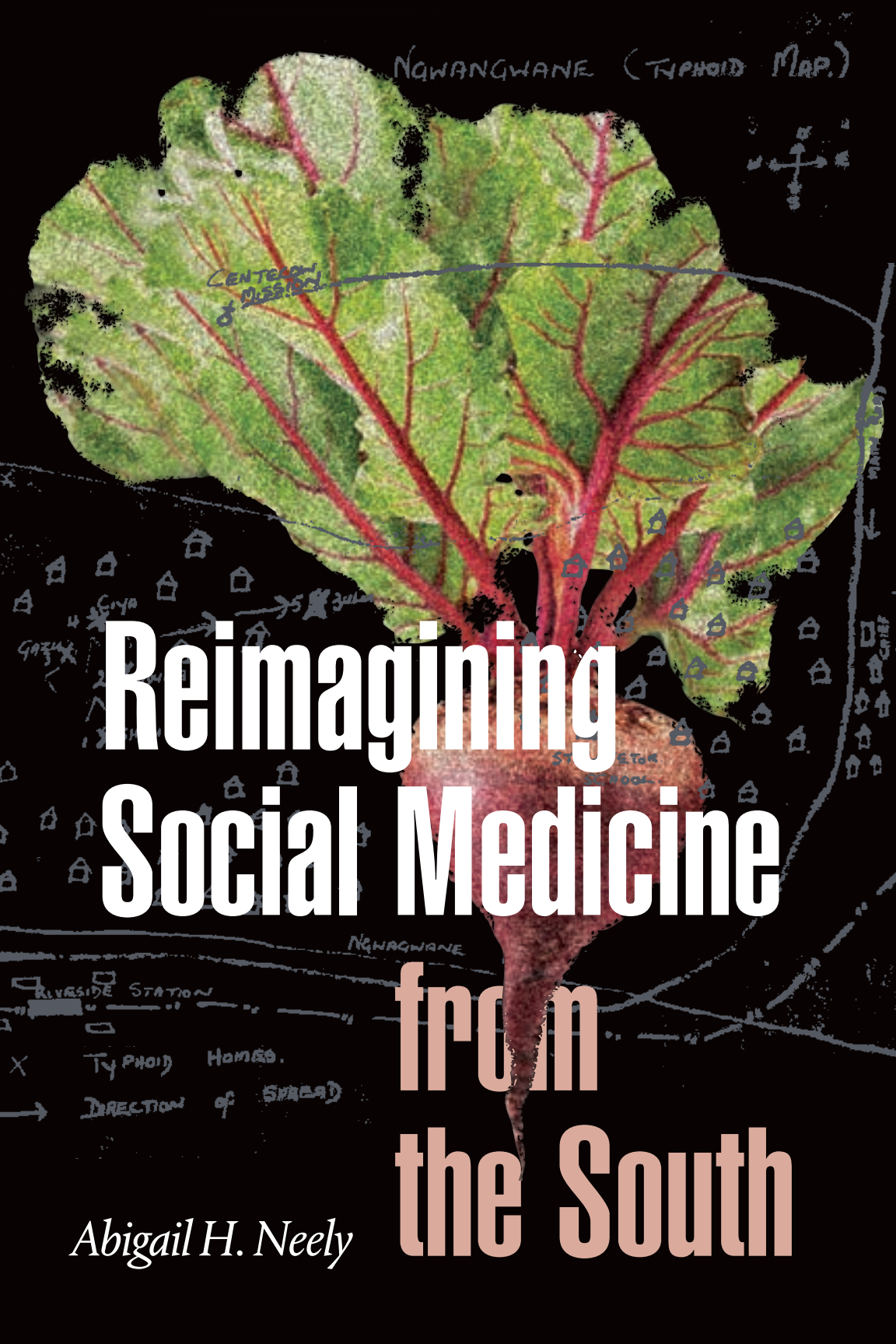

Reimagining Social Medicine from the South

Abigail H. Neely

Reimagining Social Medicine from the South

Reimagining Social Medicine from the South

Abigail H. Neely

Duke University Press
Durham and London
2021

Printed in the United States of America on acid-free paper ∞
Designed by Drew Sisk
Project editor: Susan Albury
Typeset in Portrait Text and Helvetica by Copperline Book Services

Library of Congress Cataloging-in-Publication Data
Names: Neely, Abigail H., [date] author.
Title: Reimagining social medicine from the South /
Abigail H. Neely.
Description: Durham: Duke University Press, 2021. | Includes
bibliographical references and index.
Identifiers: LCCN 2020047368 (print)
LCCN 2020047369 (ebook)
ISBN 9781478013365 (hardcover)
ISBN 9781478014270 (paperback)
ISBN 9781478021582 (ebook)
Subjects: LCSH: Social medicine—South Africa. | Community
health services—South Africa. | Health promotion—South Africa. |
Primary health care—South Africa.
Classification: LCC RA418.3. S6 N44 2021 (print) |
LCC RA418.3. S6 (ebook) | DDC 362.10968—dc23
LC record available at https: //lccn.loc.gov/2020047368
LC ebook record available at https: //lccn.loc.gov/2020047369

Duke University Press gratefully acknowledges the Department
of Geography and the Associate Dean of the Social Sciences at
Dartmouth College, who provided funds toward the production
of this book.

Cover art: Illustration and design by Drew Sisk. Source images:
Sergii Telesh / Alamy Stock Photo (beetroot); typhoid map
from an outbreak in the Ngwagane community in South Africa,
1951 Annual Report, SAB, GES vol. 1917, ref. 46/32.

For Allie

CONTENTS

PREFACE

On a sticky July day in 2008, I found myself sitting on the edge of a white, modern sofa in the immaculate living room of a brownstone in Brooklyn Heights. Perched on an ottoman across the room was Dr. Jack Geiger, an academic clinician and one of the best-known proponents of social medicine. Social medicine is a branch of medicine that combines an attention to the social determinants of health (often understood as poverty) and the biology of disease. I had come to talk with Dr. Geiger about the five months he had spent in South Africa while he was in medical school more than fifty years earlier learning about community-oriented primary care (COPC), a brand of social medicine that I would come to learn was associated with an international movement to extend primary health care to the world's poorest people. Back in the United States on a short break from my fieldwork in South Africa, I stopped in New York for a couple of quick interviews. This was my first.

I had spent the previous six months in the rural, mountainous, Zulu-speaking area of South Africa, locally known as Pholela, investigating relationships between health and landscape and how they did and did not change between the 1930s and the present. I was drawn to this place in part because Pholela had been the site of a state-funded-and-run health center (later in coordination with the University of Natal and the Rockefeller Foundation). I took this to mean that there was a good chance of a strong archival record, which I presumed was important for understanding change over time. Only after I arrived did I discover that the Pholela Community Health Centre (PCHC) had an impressive global reputation. Indeed, historians and social medicine experts in academic and practitioner spheres remember it with great admiration.[1] I had planned to do a project that would reframe understandings of health and landscape from the perspective of Pholela and its people. Because I was so focused on telling a story *from* Pholela, I originally imagined that the PCHC, its program, and its staff would be only minor players. But even within just the first few months of research, it became clear that the PCHC was important to life, livelihoods, and health in Pholela (not to mention to social medicine more broadly), and further, that it would play an important role in the story I would tell.

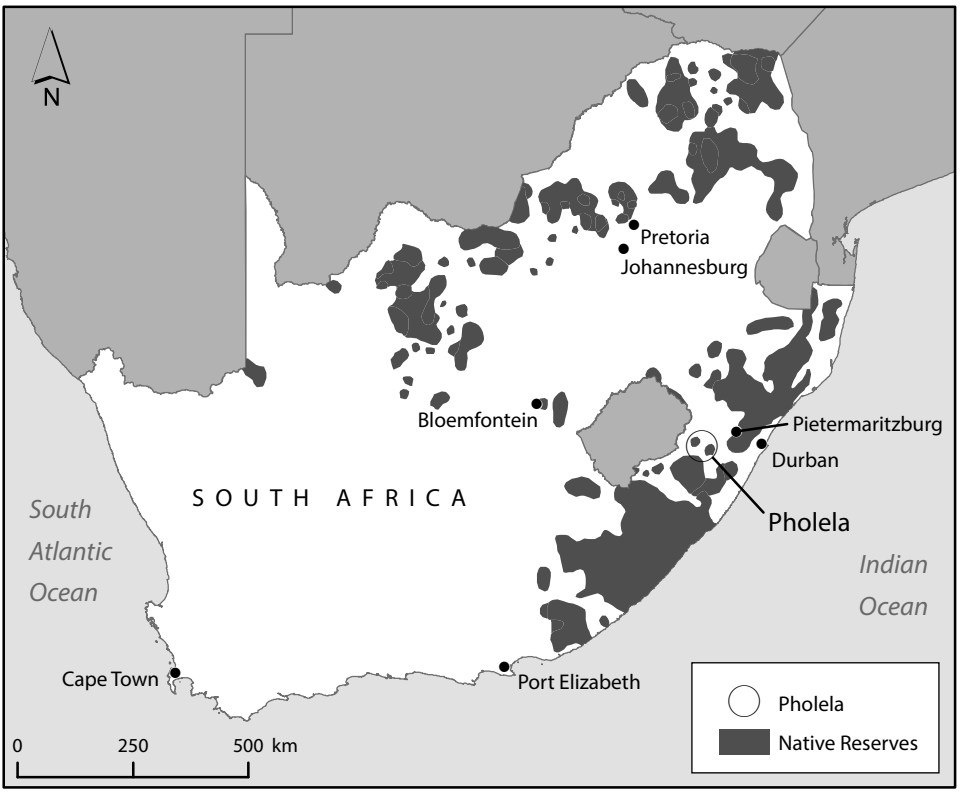

Figure P.1 South Africa in 1940 when the Pholela Community Health Center was established. Map created by Jonathan W. Chipman, Citrin GIS Lab, Dartmouth College.

