to his mother for high school. They could not send him back as a drug addict.

Nobomi was very glad when she delivered another girl, and gave the following explanation:

> In this environment we live in, boys get influenced by the wrong things too easily. Small boys from the age of twelve are smoking, drinking, starting to be *skollies*. Girls, they don't walk around, they know what time to be home. If a boy is growing up nicely, the others will laugh at him, because few boys don't drink and smoke. It's not easy growing a baby, and then he's a *skollie*. I mean if you don't have food you must try to get him something to eat when he is a baby and then at the end of the day he is a *skollie*! If your child is a *skollie*, he might beat you in your own house. So you are also at risk. They can come and catch him and kill him right in front of you. The community stands up: they burn them and they beat them. You know what happens if you buy something, like maybe a DVD, from my brother? Your house will be on fire. Your house is going to be burnt down.

Other informants echoed the desire for a girl. To her ultrasonographer's surprise, Inam was patently upset when she found out that her unborn child was a boy. 'I was so distraught, I shrieked. She had to console me,' she recounted, 'I couldn't eat. I kept thinking: scans can lie. I just need to keep that thought in my mind. I kept saying that if it is a boy, I'm going to turn him into a girl. I'm going to buy him pink shirts and everything. I thought it was a girl, I still think it is a girl in my head. When I give birth

and they tell me it's a boy, then I'll believe. I'm not convinced because those things can lie.' Inam would coo at her niece and tell her to 'play with Aunty's tummy, so maybe it will be a girl.' Inam lived with a household of women: her mother, her sisters and their girl children. The only boy was a cousin of hers who had been abandoned by his mother and had come to live with them. 'Everyone else is living with their mom, it must be hard for him,' she said, 'his mother was never very affectionate.' Inam tried her best with him, but did not want a boy of her own. When she delivered a baby boy, she told me that she had accepted the situation.

> I'll just sit and pray that he doesn't start smoking and getting into gangs. A girl, she might bring a baby, but a boy - he can kill someone, or steal your stuff. This person is in your house. And then you think: you gave birth to this man - he can't kill a man in cold blood…You wish you could pick up and go somewhere until they are old enough. There's no way that a child will be perfect, but you just have to pray that he'll keep making the right choices. At the end of the day, if he doesn't, then it is his choice.

Nomsa agreed that a boy child was a risk because he might join a gang. 'We don't live in peace now,' Nomsa said. 'And I don't know if in ten years' time it is going to be better or worse. My son will be a teenager in ten years; maybe he will stop going to school and be a *skollie*. If I have another one, I want a baby girl.'

Another reason for a preference for girls was the perception that girl children would look after their mothers, whereas boys grew into men who shirked responsibility. Bathandwa was forthright:

> There were four of us and my mother; no father figure. The men - they work for themselves and only contribute when it is helpful for them. Even if a girl is married, she must go back home. The men, they forget about where they came from most of the time. But for us women, we must see that our mother is eating. The mother is everything. She is the one who supported you through all of your ups and downs. So you can't just ignore it when she says she doesn't have food, you must bring something. Boys - they don't worry, they don't care. You are blessed if you have boys who care for their mothers, but they are few. Most women though, they know that you can't just ignore, because when you were growing up you knew that your mother raised you, and now she doesn't have the strength. So you are raised to give back.

Bathandwa described two sets of responsibilities for women: their children and their mothers. 'Responsibility for your mother and your children, it is the same. You don't want the children to lack for anything. You are in this position because of her [your mother]. These ones [the children] can't do anything and at a certain stage, maybe they'll be the ones looking after you.'

One way to frame the preference for girls was that, for the desired future, they were a better investment than boys. My informants perceived that girls had a better chance of finishing school, of supporting their families and of achieving the aspirations that they held dear. Just as Sihlobo's mother was tired of 'wasting' her money on hoping that Sihlobo would be 'something or someone one day', so did women like Bathandwa articulate the return of care that girl children would honour in their adult years. As a respected South African psychologist with significant experience in Khayelitsha put it to me, 'Everyone makes an investment and you invest in a way that you think will get you a return.' The psychologist's metaphor emphasised that experiences of parenting are

deeply informed by present personal circumstances, past experiences and by extension, calculations of potential futures. That there are commonalities amongst my interlocutors' views points to a 'regime of subjectivity', defined by Mbembe and Roitman as 'a shared ensemble of imaginary configurations of "everyday life," imaginaries which have a material basis; and, systems of intelligibility to which people refer in order to construct a more or less clear idea of the causes of phenomena and their effects, to determine the domain of what is possible and feasible, as well as the logics of efficacious action' (1993: 324). As this section has shown, the regimes of subjectivity that inform what is possible, feasible and logical in the context of Khayelitsha depart from older patrilineal frameworks that included a preference for male children (Radcliffe-Brown and Forde 1950) and lie outside of the narrow regime of subjectivity that the first thousand days imaginary wishes to cultivate.

Living in anticipation, living for today

Hardly a day went by during fieldwork in Khayelitsha when I did not receive a report from one of my informants about another incident of crime. After fifteen months of fieldwork, I understood how violence could come to be so banal, so pervasive, that it was a structuring force in how people conducted their lives.