As I began to look for former staff members to talk to, I quickly learned that my search would be more difficult than I imagined. All of the doctors had long since left South Africa, and almost everyone who had worked at the PCHC had passed away. It was in this search that I came across Dr. Geiger's name. I knew only that he was American and that he had spent some time in Pholela as a medical student. I found Dr. Geiger's email address and sent him a message. Remarkably, he responded, putting me in touch with a few other US-based people who had some experience with the PCHC. He also agreed to meet me for an interview.

Dr. Geiger was a well-respected activist known for extending health care to people living in poverty. He was a founding member of a number of advocacy groups, including Physicians for Human Rights, which won the 1997 Nobel Peace Prize.[2] He was also a member of the United States National Academy

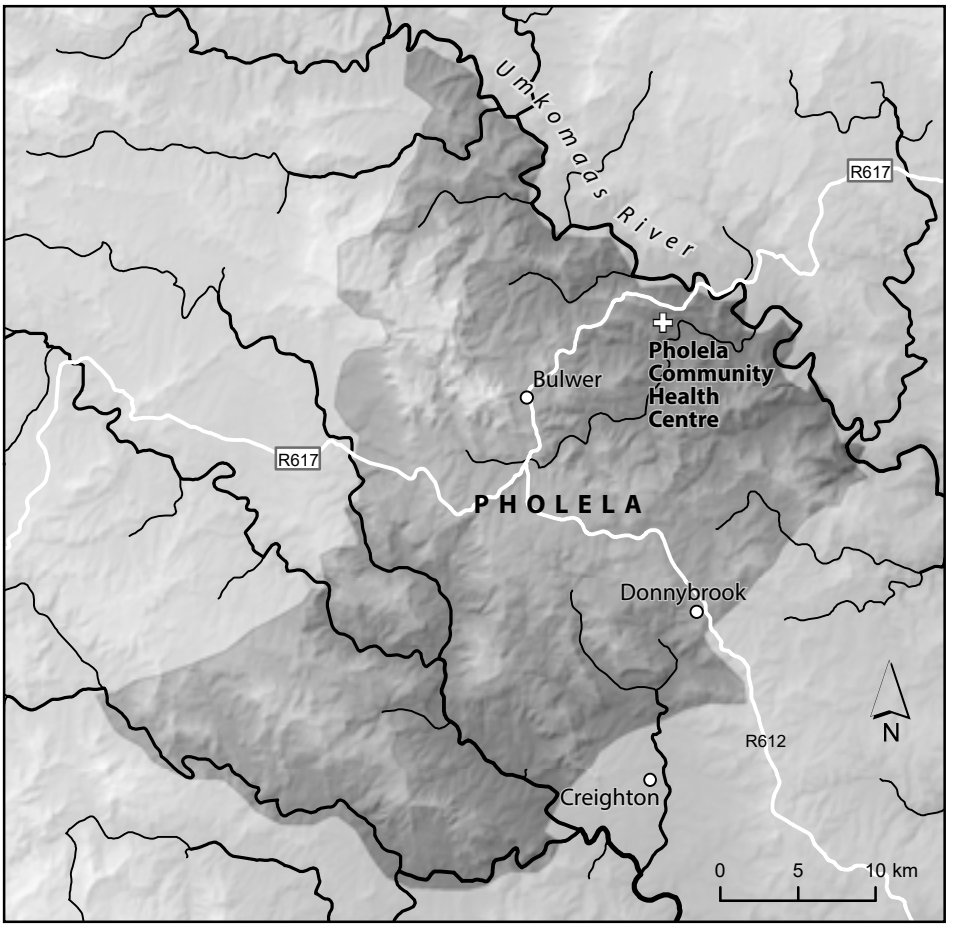

Figure P.2 Map of Pholela. Created by Jonathan W. Chipman, Citrin GIS Lab, Dartmouth College.

of Medicine and the Institute of Medicine, which awarded him the Gustav O. Lienhard Award for Advancement of Health Care for his work with COPC. As I fought my way through New York City traffic to visit Dr. Geiger, I had plenty of time to wonder why this world-famous doctor was willing to take time out of a Saturday afternoon to talk with me, a PhD student in the seemingly unrelated discipline of geography.

As anyone who had met him will attest, Dr. Geiger had tremendous energy and enthusiasm, and this showed the instant he opened the door. After we shook hands, he briskly walked me to his living room, where he asked if I would like a

coffee or something else to drink. When I said I'd love a glass of water, he replied that he was going to brew some strong coffee because he knew he needed it for the conversation we were about to have. It was at that moment that I got the first hint that Dr. Geiger was as nervous about our meeting as I was.

I had barely begun to explain my project and the research I'd been conducting when Dr. Geiger jumped in and asked about the people in Pholela and how they were doing. He didn't ask after anyone in particular; he wanted to know how the community was, how health was, and how the transition out of apartheid had been for the communities and families with whom the health center had worked most closely. Apartheid was the decades-long period of minority rule marked by oppressive policies of segregation and discrimination that began only a decade before Dr. Geiger went to Pholela and ended in the early 1990s when Nelson Mandela was elected president. As I described life in Pholela, Dr. Geiger sat balanced on the edge of the ottoman, rapt with attention. He wanted to know anything I could tell him. He asked about the health center, but his real interests lay in the lives and homesteads of Pholela's residents.

Our conversation shifted to Dr. Geiger's experiences in Pholela. In 1957, he was a medical student at Case Western Reserve. Before medical school, he had a career as a science journalist and participated in what is today termed anti-racism work. This led him to an interest in the possibilities of medicine for social justice. He heard about the Institute for Family and Community Health (IFCH) at the University of Natal's Medical School in Durban. In this institute, a group of doctors, including Sidney and Emily Kark, the founders of the PCHC, had developed a training center for social medicine based on work they had begun in Pholela. Soon Geiger had secured funding and time off from school, and he was in South Africa learning about COPC.

Telling his story, Dr. Geiger fast-forwarded a few years to the 1960s. He was a professor at Harvard Medical School and it was Freedom Summer (1964). He was involved with an organization that provided free medical care to activists headed to Mississippi to register black voters. As he traveled around the state and saw how many people lived without health care, he began to think about what a health care intervention for people living in poverty might look like. His mind immediately returned to South Africa.

After that summer, Geiger got in touch with Sargent Shriver, who had taken charge of planning President Lyndon Johnson's War on Poverty through the Office of Economic Opportunity. Geiger knew that the government was already hard at work on other aspects of the program and wanted to offer some ideas about the health component. As we sat in his Brooklyn brownstone, he

told me about a two-hour meeting he had with Shriver in which all that he had learned and experienced in Pholela poured out. Shriver took pages and pages of notes on a yellow-lined legal pad, as Geiger offered the Pholela Community Health Centre's brand of COPC as a model for health care delivery among economically disadvantaged people in the United States. Once he had finished describing the model, he offered a plan to develop two health centers—one in the Mississippi Delta, where he had spent the summer, and one in Boston, where he lived and worked. Geiger estimated that he would need $30,000 (about $250,000 in 2020 terms) to develop an initial plan for the health centers. Geiger recalls that Shriver replied, "Nonsense, you'll take $300,000 and you'll have the health centers up and running within a year."

With colleagues at Tufts University, which had agreed to provide institutional support, Geiger created the Columbia Point Community Health Center (now called the Geiger-Gibson Community Health Center) in a public housing project in Boston and the Delta Community Health Center in Mound Bayou, Mississippi, an independent Black community founded by former slaves. These establishments did more than function as clinics; they became access points for social services and hubs of community organizing for the people and places they serve. They were designed with the goal of absolute empowerment, to help raise people out of poverty and to end ill health. These two health centers then became the models for a network of more than eight thousand community health centers in the United States that provide care for over twenty million underserved individuals to this day.[3] As he finished the story, Dr. Geiger repeated that it was the Pholela Community Health Center that the War on Poverty had to thank. Moreover, he said, millions of Americans are indebted to this remote place where COPC was born for their health care and for access to social services.

The United States is not alone in benefiting from the social medicine program developed in Pholela. As work became untenable under apartheid, the doctors at the PCHC left South Africa to continue their work elsewhere. Many of the doctors were Jewish and, inspired by the Kibbutz movement, emigrated to Israel, bringing the COPC model with them. In the 1960s and 1970s, they managed to reorient Israel's health care system around community health centers.[4] Others found jobs in places like the United States, Canada, Colombia, and Uganda. As these doctors traveled, they brought COPC with them. It became one of the most important models of social medicine worldwide in the second half of the twentieth century.[5]

In the late 1950s, the last medical director of the PCHC, John Bennet, along with George Gale, a prominent doctor and social medicine proponent, left

Pholela and South Africa for Uganda and the Makerere University Medical School. Makerere was one of the premier institutions of higher learning in Africa in the 1950s and 1960s, and at the university these two South Africans developed a curriculum centered around "community public health," "which took into account traditional and cultural values of the local community"; this was COPC.[6] Thanks to this focus on social medicine at the country's only medical school, COPC remained central to health care in Uganda, to the benefit of much of the population, until Idi Amin's regime came to power in the 1970s, when many of the doctors and public health experts trained at Makerere University left the country.

In spite of COPC's relatively brief heyday in Uganda, universities, including Makerere University, have long been key to its success globally. In South Africa, the Karks and their team trained a number of doctors, and once those doctors left, they took up positions at universities around the world teaching others how to practice COPC. In 1959, the Karks themselves went to Israel to help set up what would come to be known as the Department of Public Health and Community Medicine at Hebrew University (now the Braun School) as part of a three-year WHO-funded program. Once the program was established, they stayed and Sidney chaired the department until he retired in 1980. To this day, the Braun School educates people from around the world in the principles and practices of COPC, helping to extend its reach. For example, Gcina Radebe, a recent district manager of health for the area including Pholela, and current KwaZulu-Natal provincial head of primary health care, received her MPH from Hebrew University, where she learned about the very COPC that was originally developed in what would become her home district. She then brought that back to the work she does in KwaZulu-Natal.[7]

Still others who had worked and trained in Pholela brought the ideas and techniques of social epidemiology—the study of social factors shaping health at the population scale—which was integral to health center practice in Pholela, to universities around the world. For example, John Cassel, the second medical director of the PCHC, moved from Durban, South Africa, to Chapel Hill, North Carolina, where he established and chaired the program in epidemiology at the University of North Carolina, with a focus on social epidemiology.[8] And in 1978, Sidney Kark was among the authors of the World Health Organization's Alma Ata Declaration on primary health care for all, based in part on ideas he first developed in Pholela.

The story I heard from Dr. Geiger and the stories I would hear a few days later from Mervyn Susser and Norm Scotch were the first of many stories about the history of COPC and the role of the PCHC that I would come to hear or

read in the years that followed. In each case, these stories reinforced my first impressions from Dr. Geiger; this out-of-the-way place in this country, deep in the Southern Hemisphere, had an impact on the world far beyond what anyone expected.

The birth of COPC in Pholela and social medicine more generally is a well-known story. Yet in all of these truly remarkable stories, something was missing: the voices of Pholela's people and the stories of their lives. When I sat down with Dr. Geiger, he wanted to know about the *people* of Pholela. He wanted to know about their lives, their health, and their experiences since the PCHC had lost its funding in 1962. He knew how important they were to his life's work.

This is a book about social medicine, its possibilities, and its limitations, told through the lives and experiences of those people. It is not a book about the history of the PCHC, of COPC, or of social medicine more generally, at least not in any narrow sense. (And it is no longer a book about the relationships between health and landscape, though they do play a role.) It is first and foremost a book from Pholela. As such, this book offers a story of social medicine as developed and practiced by the PCHC and as experienced by the people who lived around it. It also offers stories of medicine practiced by traditional healers like *izangoma* and *izinyanga* and experienced by Pholela's residents.[9] All of these stories of doctors and izangoma, of health assistants and residents, of nutrients and witchcraft, are anchored in the lives and homes of Pholela's residents. Telling a story of social medicine from the home landscapes and lives—from the worlds—of Pholela's residents, offers important insight into what happened in Pholela, into the social medicine that began there and moved around the world, and into global health today.

As this book reveals, the history of social medicine isn't just a story of famous doctors and epidemiologists; it's a story of rural African peasants, vegetable gardens, nutrients, witchcraft, ancestors, healers, and more. To think about social medicine without these actors is to miss a big piece of the story. As I argue in this book, it is not possible to understand the global story of social medicine without understanding the lives of Pholela's residents, their homesteads, their health, and their worlds. Examining social medicine and health and healing from Pholela teaches much about the possibilities and limitations of this science and pushes for a more-than-human understanding of social life in health and healing.

ACKNOWLEDGMENTS

This is a book about how shifting a starting point changes both the stories we tell and how we understand the realities we inhabit. As a result, it seems appropriate that I start my thanks in Pholela, the place from which these stories come and the place that has forever shaped who I am as a scholar and a person. My first and biggest thanks go to Thokozile Nguse, who has been my key interlocutor for more than thirteen years now. I conducted all of the ethnographic research for this book with Thoko, who is equal parts sister, friend, research assistant, and sounding board. Her grace, wisdom, and humility inform all of the research and writing I have conducted, and I thank her not only for helping me understand and know this place, but for teaching me how to be in Pholela and in life more generally. Nonhlanhla Dlamini has been a wonderful friend, guide, and interlocutor from my earliest days in her community. More thanks go to Solani Shezi, Thabisile Dlamini, Lulu Sokhela, and Khanyisile Dlamini for all their companionship and introductions. I also owe a big thanks to Thoko's extended family, who have always given me a home in Pholela, and to the Phoswa family, who have done the same. Fieldwork can be grinding and tiring, but the chance to sit with, chat with, sing with, and marvel at all of my dear *gogos* has always put a smile on my face and reminded me why I do what I do. *Ngiyabonga kakhulu, bonke bagogo bam. Kakhulu.*

Beyond Pholela, Yvonne and Mike Lello have offered me a home away from home in Durban for fifteen years now. I can't imagine better surrogate parents. Cathy Connely and the late John Daniel also provided a warm home and fantastic conversation for me while in Durban. For many visits and adventures in Durban and Pholela and for years of great conversations and walks on the beachfront, a big thanks to Saskia Wustafeld. Barney and Faye Flett have provided countless meals and trips to the beach and the game park, all a welcome break from the research. In Pretoria, the late Koos and Marita Prinsloo gave me a warm home and some wonderful meals as I spent months in the archives. Susan and David Yuill have provided me a place to stay and much needed distraction in Johannesburg for years. They were my first entry to KZN and Gauteng fifteen years ago, and they remain the best hosts I know. In the

early days, Chris Lello was often there too and up for a meal or a movie or a trip to the pub. In Bulwer, which has long been my home base in Pholela, I owe thanks to many friends who made life outside of research not just bearable, but fun. Thanks to Anne-Marie Assémat-Schmitt, Johan Smal, the late Dave and Linda Poval, the Rennies, Esther Alm, Pete Ablitt, Hans and Ria Fockens, the late Bruce McClunan, the late Les Pitt, and Sindey Dlamini. And a big thanks to Lauretta Grobler, who provides a warm bed and the most delicious meals every time I return.

A special thanks to those people and organizations in South Africa who helped me set up and conduct my research: Catherine Burns, Steve Reid, Malcolm Draper, Tim Quinlan, the Valley Trust, Gcina Radebe, Sister Sikhakhane, Dr. Gumede, the Pholela Community Health Centre, and the Turn Table Trust. Thanks to the librarians and archivists at the National Archives Repository in Pretoria, the Natal Archives Repository in Pietermaritzburg, the Historical Papers at the University of the Witwatersrand in Johannesburg, the Chief Directorate of Surveys and Mapping for South Africa in Cape Town, and the Killie Campbell Library in Durban.

As all scholars know, material support underlies all good ideas. For financial support, I thank the National Science Foundation, the Land Tenure Center at the University of Wisconsin–Madison, the John Sloan Dickey Center for International Understanding at Dartmouth, the Mellon Foundation, and the Burke Award from Dartmouth College. Many thanks to the Agrarian Studies Program at Yale, which gave me a year to think and write and an outstanding intellectual community in which to do so.