None of my informants had private transport and they all walked from their homes to their closest taxi stop or train station. This short walk was cited by many as a time of extreme vulnerability; a sentiment echoed by some of the nursing staff who had told me about pregnant patients stabbed on the way to the clinic. Khanyiswa had witnessed a number of robberies on her morning walk to the train to get to school. 'It is not safe,

especially in the morning. I miss Jo'burg[45]. The safety. I miss the safety. Here you can't walk with your phone. There is crime in Jo'burg, but not like this.' Inam recounted two incidents on her early morning walk to catch a taxi to work. 'The first time, I saw him walking towards me, so I ran back and went around the other way. I got to the taxi with him still running towards me.' The second time, which was during early pregnancy, she became aware of a man hiding at the taxi rank as she approached. Fortunately the taxi arrived almost at the same time and she jumped in. 'I was almost robbed, I was almost robbed,' she had thought to herself, and recalled feeling intensely anxious for the rest of that day. 'There's no place where you feel safe,' she said. Bathandwa had stopped attending church on a Wednesday night because she felt unsafe walking home: 'All over there are young guys using *tik*, and they are looking for a target.' She was assaulted for her phone and wallet a few months after the baby's birth. 'It is dangerous to walk around', Zekiswa said, 'you leave your house and you fear what you have left behind. If your child is coming home from school, you worry that he may be kidnapped.' Lindiwe expressed the same anxiety: 'they wait outside the high school; they wait for the students to come out. And you don't even know what is going on. You will just see the bricks coming and those guys are carrying a knife. You are worried about the crossfire. Your child doesn't know anything; he is just carrying his bag, thinking he's going to phone his mom now and then the brick comes. Imagine. The brick just comes straight at him and knocks him down.' Lindiwe described her ritual for walking home in the evening: 'If I walk across the bridge, I walk ten steps then I observe. I walk another fifteen and then I observe. Before I come into the house, I observe, then I go around the house, then I come in and I lock the door.' Nighttime, weekends and public holidays were perceived as especially dangerous times to be outside. 'You don't want to go out on the weekends,'

[45] Johannesburg

Lindiwe told me. 'In the park, there is warfare. They're carrying guns. Everyone is drinking and people lose their balance. So I'd rather stay here. I lock that gate and I stay here. If you want music, it is here. TV, it is here.' On public holidays more alcohol would be consumed. 'A lot of things happen at that time,' Anele said, 'they stab each other; they fight a lot.' She had lost a cousin on Christmas Day 2006. 'That is why we stay inside on that day.'

The watchfulness, the vigilance, and the anxiety that structured women's lives in Khayelitsha were revealed in frequent encounters with the edges, the remnants and the fragments of stories of myriad events. On one day, it was the new appearance of the burnt carcass of a car on a route Nomsa and I drove daily. 'They hijack the car, take the parts, then set it alight so it can't be identified,' was Nomsa's sombre explanation. 'If you're in a hijacking, don't look at them,' she told me pragmatically. 'Just look at the number plate. If you look them in the eye, they're going to kill you. So you just look at the floor and look at the number plate and put it in your head and then later write it down.' On another day, we encountered a group of youths sauntering slowly down the road, obstructing the way. 'I know one of those guys, they won't bother us,' Nomsa affirmed. She reported later that day that the group had robbed an elderly man in the park, and that she was disappointed in the young man that she has known since he was a child. On another, a tearful report from Nobomi's sixteen-year-old sister that she was mugged on the way home from school. On another, the son of a colleague caught in gang crossfire at school. Life in Khayelitsha seemed tempered by a different rhythm of self-imposed curfews and rituals; life was lived in chronic anticipation of the next event.

Yet in the context of such volatility, a sentiment often shared was that one should

'live for today.' Bathandwa talked about this frequently after a family friend passed away, leaving behind his young wife and seven-year-old child. He was undergoing chemotherapy when his car broke down on the N2 highway, a notoriously dangerous road. While waiting for assistance, he was hijacked and stabbed in the leg by a group of seven men. 'He had to stop the chemo while the wound was healing and then he died,' Bathandwa explained. 'He was so young, so young. I haven't gone to see his wife yet; there is nothing to say. All we can do is pray for her, for the strength. Because life goes on, we have to accept, because there is no turning back. We just have to find a way. You are still a mother. Even these bad things, we must look for the good. The only thing we can come out with is to appreciate one another, because you don't know, how many days you have left with this person. There must be less fighting and more happiness.' She continued, explaining that she and her husband thought differently about the future:

> My husband is for future-thinking. Forgetting now. These kinds of things make me think on my toes. Don't think of the future, just think of now. The Bible says that we must not worry about tomorrow, because tomorrow will worry about itself. Enjoy today. Live today. You don't know what you're going to miss. If you keep the bread for tomorrow, you don't know if you will have tomorrow. Most of us, even myself, we leave things for tomorrow. But life is surprising. It's like, ah! Here's a new thing. You thought you knew life, but then life surprises you with something else. You thought you are living life, but then it leaves you, just like that. You don't have that life you thought you had. The so-called future, I don't want to talk about that.

The so-called future, as Bathandwa disdainfully described it, was not what one always hoped it would be.

Life in anticipation, far from the anticipatory imaginary of the first thousand days and its intergenerational framework, was its inverse: an anticipation that demands living for today before the anticipated event is actualised. While parents in Khayelitsha are filled with aspirations and hopes for their children that may well align with the first thousand days campaign, there are other powerful potentialities that shape life in Khayelitsha. It is useful to recall Das's words again: 'Potentiality here does not have the sense of something that is waiting at the door of reality to make an appearance as it were, but rather, as that which is already present' (2007: 9). What configures these disjunctures between anticipatory regimes of global health and their distant futures and the affective anticipation of my interlocutors is a politics of potential.

Corroborations

As Pamela Reynolds notes in her work on activism and violence in the Western Cape, 'in anthropology, an array of means to check the truth of what one is told is used' (2013: 20). Reynolds drew on testimonies at the Truth and Reconciliation Commission to corroborate the testimonies of her informants. In a similar fashion, in November 2014, I attended a presentation of the Khayelitsha Commission's key findings on policing and crime by its chairperson, Justice Catherine O'Regan.