All good ideas are born from conversations with smart people. Put another way, the best scholarship is collective and I have a big collective to thank. The University of Wisconsin–Madison, and in particular the Geography Department, African history program, and Center for Culture, History, and Environment provided an incredibly generative space to begin this project. Many thanks go to Mitch Aso, Nick Bauch, Martha Bell, Dawn Biehler, Sarah Besky, Leif Brottem, Eric Carter, Chris Duvall, Nicole Eggers, Jake Fleming, Mara Goldman, Po-Yi Hung, Jess Krug, Chris Limburg, Dan Magaziner, Adam Mandleman, Hannah Nyala-West, Sig Peterson, Beth Stockbridge, and Yen-Chu Wang. I worked out many of the core ideas of the dissertation that preceded this book on long runs with Todd Dresser. My thanks go to him for his willingness to think with me and to slow down to a pace I could keep up with. Andrew Case and Amrys Williams taught me that you get to choose your family and that they can be smart interlocuters too. Finally, I owe much of the scholarly grounding in this book to conversations I've had with Alex Nading,

who introduced me to medical anthropology (and a whole bunch of super-smart medical anthropologists) and continues to be one of my favorite people to think with.

At UW I had the good fortune to have some exceptional mentors. Many thanks go to Lisa Naughton, Neil Kodesh, and Claire Wendland for guiding me through my dissertation and beyond. A special thanks to Gregg Mitman, who, at my dissertation defense, pointed out that I had black-boxed social medicine. In many senses this book is a response to that realization. Another thanks to William Beinart, who advised my masters work at Oxford and welcomed me back to write for a term in graduate school. His unparalleled knowledge of South African history and his generosity helped me to become the scholar I am. Even before I had the good fortune to work with him, Bill Cronon taught me the importance of good writing, and good storytelling more specifically. I hope some of that teaching comes through here. My biggest thanks go to Matt Turner, the absolute best adviser a graduate student could ask for. Matt's commitment to ethical, engaged, creative, and rigorous scholarship offers both a challenge and a model, and his ability to mentor his students where they are to wherever they might end up is remarkable. I've talked this book through with Matt more times than anyone else and it has benefited tremendously from his smarts and generosity.

I feel lucky to have started my career at the University of Minnesota, where I found a group of tremendously smart colleagues who pushed my thinking in new directions. Many thanks go to Nikhil Anand, Bruce Braun, Susan Craddock, Vinay Gidwani, Jennifer Gunn, George Henderson, Brenda Kayzar, Reg Kunzel, Lorena Munoz, Abdi Samatar, Rachel Schurman, Martin Swobodzinski, and Dominique Tobbel. I spent a year as a fellow in the Agrarian Studies program at Yale, where I had the space and time to think and exposure to all sorts of new ideas. Special thanks go to Tom Fleischman, Karen Hebert, Tenzin Jinba, Jim Scott, and Shivi (Kalyanakrishnan Sivaramakrishnan).

The Geography Department at Dartmouth College is hands down the best place to work in academia. My colleagues are brilliant, generous, and committed to building a better world and a better university. It is a privilege and an honor to work and think with them. My thanks go to Luis Alvarez León, Mona Domosh, Treva Ellison, Coleen Fox, Frank Magilligan, Justin Mankin, Kelly Palmer, Darius Scott, Xun Shi, Jonathan Winter, and Richard Wright. Special thanks go to Susanne Freidberg and Chris Sneddon who read the first draft of my book manuscript and subsequent drafts of sections, offering invaluable feedback along the way. And a big thanks to Jonathan Chipman for not only being a great office neighbor, but also being a talented map maker who helped

with the maps for this book. We've also been lucky at Dartmouth to have some pretty awesome human geography postdocs who have taught me a lot. Thanks to Kate Hall, Yui Hashimoto, Greta Marchesi, Garrett Nelson, and Brian Williams. More thanks go to brilliant colleagues across the university for thinking through ideas and just providing a good place to live and work. Thanks to Aimee Bahng, Sienna Craig, Reena Goldthree, Chelsey Kivland, Eng-Beng Lim, Anne Sosin, Craig Sutton, and George Trumbull.

Over the past few years I've had the good fortune to get to know brilliant interlocutors in geography, anthropology, African studies, and more. For teaching me, encouraging me, and thinking with me, many thanks go to Cal Biruk, Heidi Hausermann, Paul Jackson, Brian King, Becky Mansfield, and Laura Meek. For intellectual and general camaraderie in South Africa and back home over the years, my thanks go to Abigail Baim-Lance, Jessica Powers, and Liz Thornberry. Special thanks go to Julie Guthman, who flew across the country to spend three hours talking about the first version of my book manuscript and who offered valuable insight. This book is far stronger as a result of her brilliance. Thanks to Ramah McKay, who has offered so much on so many things I've thought about and pointed me to the best of anthropology since our early days at Minnesota, and to Keith Woodward, who has long been my sounding board for anything theory related and from whom I have learned so much. I was tremendously lucky to arrive at Dartmouth with Tish Lopez, who, over shouted questions and observations across the hallway in Fairchild and long text exchanges, has proven to be one of the smartest, most generous people I know. Her commitment to enacting a caring world through her research, teaching, and being is a model we should all follow. A last big thanks goes to Laura Ogden, who is not only a writer I aspire to be like, but who read two complete drafts of this book and, as I neared the end, reminded me that this is my book and I get to choose what it says and how. And then she cheered me to the finish line. A million thanks to all of you and many more.

Courtney Berger met with me once many years ago when I was in Durham to chat about an idea I had for a book. Since then, she has been an excellent shepherd for this project and the many forms it has taken, offering me expert advice and talking with me as I found my own way forward. Thanks to her, I had the good fortune of getting incredible feedback and engagement from four anonymous reviewers. What a lucky, lucky thing for a scholar. More thanks to Sandra Korn, who has gathered all the manuscript pieces and answered all my questions. And a big thanks to Rebecca Kohn for her editorial expertise on my first manuscript and to Aurora Chang for her copyediting work on the last. Last, portions of chapter 4 previously appeared as "Entangled Agencies: Re-

thinking Causality and Health in Political-Ecology," *Environment and Planning E: Nature and Space* (2020): doi.org/10.1177/2514848620943889, and have been significantly revised for this manuscript.

Writing a book, especially one based in long-term fieldwork conducted for extended stretches in a place that takes more than a day to get to, takes a lot. I've always said that the reason I can travel so far so often for so long is that I have such a wonderful family to come home to. Many thanks to my brothers Will and John Neely and to Justine, Rose, Koji, and Candace, who have always ensured that I have a home to come back to, and even some laughs. I'm also blessed with a bunch of cousins and an extended family, some of whom now live in Johannesburg. How lucky it is to have a home away from home thanks to Phoebe and James Boardman and William and Thomas. As I was writing the first draft of this book, I met Allie Breslaw and soon had the good fortune of being welcomed into the most wonderful extended Breslaw-DeSousa-Tharinger family. My life is so much richer and happier as a result of joining them.

I owe so much to my feminist parents, Christine Sullivan and John Neely, who raised their daughter to be smart, strong, and a tad rebellious. Just after I submitted this manuscript, my mom passed away suddenly and unexpectedly. The last text exchange I had with her was to tell her that Duke had agreed to send my book out for review. She was thrilled. The revisions I undertook were under a cloud of sadness, and my heart hurts because she is not here to hold this book in her hands, but I look forward to celebrating with my dad and maybe crying a little at her absence.

Luckily for me, the sadness of that loss has been tempered by tremendous joy. My biggest thanks go to Liam, who came with Allie, and who taught me that being a mom could be even more fun than writing a book. And now to Theo, who arrived just days after I got my book contract and whose unstoppable joy makes everything better. And finally, to Allie, who is the best partner, papa, home builder, project taker-oner, listener, and life maker I can imagine. He brings me cups of tea, takes the baby away when I need to write and don't want him to go, and keeps our home and family together when I'm off giving a talk, doing more research, tucked away writing, and much of the rest of the time too. He has made it so I can have a life that is rich and full of ideas and scholarship as well as love and fun. It is for this and so much more that I dedicate this book to him.

Telling the Story of Social Medicine from Pholela

One hot April afternoon in 2009, I sat with a remarkably healthy older Zulu-speaking woman in her garden in Pholela, South Africa. We were discussing common health concerns among her generation. Gogo (Grandma) Ngcobo had an impressive garden. In addition to maize, millet, and sorghum, she grew vegetables like spinach, green peppers, beetroot, and carrots. Organized in separate beds and planted in rows, Gogo Ngcobo's garden could have served as an advertisement for scientific management.

As we sat under a shady tree, she told me that the loss of "traditional" foods had led to hypertension and type 2 diabetes. In particular, she blamed the "new" store-bought maize meal people consumed in large quantities, claiming it was not as healthy as the maize meal made by people from their own corn. When maize meal is processed, she explained, "this little thing in the middle of the maize kernel is taken out," and the maize is ground without it. This little piece was important, Gogo told me, because it was the "healthy part."[1]

As conversations about health in 2009 were wont to do, Gogo's became a lament about the poor health of the "youth" (people between the ages of fifteen and thirty-five). While she acknowledged that the youth were suffering (and dying) from "these diseases" (often understood as a gloss for HIV/AIDS), she claimed that bad food was the reason the youth were so sick in the first place.[2] According to Gogo, young people in Pholela were getting sick because they had "weak blood." She blamed this weak blood on the consumption of "bad food" like commercial maize meal and cooking oil. Cooking oil, she explained, goes to the knees and makes them sore; even the smell makes her stomach "sad." She went on to say that undercooking and boiling (as opposed to frying) food

Figure I.1 Gogo Ngcobo with Thokozile in Gogo's garden. Photo by author.

from the garden is the healthiest option. This cooking method is important for preserving the food's "nutrients." "Nutrients are important because they help the blood to function well." And well-functioning blood is key for good health.

As I sat in the shade chatting with Gogo, I remembered one of my first visits to her garden. I had asked her to give me a tour. We ambled around and she showed me the grains and vegetables that she would later reap and eat and pointed with pride to the ornamental plants and trees she had received from her children working in distant cities. As we got to the middle of the garden, I pointed to a small, unfamiliar plant with long leaves and asked Gogo what it was called and what it was for. She looked at me and smiled, slightly embarrassed, "Oh that? It's nothing. It's just *intelezi*." Intelezi is the plant used to make the *umuthi* (medicine or potion) for annual protection rituals, which protect people, animals, and crops and the spaces they inhabit from witchcraft. Gogo was growing intelezi so that she could protect her home, her garden, and her family. While Gogo Ngcobo had a sophisticated understanding of nutrition and its importance for health, she also understood that she needed to protect herself and her family from witchcraft.

Figure I.2 Intelezi from Gogo Ngcobo's garden just behind her. Photo by author.

Gogo Ngcobo grew up in the catchment of a major social medicine program. In 1940, in a rare moment of concern for the health and welfare of all South Africans, the government sent a young, untested team to a remote, mountainous area in an African Reserve in what was then the province of Natal to set up the Pholela Community Health Centre (PCHC). Together, they developed an experiment in social medicine that became known as community-oriented primary care (COPC). This new brand of social medicine stressed the social as well as the biological causes of illness, blending clinical care at the health center with health education and extension work in the homes of area residents. This multisited approach required the efforts of doctors, nurses, health educators, *and* Pholela's residents, as the health center sought to improve health and lives collaboratively. And it did. Infant and crude mortality plummeted, gross malnutrition all but disappeared, and new cases of illnesses like syphilis decreased markedly. Just a decade after its inception, and by many

measures, the PCHC was a rousing success. It was so effective, in fact, that it has been referred to as "a model for the world," and some call it one of the most successful social medicine interventions in history.[3]

As the conversations I had with Gogo Ngcobo in her garden reveal, the work of the PCHC shaped the ways in which residents understand their health and the homesteads they reside in. Gogo Ngcobo's comprehension of the role of food in health, her eating habits, her own good health, and the scientific form of her garden reveal the long-lasting impacts of the social medicine developed in Pholela. In many senses, Gogo Ngcobo and her garden offer a picture of the success of the health center's work in transforming homesteads and improving health. But Gogo's garden shows something else too. It shows that she continued to be concerned about illnesses the health center could not see or treat. The intelezi in the garden reveals that the health center's approach to healing was not monolithic. Gogo Ngcobo and her homestead inhabited two different, if interconnected, worlds of health and healing.

This book offers a story of social medicine, written from an out-of-the way place in sub-Saharan Africa that happens to be one of its most important origin sites. It tells a story of social medicine's possibilities and limitations through the lives, homesteads, and health of the people who were the subjects of the Pholela Community Health Center's experiment. As such, it offers an alternative to more common accounts, which tend to feature laudatory narratives of white, male doctors who practice medicine to fight for social justice. While doctors are an important part of this story, they are not at its center; Pholela's residents are. In this place, people lived in and made different worlds as they got sick and became well. These worlds were populated by people, things, and harder-to-categorize beings like ancestors. From the PCHC's perspective, there was one health reality on top of which different sets of "beliefs" accumulated. The way to understand and intervene in health outcomes was through scientific study, not through consultation with ancestors. Gogo Ngcobo's garden challenges this singularity. The worlds that residents and their gardens occupy shaped health outcomes in ways social medicine could not always understand and treat. For all of its many successes, the PCHC was limited by its own faith in science, both biomedical and social, as well as by broader political-economic forces at work in South Africa.

In the story I tell here, the successes and failures of social medicine resulted from the relationships among humans, nonhumans, and harder-to-categorize beings. Some of these relationships, like those between livelihoods and health, the PCHC recognized and actively worked to shift, drawing on the best social science of the time. But it did not and could not see all of the relationships.

Figure I.3 Homesteads in Pholela. Photo by author.

For example, the PCHC failed to take account of Pholela's residents' roles in the development of its practice, and it never recognized the sociality of the nonhuman things (nutrients, protected water sources) that were integral to its program. Moreover, the PCHC did not understand how important Pholela-specific social relationships, including those with ancestors, were to health and healing. Paying attention to social medicine in Pholela reveals that unexpected and entangled more-than-human relationships are the basis of social life and health and healing. By starting with relationships, this book offers a vision of social life in which individual actors disappear and health and illness emerge as the product of entanglements.

To make this relational approach to health and healing clearer, I return to Gogo Ngcobo's garden. In some senses, the form of the garden, its diversity, and her ongoing good health could be attributed to the lessons she learned as a girl and the influence of the PCHC's health educators. It was also testament to the relationships she and her family developed with the PCHC and with the things of health center work, like seeds and nutrients. The limitations of COPC remained visible in the garden and in our conversations too. The garden was small; its contents could last only a couple of weeks after the last harvest. As a result, Gogo Ngcobo and her family bought most of the food they ate. Gogo's

concern over processed maize meal reveals an anxiety about the ways in which racial capitalism curtailed the nutritional and health-related possibilities she and her family had access to by restricting land and wages for Africans. (Racial capitalism refers to the idea that capitalism has always been co-constituted with racism.)[4] Gogo's understanding of her limited food was evidence of the work of the PCHC and its health education efforts. While the health center could help residents modify homesteads and offer clinical care, it could not change the broad structures of racial capitalism that shaped livelihoods and health. This was not its only limit; the intelezi Gogo grew in her garden and her slight embarrassment at being asked about it (in the larger context of a conversation about agriculture and nutrition) reveal a second limit. This plant, the illness it was to prevent, and the world of health and healing it came from pose a challenge to an understanding of social life circumscribed by the social sciences. In Gogo Ngcobo's good health and her knowledge, and in her garden's contents and form, the relationships that set the stage for both the possibilities and the limitations of the PCHC's social medicine remain visible to this day.

The Story of Social Medicine, Commonly Told

Social medicine, the marriage of an attention to the social determinants of health with clinical care, has a long history, most often told from Europe and North America. A representative narrative of social medicine traces its roots to nineteenth-century Germany, where the scientist Rudolph Virchow called medicine a social science and combined an attention to pathology with statistical data collected at the population scale. The solutions to health problems that he proposed tended to be political, focused on broad-scale political changes like access to affordable housing, clean water, and education. These, he asserted, were the bases for health.[5] In this vision, the "social" of social medicine is couched in terms of what basic services the state could provide to its people. In 1920, the United Kingdom's government commissioned the Dawson Report, the blueprint for what would become the National Health Service. This report called for universally accessible medicine and is often credited as one of the foundational documents of social medicine.[6] Soon thereafter, in the 1930s in the United States, a medical historian named Henry Sigerist wrote about and advocated for what he called "socialized medicine." By socialized, he was referring to an attention to the factors that made some people sicker than others and a practice that addressed those factors.[7] He later helped to construct Canada's national health care program. Following these threads, in the middle of the twentieth century, Thomas McKeown used population-scale data to

argue that late nineteenth-century population growth in England was due to improvements in economic conditions, public health, and access to medicine, rather than rises in fertility.[8] This analysis centered the very kinds of medical and social programs so crucial to social medicine.