Starting with statistics, the Commissioner explained that data from Khayelitsha was largely unreliable and that an estimated two thirds of crimes went unreported. Even so, Khayelitsha had the highest rate of reported crimes of murder, sexual assault, grievous bodily harm and aggravated robbery in the Western Cape, with the murder figure at 354

for the 2012-2013 year. This figure had not enjoyed the same drop that other places in the country had seen in the past decade. O'Regan highlighted three points from the Khayelitsha Commission's extensive report. First, that human resource allocation in the SAPS was 'biased against poor working class black neighbourhoods with no explanation provided as to why Harare and Khayelitsha should have the lowest ratio of police to population in the Western Cape.' Second, the detective service in Khayelitsha failed to investigate many crimes properly or at all. Third, the commission identified two acute policing challenges in Khayelitsha: youth gangs and community vigilantism. O'Regan's conclusion was unflinching: 'There is no doubt that if you grew up in Khayelitsha, you have seen acts of vigilantism. The level of post-violence deep trauma in Khayelitsha is enormous.'

The full report of the Commission included testimonies from activists, community leaders, residents and people employed in Khayelitsha, all of whom attested to the high rates of violent crime, gang activity and community vigilantism in Khayelitsha and to the inefficiencies of police services in dealing with these. The report featured testimony from Professor Pumla Gobodo-Madikizela, a psychologist with expertise in vigilante violence, who cautioned about the 'trans-generational transmission of trauma and violence' (Khayelitsha Commission 2014: 344). Her account included a quote from an interviewee:

> I was brought up by my grandmother, she was gentle and she never beat me. As a young boy, she taught me strong values, respect and compassion for others. But moving here and growing up in Khayelitsha changed me. How could it not change me, death was no longer something in a coffin at a funeral. It was right here on my doorstep when I went to school, and later when I was an adult, the smell of death was everywhere, not so much

> because of dead bodies, but because you see people being killed in the most violent manner.
>
> (Khayelitsha Commission 2014: 344).

Dr David Harrison, a medical doctor, gave testimony on the 'epigenetic effects of harmful environments' as one explanation for the 'transgenerational transmission of violence.' His testimony explained 'the developing understanding of the effect the environment has on our epigenetic constitution, that environmental factors affect our genes', and in a language much like that of DOHaD and the first thousand days, highlighted that early life was critical for one's life trajectory. The report's expert testimonies concurred that, in the words of Professor Debra Kaminer from the University of Cape Town's Department of Psychology, children in Khayelitsha were 'incubated in violence' (ibid.: 134).

Perusing the Khayelitsha Commission report again after fifteen months of fieldwork, I found the testimonies closely reminiscent of the reports of violence and crime that had featured almost daily in conversations with my informants. The incidents reported to me had not been sensational exceptions. The Khayelitsha Commission report is thus one source that could cross-validate my informants' accounts, but it is also a pertinent example of how ideas about epigenetics and transgenerational transmission are being harnessed as explanatory mechanisms for a host of social ills.

Social transmissions

The concepts of 'epigenetic trauma' and 'transgenerational transmission' have also been articulated in the recent popular press in South Africa. These ideas appear in two

publications in 2016 that take the causative chain one step further: to link early life malnutrition to a predisposition to violence in adulthood (Pinnock 2016[46], Ledger 2016). Don Pinnock's *Gang Town* makes an explicit link to the first thousand days:

> In roughly the first 1000 days of conception, a child's genetic response to the impact of the environment has been found to be "plastic"... This combination of early sensitivity, where epigenetic change is possible, followed by later resistance to change is described as "canalisation". After branching one way or another, it's extremely difficult or even impossible for environmental factors to shift development from one canal to another and epigenes are then "set" and remain unchanged for life. A healthy baby is born with a well-developed sub-cortex. Any distress it feels triggers a powerful stress response that it has no means to curtail. Instead, it relies on its mother to comfort it and regulate its feelings. Her healthy, stress-free prenatal condition plus her loving postnatal presence and deeply caring attention result in fewer epigenetic "markers" on genes important for "top-down" control. This is how strong powers of self-regulation are acquired - from an environment which, for infants, is predominantly framed by the mother or caregiver.
>
> (Pinnock 2016: 170-71)

Pinnock's thesis is that the 'delinquency' so prevalent on the Cape Flats may be secondary to what he calls 'epigenetic development disorder' (2016: 170) and that the intractability of gang culture is potentially linked to 'early epigenetic trauma' which may be 'ultimately irreversible' (ibid.: 173). Pinnock's book also covers the historical beginnings of gang culture in Cape Town; the present-day local and transnational criminal and corporate networks that constitute it; the inequality and poverty that helps to perpetuate it; and the possible interventions to consider across a range of sectors - a

[46] Many thanks to Fiona Ross for alerting me to this publication

worthy project in need of attention. It is however noteworthy that the language he deploys to explain the phenomenon of gang violence includes the frameworks of epigenetics and trauma and that the mother emerges again as a key site of intervention.

A similar argument in the popular press in 2016 links malnutrition and violence. The author writes: 'Research on the links between hunger and violence found that chronic malnutrition in early life may permanently damage the brain's impulse-control mechanism, resulting in adults who have a strong predisposition to react violently in social situations...What this implies is that many malnourished South African children are having their brains permanently rewired to predispose them to violence' (Ledger 2016). While there is a well-meaning attempt in these publications to highlight the structural factors that underlie South Africa's endemic violence, there is a dangerous turn to deterministic understandings of the impacts of early life factors for future health and life outcomes.

Discussion

The always-existing potential for violence, as Das understands it, produces a structure of anticipation that is far removed from the utopian anticipatory imaginary of the first thousand days. In DOHaD frameworks, potentiality is a discursive object, characterised by an Aristotleian teleological view of potential that is actualized in the distant future (Morgan 2013). Following Giorgio Agamben (1999), my observations point to potential not in the sense of that which is yet to be actualised, but as a force that continues to exist irrespective of any particular actualisation. In contrast to the anticipatory imaginary of the first thousand days, life in anticipation for my informants

was conversely about 'living for today'. The regime of subjectivity that the first thousand days imaginary wishes to cultivate thus stood some distance from the regimes of subjectivity that informed the raising of a child in Khayelitsha.