The ideas of these men and these reports traveled around the world. In Latin America, social medicine became a rallying cry of revolutionaries like Argentine doctor Che Guevara in Cuba and President Salvador Allende in Chile. These leaders asserted that access to health care and the basic building blocks of a healthy life were key for functioning societies. As such, they used concerns over health to call for a comprehensive restructuring of society and a redistribution of wealth. For these leaders, economic status was the basis for health, as economics represented the social of social medicine. While not directly related, what happened in Pholela and South Africa more generally was part of this bigger story of social medicine. The typical story of the PCHC opens with the arrival of Sidney and Emily Kark, two young doctors of European descent, and their team in 1940 to set up the Pholela Community Health Center. In Pholela, they, along with additional doctors who came later, developed their own brand of social medicine (COPC) and then wrote about and taught it both in South Africa and in countries like Israel and the United States.[9] At about the same time that social medicine was catching on in Latin America and South Africa, the Chinese government developed its own form of social medicine through its barefoot doctors program. In this program the government trained peasants to travel around the countryside and treat common ailments, thereby extending medical care to the rural poor.[10] All of these social medicine efforts shifted the focus away from individual bodies to the societies in which people lived as political-economy and public health became the framework for understanding social life in health.

At the global scale, the rising interest in social medicine was part of a broader movement to improve the lives of the world's poor. It was also rooted in the growing idea that health is a human right, which was first articulated in the United Nations' 1948 Universal Declaration of Human Rights. In addition, the broader history is connected to an increasing recognition that the inequities that colonialism and imperialism wrought in places like Africa led to drastically different expectations and possibilities for people depending on where they lived and what race and gender they were. This focus on social medicine culminated in the 1978 Alma Ata Declaration on primary health care for all. Coauthored by Sidney Kark, this declaration asserted that all people in the world had the right to both a healthy life and the primary health care they would need to sustain that life.

This is a conventional story of social medicine and an important one. It offers some key people, policies, and documents, which lay the foundation for this invaluable branch of medicine, and it shows its global reach. But it is also a very white and a very male story. With the exception of China's program, all of the leaders I write about here were either European or of European descent, trained in universities in Europe or universities staffed by European- or American-trained professors. As a result, this story of social medicine is a new twist on an old story of universal science developed in the Global North and transported and applied around the world. Its focus on people living in poverty and on primary health care offers a slight alternative, but only a slight one. Much of the recent literature on global health follows similar patterns, focusing on formal programs run out of institutions in the Global North.[11] These programs are invested in the extension of biomedicine to people and places in the Global South. These are stories of Euro-American medicine in Africa and Latin America. The story most commonly told of Pholela is no different; the doctors take center stage as their work and ideas travel.[12] They are the face of social medicine, the face of the people living in poverty. This is not that story.

Pholela and South Africa in the 1930s

In the 1930s, Pholela, South Africa, was part of the African Reserve area of KwaZulu in the province of Natal. Nestled in the foothills of the southern Drakensberg Mountains, the district sits in a messy patchwork where communally held African land is mixed in among European (white) farms and small European-occupied towns. Though apartheid would not officially begin until 1948, there had long been policies and practices of dispossession of and discrimination against African populations, part of what Patrick Wolfe refers to as the apparatus of settler colonialism.[13] In the nineteenth and early twentieth centuries, economic and minority interests coalesced into policies that forced native Africans onto smaller and smaller pieces of land called Native Reserves, forcibly settling nomadic and seminomadic peoples like the ancestors of Pholela's residents. This dispossession meant that whites gained access to extensive parcels of land for agricultural production, mining and other natural resource extraction, and industry, which was key to making South Africa the biggest economy on the continent.

These policies first coalesced in the 1913 Natives Land Act, which made it illegal for Africans to own or lease land in white areas.[14] On the eve of the establishment of the PCHC, African Reserves made up 11.7 percent of the land in South Africa and housed the vast majority of Africans, who made up 69 per-

Figure I.4 A view of Pholela from a mountaintop. The lines between communally held African land and white-owned land are clear even now. Today most of the white-owned land remains in tree plantations rather than agriculture as it had been in the 1940s and 1950s. Photo by author.

cent of the country's population.[15] The gross inequities in land occupation meant that most rural Africans had only limited space for agriculture and few or no opportunities to expand their production. With less land to cultivate, limited pasture for livestock, soil erosion, and increasing administrative controls like the "hut" tax, which required men to pay an annual tax based on the number of buildings they had on their homestead, large numbers of African males entered into migrant labor, leaving their families behind because of laws requiring Africans to carry passes in white areas.[16]

Pholela exemplified this political reality. The doctors who established the PCHC often commented that one of the most striking features of the landscape was its lack of men, and in particular, young men. These young men sent remittances home from the nominal wages they earned for their low-skilled work, supporting their families from afar.[17] The family members who stayed behind worked what little land they had available, and they used remittances to buy processed maize meal and other staples (if they could afford them) to supplement their meager agricultural yields. The combined livelihood approach of

women's agriculture at home and men's low-wage labor away meant that families barely survived and that their health often suffered. This was what racial capitalism looked like in Pholela.

When they returned home, the men brought new diseases like syphilis and tuberculosis with them, where they took root in their malnourished families and neighbors. As residents began to suffer from unfamiliar illnesses, they understood and treated them through a preexisting framework of health and healing. In Pholela, as in much of sub-Saharan Africa, illnesses are divided into three broad categories: illnesses from ancestors, illnesses from witchcraft, and illnesses that just happen, which was the most common category.[18] The most important difference came in etiology: an illness could "just happen" or it could be the product of intent, caused by a person like an angry ancestor or an *umthakathi* (a person who sends witchcraft). Determining the category of an illness was the key first step in alleviating symptoms and making a person well, because each type of illness had a different treatment regimen. For illnesses that just happen residents visited a nurse or a doctor; for witchcraft or ancestor illness they visited a healer who works with the ancestors (an *umthandazi* or an *isangoma*). But it was rarely clear what type of illness a person had.[19] As a result, Pholela's residents often tacked back and forth between biomedicine and various traditional healers. It was into this context that the PCHC entered in 1940. And it was this political, economic, and health context that would come to shape the possibilities and limitations of the social medicine that developed in this place.

Scholarly Threads

To understand social medicine from Pholela, I offer a political ecology of health approach.[20] With this approach, I understand health and healing as ontological and constitutive of worlds. By this I mean that I recognize that the physical manifestation of illness is as significant as its sociocultural relationships, and further that the two are entangled; I start from the position that the worlds we live in are relationally produced.[21] In other words, people, things, plants, animals, and harder-to-categorize beings like ancestors are what they are because of the relationships they are entangled in, relationships that are more than human. Furthermore, the worlds they inhabit and constitute are entangled and interconnected; they are the product of these relationships.[22] The understanding of health, healing, and worlds I offer here builds on the work of scholars interested in political ecology, ontology, medical anthropology, and science studies.

To set up a political-ecology analysis, I begin with an examination of how the PCHC's social medicine ordered and intervened in Pholela. To do this, I draw on medical anthropology and science studies scholarship, which reveal that supposedly universal sciences like biomedicine are socially and culturally local and produced through relationships.[23] This scholarship highlights the role of people like Gogo Ngcobo in the production of science and scientific knowledge, as she and her garden represent the social medicine that came from Pholela. But understanding Gogo's role is not enough for understanding social medicine from Pholela, where homestead transformation and things like vegetables and nutrients were integral to health center practice. For this, I draw on science studies scholars interested in questions of nonhuman agency. These scholars argue that science is the product of relationships among people and things, where things can act just as people can. One particularly valuable framework for this is the assemblage, which centers human–nonhuman relationships and articulates agency relationally.[24] This scholarship helps to make the PCHC's vision of practice clear, offering an examination of its remarkable success. Gogo's garden's contents and organization and her ongoing good health five decades after the PCHC lost its funding are testaments to the importance and success of human–nonhuman assemblages.

While science studies and medical anthropology help to critically interrogate social medicine as a science, political ecology, inflected by scholarship on racial capitalism, helps to illuminate some of the limits of the social medicine practiced in Pholela. Combining an attention to political economy (through the social sciences) and an attention to the biology of ecosystems and bodies (through ecology and biomedicine), political ecology reveals that the gardens and fields of Pholela's residents were inextricably linked to the health of the people, and moreover, that both were shaped by the broad political-economic processes at work in South Africa and Pholela.[25] This understanding of the importance of political economy also underpinned the PCHC's social medicine practice, where social life was understood through a Marxist analysis of South Africa's political economy and Pholela's livelihoods. Because the political economy of South Africa has always been stratified by race, work on racial capitalism is particularly valuable for a political-ecology analysis in this place. While most often traced to Cedric Robinson's foundational work, *Black Marxism: The Making of the Black Radical Tradition*, the term *racial capitalism* was first articulated by scholars working in and on South Africa.[26] These scholars understood that capitalism and more, capitalist accumulation, were predicated on a racial hierarchy enforced by both government policy and industrial practices. These policies and practices, which culminated in apartheid, ensured astonishing profits

for whites at the expense of African laborers. This is a pattern that continues to this day, shaping the health and illness of South Africa's poorest people, as Mark Hunter has so aptly demonstrated in his work on the implications of a livelihood strategy that includes everyday sexual transactions for HIV rates.[27] Understanding social medicine and the work of the PCHC through a political ecology informed by racial capitalism reveals that notions of racial inferiority as well as questions of funding shaped the sciences that underpinned social medicine. It also reveals that no matter how innovative and progressive the PCHC's social medicine program was, it could not overcome the larger forces that circumscribed livelihoods and the possibilities for healthy futures for Africans in South Africa. Gogo Ngcobo certainly knew this as she discussed her anxieties about the insufficient harvest of her garden, the inferiority of processed food, and the impact both had on her health. She understood that her health was connected to the limited livelihood possibilities of her family through food.

Racial capitalism was not the only force to shape and limit social medicine in Pholela; the multiple worlds of health and healing of residents also determined what was possible. As my conversation with Gogo Ngcobo makes clear, for residents, nutrients and vegetables (and the relationships with the health center that they were a part of) were important for health. Likewise, as the intelezi in Gogo Ngcobo's garden reveals, relationships with neighbors and ancestors and the various components of traditional medicine were important to health. For the PCHC, witchcraft was not real; it was a product of belief and proof of a population not yet educated in scientific medicine. But in Pholela, people suffered and still continue to suffer from witchcraft illnesses that can only be treated with traditional medicine. The ongoing importance of traditional medicine reveals that the social relationships that the PCHC did not and could not recognize among neighbors and between the living and their ancestors were important to both health and healing. To understand a vision of social life embedded in witchcraft illnesses, I draw on anthropological literature on medical pluralism and health and healing in Africa. Medical pluralism recognizes that both biomedicine and traditional medicine are important and viable options for healing for many people around the world, and Africanist literature roots health and healing in African social worlds.[28] Together, these bodies of scholarship offer a framework of cultural specificity and social construction for incorporating witchcraft illnesses into an examination of social medicine.

But the articulation of different regimes of health and healing as sociocultural does not fully grapple with the physicality of illness.[29] For this, I draw on the work of feminist science studies scholars and scholars interested in questions of ontology. This scholarship focuses on the entanglements of the physi-

cality of illness and sociocultural relationships. I find this scholarship particularly generative because of its focus on the irreducibility of (social) relationships to ontology and in this case to physical health.[30] In this thinking, there are no individuals or individual elements; things and people come into being through their relationships, which make up the human–nonhuman world. This approach to relationality is particularly generative for understanding health from Pholela because it decenters scientific ways of understanding and opens up the possibility that more-than-human actors like ancestors and witchcraft, actors that science does not recognize, can have an impact on bodily health. Take the example of the intelezi in Gogo Ngcobo's garden. Gogo grew this plant so that she could use it for an umuthi that an isangoma would make to protect her home and the people who lived in it from ill health and misfortune due to witchcraft. For the intelezi to work, the isangoma must enlist the help of Gogo's ancestors, who are key for maintaining health. For this thing (the intelezi) to prevent illness, it requires a number of humans, nonhumans, and harder-to-categorize beings.

With intelezi growing alongside vegetables like beetroot, Gogo Ngcobo's garden reveals that residents occupied more than one world of health and healing. To understand this multiplicity, I draw on the work of Stacey Langwick, who demonstrates that biomedicine and traditional medicine are not separate for the people who practice them. Instead, each helps the other by attending to the physical manifestations of illness and the different social relations that are integral to it.[31] Further, through efforts to heal and the therapeutic objects with which to do so, Langwick sees moments of "ontological coordination." These moments reveal how worlds of health and healing are made and remade for and by the people she works with.[32] For Pholela's residents like Gogo Ngcobo, ontologies are multiple, relational, and overlapping.[33] This multiplicity exposes another limit to the social medicine practiced in Pholela.

Taken together, this scholarship helps to probe the possibilities and limitations of social medicine, expand understandings of health to be always relational and more than human, and offers possibilities for a different, more expansive vision of social life and social medicine. In the age of global health, the social medicine that Pholela's residents and their homes suggest we need includes actors often glossed as cultural, like ancestors, and recognizes their role in illness and health for the people who are so often the targets of global health programs.[34] Understanding health as relational and including these actors offers not just a different story of social medicine, but the story of a different social medicine.[35] As Vandana Shiva writes, "Since creativity has diverse expressions, I see science as a pluralistic enterprise that refers to different 'ways of

knowing.' For me, it is not restricted to modern Western science, but includes the knowledge systems of diverse cultures in different periods of history."[36] In this framework, social medicine from Pholela is a science, one that offers possibilities for global health.

Sources and Methods

My ethnographic practice focuses on the health-related practices and the lived experience of illness and healing for Pholela's residents. Since 2008, I have worked closely in and with three communities in Pholela, which I call Enkangala, Ethafeni, and Entabeni.[37] Key to the research design, Enkangala and Ethafeni sit in what was once the catchment of the PCHC, while Entabeni sits outside. This spatial division provides for an understanding of what changes might have been instigated by the health center and what were the result of other local and national forces. It also offers a pathway for understanding health outside of the influence of the PCHC. I have conducted the vast majority of my ethnographic research in these three communities with Thokozile Nguse, who has been at least equal parts sister, interlocutor, and research assistant.[38] While Thokozile and I got to know and spend time with many people in these places, most of our work involved eight households with whom we conducted detailed oral histories about health and livelihoods between 1955 and 2009. Our conversations, observations, and experiences with these people and others form the backbone of the research for this book. (Chapter 2 describes this research in detail.) My time in Pholela also shapes the form of the book, which tacks back and forth between past and present, much as our oral histories, interviews, and conversations did.

Of equal importance to the details and stories gathered through time spent in Pholela is the analytical value of ethnographic research. To understand this, I draw inspiration from Sarah Hunt's claim that stories are ontologies. By this, I mean that stories aren't metaphors; they don't need to be explained through comparison. Instead, they represent realities.[39] The best way to understand stories is therefore by getting to know the places and people from which they emerge. The informal conversations Thokozile and I participated in and the observations we have made over more than a decade provide much of the basis for my analysis of health, healing, and social medicine in Pholela. After all, thinking about social medicine *from* Pholela requires a firm grounding in the worlds—the ontologies—of area residents; ethnography offers one important way to access these worlds.

For a historical perspective, I analyzed archival documents from the PCHC, and its publications, and drew on regional ethnographies of Nguni-speaking peoples.[40] Rich in detail, these sources offer a wealth of information on the life and ideas of Africans, life at the moment of the establishment of the PCHC and after, health center practices, and residents' engagement in the work of the health center. In particular, PCHC publications offer valuable data and analyses of household surveys and experiences in Pholela and important insight into the views and work of the health center's doctors. These sources are not without their own biases and problems, however, which is part of the reason that they are so helpful for understanding the PCHC's vision of social medicine, which I examine in chapter 1.

A third group of sources includes scientific papers on nutrition and health.[41] This work helped me examine the role of, for example, nutrients in health, or the specific nature of kwashiorkor, an illness caused by an acute protein deficiency. As such, they help explain the "matter" of social medicine (at least in the world of health and healing where biomedicine is at work), just as government reports and publications help to explain its "meaning."[42] These are key documents for the political-ecology approach at work in chapter 3. When coupled with oral sources and ethnographies, which offer insight into the meaning and matter of witchcraft diseases (the subject of chapter 4), these scientific sources help provide a rich picture of health in Pholela.