Hopeful visions of the future, often reflected in an infant's name, were confronted with bureaucratic time, with the economic time of credits and debts, with God's time and for some, like Songezwa and Sithembele, with the sense that time had run out. The most searing distortion of time and the future, however, was wrought by the constant potential for violence, which meant that life was lived in a different register of anticipation. As such, my interlocutors' ideas and hopeful aspirations had long-term horizons, while their everyday affective experience was shaped by a shorter horizon of anxious preparedness (see also Warin et al. 2015). The *politics of potential* is thus expressed in the disjunctures between the notions of potential that steer interventions like 'the first thousand days' and the overlooked potentialities that structure everyday life.

Pierre Bourdieu's essay on 'Social Being, Time and the Sense of Existence' (2000) provides a useful departure point for understanding what I have described as the 'distribution of aspiration' amongst my informants. In writing about time and the future, a number of scholars (Hage 2003, 2015; Perdigon 2015; Warin et al. 2015) have returned to Bourdieu's thesis. The central argument is that time and power are inextricably linked. Alongside the unequal distribution of capital is the unequal distribution of both expectations and chances: 'power (that is capital, social energy) governs the potentialities objectively offered to each player, her possibilities and impossibilities, her degrees of empowerment, of power-to-be, and at the same time her desire for power, which, being fundamentally realistic, is roughly adjusted to the agent's actual empowerment' (Bourdieu

2000: 217). In many regards this corresponds to the different dispositions and aspirations of my informants: the more well off working towards the goal that 'everything is possible', and the less well off citing only modest ambitions for the future. However, as others have also made plain (Perdigon 2015, Warin et al. 2015), Bourdieu's sketch becomes less useful when he considers the case of the very poor, whom he describes as living 'below a certain threshold of objective chances' where time and a constitution of the future are annihilated (2000: 221). Far from experiencing time as 'purposeless and meaningless' (ibid.: 222), even the very poor among my informants continually worked with what was at hand to carve out futures that might look otherwise (Povinelli 2011). Sithembele, nostalgic for a past 'order' and frustrated at his present circumstances, was nevertheless invested in a future time 'when they would make it right': a future predicated on the denouement of a democratic narrative of equal prosperity in South Africa. Thus, whether the future is constructed only through a 'politics of patience' (Appadurai 2002), or a 'capacity for endurance' (Perdigon 2015), it is nevertheless a powerful and real orientating force. Of course, just as the capacity to aspire is unequally distributed, so is the capacity to wait (Hage 2015), or endure (Povinelli 2011). Like aspiration, endurance is political: the holding open of a potential space for an alternative outcome. Endurance differs, however, in its temporal register. While aspiration presupposes futures that will be actualised based on present action, endurance 'encloses itself around the durative - the temporality of continuance, a denotation of continuous action without any reference to its beginning or end and outside the dialectic of presence and absence' (Povinelli 2011: 32). This chapter's descriptions of savings and debts provides a ready example: while *stokvel* contributors eventually realise a desired purchase later, the persistently indebted juggle loans in a cycle of 'continual temporal arbitrage' to endure the present moment (Guyer 2007: 417; Han

2004). However, to aspire and to endure are not mutually exclusive. As Ilana Feldman contends in her work on Palestinian futures, 'no moment has a single affective register' (2016:412). My work finds an important exception to this statement: moments of violence and its anticipation.

Of all of the overlapping temporal frames that configured the future for my informants, none was so powerful as the always-existing potential for violence. Here, potential is not the precursor to that which will certainly be actualised in the classic Aristotleian sense; rather, following Agamben, potentiality in this instance can be defined as that which may be, but which also has the potential not to be (1999). This potentiality persists regardless of whether it is actualised or not. In the case of violence, even if the event does not arrive, the anticipation of the event is a constant force that structures life and affect (Das 2007). As Das explains, 'the fragility of the social becomes embedded in a temporality of anticipation since one ceases to trust that context is in place. The affect produced on the registers of the virtual and the potential, of fear that is real but not necessarily actualized in events, comes to constitute the ecology of fear in everyday life. Potentiality here does not have the sense of something that is waiting at the door of reality to make an appearance as it were, but rather as that which is already present' (2007: 9). In such an ecology of fear, to draw on Bourdieu, the threat is 'something already-there, irremediable…being really put at stake by the world, the body is snatched by the forth-coming of the world' (2000: 208). This kind of affective anticipation was clearly part of everyday life in Khayelitsha. It configured the ordinary movements of my informants as they went to work, took their children to school, shopped for groceries, attended the clinic, worshipped at church, and visited friends or relatives. It was possible, to borrow from Das again, that the anticipation of violence was 'so embedded in the

fabric of the social' so as to be indistinguishable from it (2007: 219). Here, Das is particularly concerned with the effects of violence and its anticipation on relationship. Most strikingly in this study, it produced a preference for girl children over boy children, whose rearing would be accompanied by a perpetual fear that the child himself would one day come to be a perpetrator of violence. Such an image has uncomfortable resonances with a longstanding racialised narrative of violence in South Africa (Graham 2012), but as Steffen Jensen observes in his study of criminality in Cape Town, the extent to which such stereotypes influence people's conception of themselves and their kin is not insignificant (2008). Ironically, the heightened focus on women of reproductive age in DOHaD interventions mirrors other social forms of investment and exclusion, where men and young boys often fall outside of the public health gaze and outside of protective networks of kin and community. This is not to suggest that interventions should adopt an alternative frame that falls into equally problematic reifications of men and masculinity, as work in gender studies (Morrell 1998, Connell 2005, Ratele 2016) and public health (for example, Dworkin et al. 2012, Fleming et al. 2014, Gibbs et al. 2015) has cautioned against, but to highlight the need for close attention to the ways in which conceptions of gender and violence frame the future.

In light of new notions of 'the transgenerational inheritance of trauma', the question of the effects of violence on relationship becomes an altogether different political question. That the Khayelitsha Commission's report on crime and police inefficiency draws on a number of expert testimonies about the 'epigenetic effects of harmful environments' and the 'transgenerational transmission of trauma and violence' requires attention. It is an important example of how emergent scientific concepts such as DOHaD, epigenetics and the first thousand days, come to be a part of popular

understandings of social outcomes. There is cause for caution against the unreflexive uptake of epigenetics as an explanatory model across the policy and public spheres. The Khayelitsha Commission report attempts to highlight the important difference between the future outcomes for those who grow up in safe suburbs and those who grow up exposed to high levels of crime: in a broad political economic sense this is part of what informs life chances in Cape Town. Similarly, there is well-meaning work in the popular press that seeks to outline the structural factors that contribute to endemic violence in South Africa (Pinnock 2016, Ledger 2016). However, to speak of the 'transgenerational transmission of violence', the 'permanent rewiring of brains' or of 'epigenetic trauma' risks slipping into determinism. Like the first thousand days concept, the causative leap that might be made between early life experiences and adult violence abstracts individuals from their social circumstances and by virtue of the slippage between 'early life' and 'intrauterine life' (Mansfield 2017) invites maternal scrutiny. Moving to the final discussion, I will argue that this logic is underpinned by *a politics of potential,* a term that encompasses both the distribution of potential and the capacity to aspire in a broader political economic sense in the highly unequal city of Cape Town; and the disjuncture between the notion of potential that steers global DOHaD interventions like 'the first thousand days' and the overlooked potentialities that structure life in Khayelitsha.

Chapter 7: Discussion

The first thousand days' science and policy contexts, its implementation as one project among many projects of global health in South Africa and its orientation toward the future reflect what I term a politics of potential. My ethnographic findings point to three premises of a politics of potential that underline the first thousand days concept and its uptake in policy and practice. I hope to have demonstrated how the mother-child dyad in the context of a 'transitioning society' forms the key target of DOHaD interventions like the first thousand days and conversely how such a framing excludes a range of other social actors. That is, that *the substance of potential lies in particular places, and not in others*. In my close examination of the implementation of the first thousand days policy, I have shown how the policy framework, its classification of pregnant women into nutritional categories and the clinic staff's orientation to the delivery of care reinforce a notion of individual responsibility for a host of health outcomes for present and future generations. Namely, *that the manifesting of potential is an action of individual responsibility, rather than of collective or structural forces*. Finally, this ethnography has shown how action in the present is not solely configured by the distant actualisation of potential that the first thousand days concept articulates, but by overlooked potentialities that are always already existing and persistent. In sum, *that potential is framed from the perspective of an already given future end and not from the perspective of the durative present*.[47]

The first key finding of the thesis is about who or what is foregrounded and who or what is overlooked in the first thousand days remit. Actions or interventions to augment

[47] This third premise follows Elizabeth Povinelli's understanding of tense and the judgement of ethical action (2011).

potential foreground specific groups and overlook others. Most powerfully, potential is located in the mother-child dyad in a 'transitioning society'. The mother and child emerged in my fieldwork as central figures in the stylised images of the first thousand days and as key targets of clinical interventions. The politics of potential here dictates inclusion or exclusion based on a form of therapeutic citizenship predicated on worthy forms of intimacy. In this sense, the first thousand days' politics of potential extends an old colonial logic that sought to inculcate a notion of motherhood as an individual project in African contexts - what some have termed 'intimate colonialism' (Lock and Nguyen 2010 citing Pedersen 1991). The biological subject at the heart of global health's universalism takes on a strange dual role in interventions like the first thousand days: the mother-child dyad is both the universal, globalised body of the development agenda, amenable to large-scale interventions across continents for the sake of humanity and the future; and also an entity whose currency lies in its plasticity. The images of DOHaD – the fetus nestled in the earth, the pregnant womb – have a magical, even mystical, quality. That the early life period is plastic, and can be formed and reformed, has an element of mystery (Taussig et al. 2013), and yet the notion that 'bodies everywhere and always are being remade by their environments' (Guthman and Mansfield 2013: 499) ironically re-inscribes responsibility into the maternal body (Mansfield 2012; Richardson 2015).

In this configuration fathers and young men do not feature prominently, if at all. The first thousand days policy subtly reinforces a quiet exclusion of men and young boys from the public health gaze and from social concern. As James Ferguson has suggested, against the list of traditional welfare recipients (including 'the child' and 'the dependent reproductive woman') stands 'the photographic negative of the figure of the wage-

earning man' (2015: 40). In the context of very high rates of unemployment, the South African picture is one in which men have lost the 'full public citizenship' that work affords, while women and children retain a form of citizenship through their recognition as 'dependent' and thus worthy of cash transfers (Ferguson 2015). This politics of potential extends a line of gendered interventions that are based on normative framings of the nuclear family, the life-course and the developmental cycle that have long been refuted in anthropology as natural units of analysis (Goody 1958, Guyer 1981, Vaughan 1993). In contemporary South Africa, such a politics ring-fences citizenship. Women of reproductive age are granted intimate citizenship through their clinical labour. Dignity and belonging, for unemployed young men in Cape Town, is tragically sought via other routes including gang membership from a young age (Jensen 2008). Thus an important question that arises is: what are the effects of the distinctly gendered continuities in the ways in which subjects are enfolded into, or excluded from, biomedical regimes and projects of citizenship?

There are also distinct continuities between the DOHaD focus on 'transitioning societies' and historical interventions in 'the developing world'. Why do some places and people fall under the gaze of DOHaD while others do not? The international DOHaD conference held in Cape Town illustrated how scientists, clinicians and public health experts translate the language of DOHaD and epigenetics into applied policy, with a sharp focus on 'transitioning societies'. The Northern scientist's quip that the DOHaD brain is in the North and its nether regions in the South points to the persistence of older knowledge hierarchies, even while much DOHaD research is produced by scientists based in the global South. With his assertion that Africa is 'the omphalos - the source of nourishment', the DOHaD scientist reinvents Africa again (Mudimbe 1988) as

a place of discovery and as a site for extraction and intervention. Of key importance here is that, just as knowledge production around global health has been influenced by a dominant set of temporal and spatial logics around globalisation (Reubi 2017), so too has postgenomic research produced *DOHaD geographies*. DOHaD is especially concerned with regions often glossed as 'the developing world' that are characterised by cyclical patterns of intergenerational metabolic disease, where there is a dual burden of child undernutrition and adult obesity, based on the understanding that these regions are undergoing nutrition transition (Popkin et al. 2011). Yet the usefulness of transition theories has been closely questioned by demographers and social scientists, who argue that local health and nutrition transitions are not unilateral, that patterns overlap, and that local, historical and political-economic factors account for unique configurations of transition (Frenk et al. 1989, Chen et al. 1993, Ulijaszek et al. 2012). Despite this extensive scrutiny, the concept of 'transitioning societies' remains prominent in public health models (Yates-Doerr 2015). That the concept of 'transitioning societies' demarcates geographical regions of concern for DOHaD science may suggest the unreflexive application of transition theory (cf. Carolina and Gustavo 2003), or it may point to a persistent attachment to 'transition narratives' (Chakrabarty 1992) that recreate subtle divisions of power that have continuities with the colonial and development eras. Thus an important finding of this thesis is that careful attention is required to track how new understandings of heredity shape policy under the rubric of 'global health', especially where such policies have their antecedents in development projects and colonial intervention.

The second key finding of this thesis is that individuals are configured as agents responsible for future outcomes, regardless of their present material circumstances,

based on an underlying premise that the manifesting of potential is an action of individual responsibility, rather than of collective or structural forces. As Chapter Five has shown, perinatal nutrition policy and its implementation hinges on individual responsibility and compliance, even in the face of a dysfunctional system. This logic is most apparent in the Nutrition Therapeutic Programme's exit codes - 'successful', 'unsuccessful', 'interrupted' - which make no allowance for the structural factors that mitigated against a patient successfully completing the programme, nor include an enquiry about the circumstances that have warranted supplementation. Such a framing elides the reality of chronic hunger. Unlike the hunger at the centre of humanitarian interventions elsewhere (Redfield 2012, Scott-Smith 2013, Stellmach 2016), hunger in my field site was easily 'unknown', looked over in the performative completion of registers and audits, and in the boundaries that staff drew for themselves with the statement 'There's nothing I can do'. The blurring of the lines between 'pharmaceutical', 'food' and 'supplement'; and 'patient', 'consumer' and 'citizen' re-inscribes responsibility and redistributes the concern for ethical action in the present. As such, the configuration of social tense and the obligation for ethical action in my fieldwork setting marks a notable departure from the zones of crisis that oblige humanitarian intervention elsewhere (Fassin 2012; Redfield 2012). Ready-to-use-therapeutic-foods (RUTFs), in this context, are not emergency palliatives to secure present survival. Rather, they are state-delivered reproductive technologies deployed to refashion biologies considered plastic in the early life window to attend to some distant future crisis.

The third key finding of this thesis is that some futures are more valid than others. My attention to the future in the context of Khayelitsha both in the representational sense (the ideas, hopes and aspirations reported to me), and in the affective sense (how

the future shapes experience in the present), revealed the important disjunctures between the temporal orientations of the thousand days project and the ways in which the future structures action in the local context of Khayelitsha. All of my informants desired 'the best' for their children - the happy future that the first thousand days campaign conjures, yet people's actions and their outcomes were embedded in thick social networks, or 'stretched care chains' (du Toit et al. 2007). In contrast to the thousand days policy focus on individual agency, the construction of futures in Khayelitsha was predicated on the navigation of opportunities afforded by the state, non-governmental bodies, one's own networks, and the reciprocities and debts that accompanied each of these. That violence was a structuring force of how life is lived was outside of the policy or clinic's remit. Yet this structuring force extended even to reproductive desires: my informants wanted girl children, whom they perceived as less vulnerable to the gang inductions that took young men away. The first thousand days concept includes a teleological view that action in the present will be judged at some point in the future, and that this ethical judgement extends across future generations. Yet this ethnography has shown that actions in the present are not configured by some distant actualisation of potential articulated in public health campaigns, but by potentialities that are always already existing and persistent. These potentialities, notably the potential for violence, structure action now, but are elided in teleological frameworks that defer an ethical reading of action to some distant future point.

To explore the politics of potential at work here, it is useful to return to Elizabeth Povinelli's explanation of tense. Povinelli is interested in what she terms the '*social* divisions of tense' that delineate social belonging, abandonment and endurance (2011:11, emphasis in original). The future anterior is exemplified by teleological discourses that

assume 'an already given end or telos' (Balibar 2009). This frame, Povinelli argues, allows for a reading of ethics 'from the perspective of future ends…the ethical nature of present action is interpreted from the point of view of a reflexive future horizon' (2011: 3). In opposition to this stands the durative present, in which the ethical nature of present action can only be interpreted in the context of the present moment (2011: 2). Povinelli's concern with tense and the narration of event is an attempt to identify 'the temporal and epistemological presuppositions that foreclose an anthropology of ordinary suffering and thus an anthropological understanding of the dynamic by which extraordinary events of violence are folded into everyday routines -and vice versa' (2011: 14).

Alongside the politics of potential then, is the politics of trauma. A question arises as to how to apprehend the effects of violence in the context of revised understandings of heredity, and I would like to suggest that the discourse of trauma, which has been readily deployed in both academic and popular arenas in South Africa to explain cyclical patterns of violence, is ill-suited to this task. In DOHaD and epigenetic writings the frame of trauma is used to describe a host of intergenerational exposures, ranging from famine to slavery, perhaps the most recent instantiation of the term's use as a descriptor of legitimate and recognised suffering (Fassin and Rechtman 2009). As Maurizio Meloni has cautioned, this framework has the potential to pathologise poverty as a deterministic perpetuation of accumulated damage across generations (2016). Apart from the perils of biologising violence, however, to apply a framework of trauma in this case is to mistake crisis for exception, where in fact crisis is ordinary (Berlant 2011). A traumatic structure, as Nancy Rose Hunt has argued in her analysis of colonial Belgian Congo (2016), conforms to a linear narrative of *before-after; event-aftermath; causality-effect* that passes over

plasticity, uncertainty and the ordinary. It is to focus on the spectacular whilst overlooking what is not amenable to the forms of aggregation and evaluation that political recognition demands: what Elizabeth Povinelli terms quasi-events. Quasi-events 'never quite achieve the status of having occurred or taken place. They neither happen nor not happen' (Povinelli 2011: 13). The quasi-event is the daily encounter with a bullet hole in the refrigerator. It is the quiet binge of the methamphetamine addict in between household meal times. It is the hiding of a cereal box under the bed, so that there will be breakfast for the children before school. It is the offering of food to a child who will not sleep, despite the repeated whispers of *'Akhonto izakwenzeka* [Nothing will happen].' Such quasi-events fall outside of the 'regimes of perceptibility' that framings of the 'environment' in epigenetic and DOHaD discourses create (Shostak and Moinester 2015: 195). In the same way that these scientific discourses atomise the maternal body as their unit of intervention, so too does a discourse of trauma foreclose the possibilities for intervention to what is perceptible in epidemiological terms.

This sketch of a politics of potential as one framework to understand the first thousand days concept - and thus new formations of postgenomic knowledge, global health, and the future - is, like all theories, a simplification that captures key elements for their possible application elsewhere. Certainly this concept could be tested to understand to what extent a politics of potential configures knowledge production and interventions across different sites, and thus makes a novel contribution to anthropological theory. Yet this fulfils only one mandate of the ethnographic project. As João Biehl has insisted, 'As ethnographers, we are challenged to attend at once to the political, economic, and material transience of worlds and truths *and* to the journeys people take through milieus in transit while pursuing needs, desires, and curiosities or simply trying to find room to

breathe beneath intolerable constraints' (2013: 574, emphasis in original). I have contributed to this second project, which might also be described as attending to ordinary affects (Stewart 2007) or to the otherwise (Povinelli 2011), by following those stories that do not allow for closed endings but rather reveal other hidden potentials: what I have termed *life between protocols*. Take Nobomi's tactical use of clinical trials for example, or Sr Qoma's selective interpretation of the infant feeding policy to allocate available resources to the most needy. What of the nursing sister who deviates from the standardised performance of care - forgetting to ask a patient to remove her jacket before her weight is measured, or omitting a MUAC reading because the patient is visibly obese? Or consider again how Inam's supplements are dutifully taken home, only for the peanut butter sachets and milkshakes to be consumed by the children rather than by Inam herself. These examples all point to *life between protocols*: moments variably configured by wit, cunning, care, or apathy that make up these scenes of relating.

With this dual intervention, I have sought to contribute to the project for an anthropology of the future. Specifically, in paying attention to the *near,* I have sought to describe those futures that close ethnography might find between the immediate and the very distant horizons that seem to dominate forms and representations (Guyer 2007). In keeping with Jane Guyer's thesis on the new forms of punctuated time inhabiting the near future, my interlocutors' lives were structured by 'date events' (2007: 417) such as grant payments, clinic dates, religious services, debt collections and Christmas holidays. Certainly *the event*, a key concept for the articulation of time and rupture (Das 1995, 2007), has also emerged as important in this thesis. Yet the *life between events* that I have sought to describe prevents the possibility of any one narrative of how events might aggregate to stabilise representations of the future.

This dissertation also builds on scholarship that queries the implications of DOHaD and epigenetic science for policy and concepts of life and health (Pickersgill et al. 2013, Meloni and Testa 2014, Richardson and Stevens 2015, Meloni 2016), of which there are only a handful of ethnographies (Niewöhner 2011, Yates-Doerr 2011, Warin 2012, Lock 2013, Lamoreaux 2016). There are two main contributions that this work makes. First, as a study of the first thousand days, this is one of the first ethnographies of the policy manifestations of DOHaD and epigenetic science. Second, the dissertation makes use of a postcolonial technoscience lens for understanding how DOHaD and epigenetic discourses become part of global imaginaries, a theoretical angle that has not yet been fully explored. This study of how South African science has played a key role in DOHaD research and how the first thousand days has emerged and been implemented in policy in the South African context refutes any notion of a linear flow of science or knowledge from North to South. While the disruption of global/local categories and the decentring of sites of knowledge production is a key tenet of postcolonial technoscience (Anderson 2002, Anderson and Adams 2007, Anderson 2014), there remains a tendency in science and technology studies (STS) of the global South to study how Northern ideas 'travel to the South', 'shape practices in the South', are 'transformed' in the South and so on (see for example a 2014 Special Issue of the journal *Science, Technology and Human Values* edited by Rajão et al.). Rather, this thesis contributes to an STS project that acknowledges and departs from the premise that, as Anne Pollock has put it, 'forms developed in the Global South are relevant on their own terms and because they may suggest future forms of the organisation of global science' (2014: 868).

The need to shift attention away from any clear geographic delineation of

local/global or North/South is also a key feature of the emerging body of scholarship described as critical global health (Adams 2016), to which this thesis also makes a contribution. Specifically, I have provided a critical lens onto new formations of African global health and contributed to the growing counter-narrative of the notion of the state in Africa as receding or absent (see volume edited by Geissler 2015a). As this thesis has shown, the state in the South African context, if often dysfunctional, remains an important mediator in assemblages of global health. In Chapter Six I have shown how, beyond health care provision, the state remains a central facilitator of the future-making projects of citizens through the established welfare system of social grants, state provision of housing, and other benefits. My findings concur with James Ferguson's recent analysis in which he draws on a 'parent-child metaphor' to understand the strong sense in the South African context that the state has social obligations to care for its citizens (2015: 162). Even though my interlocutors complained about the difficulties of obtaining a grant, or a title deed, or sending a child to a preferred school, nevertheless they had not 'given up' on the state as a provider of the resources that would help them build a desired future, and fully expected that such provision would continue.

More recently Jean Comaroff and John Comaroff have argued that 'criminality has become *the* constitutive fact of contemporary life, *the* vernacular in terms of which politics is conducted, moral panics are voiced, populations are ruled...' (2016: xiii, emphases in original). This provocative argument is based on primary fieldwork in the North West province of South Africa and a range of secondary sources from South Africa, the United States and the United Kingdom. Using the case study of Khayelitsha and the Khayelitsha Commission, Comaroff and Comaroff describe this scene as 'effectively vacated by the state' (2016:190), as one example of how sovereignty is, in

their view, being redefined. This thought-provoking work offers a tempting analytic for understanding my own observations. Yet while my ethnographic findings make clear the powerful effects of the potential for violence in structuring how life is lived in Khayelitsha, I disagree that this force is as totalising as '*the* constitutive fact of contemporary life'. What I have attempted to show through close ethnographic attention to the ordinary over a sustained period of fieldwork is that the making and unmaking of futures is both heavily influenced by the presence of violence, as Comaroff and Comaroff's analysis suggests, *and* by other frames that include the state and its bureaucracy, the market, nostalgia and religion. A methodological question thus poses itself here, about what kinds of evidence produce what kinds of analyses. In this thesis I have attempted to contribute to a scholarly tradition in anthropology that places ethnography in the way of theory (Biehl 2013), as a means of countering any such foreclosures.

Lastly, in this dissertation I have sought to make a contribution to efforts in urban scholarship to write the South African city outside of obvious frameworks of segregation and inequality (Nuttall and Mbembe 2008, Simone 2004, Le Marcis 2004, Gillespie 2015), of which depictions of Khayelitsha have been especially prone. This thesis might be described as a policy ethnography, or an ethnography of global health, but it is also an ethnography of everyday life in Khayelitsha in post-apartheid Cape Town. During fieldwork beyond the confines of the clinic, I recorded everything that happened as part of ordinary life for my interlocutors. I came away with a view into the complexities of life in the township and a renewed vantage point on the city and its organs (Povinelli 2011). Pushing against the common juxtaposition of city and township, I have worked from a perspective that understands Khayelitsha as a node in a much wider set of

networks that might be indexed by clinical trials, rural-urban circulations, supermarket chains, non-governmental organisations, research teams, charismatic churches, international conferences, savings groups or allocations of police resources. At the same time, my interlocutors' struggles with the high risk of crime where they live, with securing a place in a decent school, or attending a hospital where they felt cared for are part of the difficult realities of being resident in this part of the city. Rather than falling back on an image of the township and its problems as separate, as Kelly Gillespie has cautioned against (2015), my attempt in this thesis has been to articulate the set of 'body-city configurations' (Solomon 2016: 15) that move into focus with a de-centred view.

Concluding remarks

The first thousand days project provides a vehicle to consider how new understandings of health and heredity produce global imaginaries with material impacts on policy, publics and concepts of life. In effect, the first thousand days concept has acted as a prism through which to view and study new formations of postgenomic knowledge, global health and the future from the perspective of one location in the global South. I have shown how epigenetic and DOHaD theories are reshaping perinatal policy and I have illustrated the dynamic relationship between local socio-political ecologies and emergent scientific paradigms. At the same time, this is only *one account of one step* in the co-production of science, policy and social practice in post-apartheid South Africa.

As of 2016, the Western Cape provincial government has already expanded its focus on the first thousand days beyond nutrition policy in the 'First 1000 Days: Right Start,

Bright Future' campaign run jointly by the Departments of Health and Social Development. The by-line - 'Grow, love, play' - refers to the triad of recommendations for good nutrition, maternal attention and play and stimulation (Western Cape Government 2016). The new campaign points to a further revision of the policy remit to enfold forms of care and even love into the governable biological subject (Pentecost and Ross 2017). In the regimes of perceptibility that such framings afford, will the dyad remain at the centre of interventions? Will epigenetic responsibility (Hedlund 2011) remain firmly on the shoulders of the liberal (maternal) subject? What might be elided in the registers of *transmission*, *trauma*, and *resilience* that seem ready to hand? These are pressing questions that require articulation in the spaces where policy and interventions are formulated - a challenging but important translational task that a background in medicine facilitates.[48.] Persistent attention will be needed to the ways in which shifts in understandings of health, heredity and development produce new forms of governmentality, and manifest material, ethical and social concerns. My hope is that this ethnography has acted as a pause: an interruption to the taken-for-granted temporal frameworks that structure images of the future, and command ethics in the present.

[46] See Pentecost et al. 2017, titled 'Beyond the dyad: making DOHaD interventions more inclusive' as the first output from this thesis that contributes to this translational work.

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