Given the diversity of written and other sources, reading and integrating these various pieces of research is both particularly important and particularly challenging. To do so, I offer a method of entanglement and diffraction. Building on Donna Haraway's and Karen Barad's concept of diffraction, I read and incorporate sources through one another, attending to their "interaction, interference, reinforcement, [and] difference."[43] In particular, diffraction offers a way to attend to difference and change over time and across space, as well as a way to examine spaces of overlap. Moreover, as Barad writes, diffraction "is not just a matter of interference, but of entanglement."[44] In other words, attending to difference is not enough; one must attend to the coproduction that occurs as a result of the intra-actions of different sources. Here, I use the term *intra-action* (as opposed to interaction), putting to work Barad's idea that all beings are relational from the start; this is especially valuable for understanding coproduction.[45] A key insight of the concept of diffraction is that the researcher plays an integral role in research produced.[46] Recognizing this, of course, means that I must acknowledge that the analysis offered in this book is diffracted through my experience and knowledge (as well as through my relationships,

experiences, and conversations with Thokozile), through the lives and words of Pholela's residents, the writings of the PCHC's staff, and scientific understandings of nutrients and bacteria. This book is a result of these entanglements.[47]

What emerges is not a neat and tidy story; it is a story of interconnected worlds, worlds in which social medicine is many things simultaneously and social life is broad, relational, and more than human. Through a method of diffraction, seemingly contradictory sources intra-act and offer new possibilities and new insights. Consider the example of physical illness. Reading symptoms through its manifestation in the body, the diagnosis of a doctor, the work of an isangoma, the explanation of an ill person, and my own ideas and experience offer a somewhat contradictory but rich view of illness, wellness, social life, and the worlds of health and healing in Pholela. This method of diffraction, attuned to difference, opens up the possibility that health and social medicine are even more complex than what well-known histories offer and the staff of the PCHC imagined.

NOTES

Preface

1 "H. Jack Geiger, MD, M Sci Hug," n.d., http://physiciansforhumanrights.org/about/people/board-emeriti/h-jack-geiger.html; "Commencement 2016: Biographies—H. Jack Geiger," *TuftsNow*, 2016, https://now.tufts.edu/commencement2016/biographies/geiger; Ted Henson, "Jack Geiger, MD, M.Sc. , Scd," *We Are Public Health*, March 10, 2014, http://wearepublichealthproject.org/interview/jack-geiger/.

2 He also founded Physicians for Social Responsibility, the Committee for Health in South Africa, and the Medical Committee for Human Rights, among others. And he was the Arthur C. Logan Professor Emeritus of Community Medicine at the City University of New York Medical School when I interviewed him.

3 Martha J. Bailey and Andrew Goodman-Bacon, "The War on Poverty's Experiment in Public Medicine: Community Health Centers and the Mortality of Older Americans," *NBER Working Paper* no. 20653 (Boston: National Bureau of Economic Research, 2014).

4 COPC became the central organizing principle of the Kupat Holim Health Insurance Institution—Israel's biggest health insurance scheme—in the 1960s, 1970s, and 1980s. Since 1995, when the government mandated that all Israelis have health insurance, it has become an integral part of all health insurance schemes. J. D. Kark and J. H. Abramson, "Sidney Kark's Contributions to Epidemiology and Community Medicine," *International Journal of Epidemiology* 32, no. 5 (2003): 882–84; Michal Shani et al., "International Primary Care Snapshots: Israel and China," *British Journal of General Practice* 65, no. 634 (2015): 250–51.

5 For example, see H. Jack Geiger, "Community-Oriented Primary Care: A Path to Community Development," *American Journal of Public Health* 92, no. 11 (2002): 1713–16; S. M. Tollman and W. M. Pick, "Roots, Shoots, but Too Little Fruit: Assessing the Contribution of COPC in South Africa," *American Journal of Public Health* 92, no. 11 (2002): 1725–28.

6 The university put this social medicine practice into effect along with the Ugandan government, as the university established the Kasangati Health Center. As was the case in Pholela, the staff used the health center's eighteen-square-mile "Designated Area" as a "laboratory for community medicine," and as a place to teach medical students how to practice community medicine. George Mondo Kagonyera, "Research and Innovations in Makerere University and Prospects for Strategic Partnerships between Makerere/Uganda and Unisa/South Africa" (Kampala, Uganda: Makerere University, 2013).

7 Other students of the program have gone to places like Spain, Colombia, the UK, Uruguay, and beyond, to help establish community health centers bringing COPC to the poor the world over. And still more programs have developed at universities around the world, including a residency program in COPC at Canada's McGill University Medical School.

8 Along with other South Africans from the health center movement such as Harry Phillips, Eva Salber (at Duke), Cecil Slome (the third medical director of the PCHC), and Guy Steuart, many of whom had spent time in Pholela, John Cassel established UNC as one of the world leaders in social epidemiology and social medicine. Norman Scotch, an anthropologist and public health expert who completed a postdoctoral fellowship at the Institute for Family and Community Health in Durban working in part in Pholela, became dean of public health at Boston University, infusing that program with concerns about social life and social epidemiology. Zina Stein and Mervyn Susser, who had completed a short course in Pholela when they were medical students at the University of the Witwatersrand in Johannesburg, moved first to England, where they taught epidemiology at Manchester University, and then to Columbia University, where they established a leading program in social epidemiology.

9 In using the term *traditional healing*, I am following the lead of Stacey Langwick, who recognizes the downsides of the term and yet uses it because of its broad recognition and resonance. In a footnote to an article about the simultaneous use of traditional medicine and biomedicine, Langwick writes, "Referring to 'traditional' and 'modern' medicine is a historically fraught proposition. 'Traditional' medicine emerged in relation to the spread of biomedicine in eastern Africa. It has served as a catchall category indexing forms of healing, kinds of affliction, and types of experts that were not officially included in missionary or colonial health care. Traditional medicine, then, is all that is not modern medicine, or biomedicine. This initial collapsing of diverse healing practices into the category of traditional medicine undoubtedly did violence to forms of difference that were salient in colonial Tanganyika, but today references to traditional medicine are widespread. As the category has gained epistemic and bureaucratic weight over time, healers themselves have come to organize around their common commitment to and practice of traditional medicine. The contemporary life of the phrase traditional medicine does not make such references any less fraught, but it does make them important sites of inquiry." Stacey A. Langwick, "Articulate(d) Bodies: Traditional Medicine in a Tanzanian Hospital," *American Ethnologist* 35, no. 3 (2008): 437.

Introduction: Social Medicine from Pholela

1 In accordance with the Institutional Review Board, I have given all named research participants pseudonyms. I collected pseudonyms in consultation with the people who populate these pages, and in some instances research participants chose their own names. I did this in part because in Zulu, names reveal much about both the lineage of a person and where they are from. As such, Thokozile,

my research assistant and collaborator, and I thought it best to keep the names local, so to speak, so that readers familiar with this naming practice would be able to make sense of these names and their geography. In addition, I have given all communities pseudonyms to further protect research participants, and when attributing specific pieces of sensitive information or ideas to interviews I often omit the names of interviewees. Most interviews were conducted in Zulu and translated by the author with Thokozile Nguse. For a critical look at the practice of using pseudonyms, see Nancy Scheper-Hughes, "Ire in Ireland," *Ethnography* 1, no. 1 (2000): 117–40.

2 I've written elsewhere about "these diseases" in an article about TB and HIV. Abigail H. Neely, "Internal Ecologies and the Limits of Local Biologies: A Political Ecology of Tuberculosis in the Time of AIDS," *Annals of the Association of American Geographers* 105, no. 4 (2015): 791–805.

3 National Library of Medicine, "Community Health: A Model for the World," https://apps.nlm.nih.gov/againsttheodds/exhibit/community_health/model_world.cfm.

4 One of the most important and influential texts about racial capitalism is Cedric Robinson's *Black Marxism.* I go into this in more detail in chapter 3. Cedric J. Robinson, *Black Marxism: The Making of the Black Radical Tradition* (Chapel Hill: University of North Carolina Press, 2000).

5 Theodore M. Brown and Elizabeth Fee, "Rudolf Carl Virchow: Medical Scientist, Social Reformer, Role Model," *American Journal of Public Health* 96, no. 12 (2006): 2104–5.

6 Bertram Lord Dawson, "Interim Report on the Future Provision of Medical and Allied Services" (London: Ministry of Health, Consultative Council on Medical and Allied Services, 1920); N. T. A. Oswald, "A Social Health Service without Social Doctors," *Social History of Medicine* 4, no. 2 (1991): 295–315.

7 Henry E. Sigerist, *Socialized Medicine in the Soviet Union* (New York: W. W. Norton, 1937).

8 Thomas McKeown, "Determinants of Health," *Life* 60, no. 40 (1978): 3.

9 Sidney Kark and Emily Kark, *Promoting Community Health: From Pholela to Jerusalem* (Johannesburg: University of the Witwatersrand Press, 1999).

10 Victor W. Sidel, "The Barefoot Doctors of the People's Republic of China," *New England Journal of Medicine* 286, no. 24 (1972): 1292–1300.

11 For a critique of this focus, see Abigail H. Neely and Alex M. Nading, "Global Health from the Outside: The Promise of Place-Based Research," *Health and Place* 45(2017); China Scherz, "Stuck in the Clinic: Vernacular Healing and Medical Anthropology in Contemporary Sub-Saharan Africa," *Medical Anthropology Quarterly* 32, no. 4 (2018): 55–63.

12 The *American Journal of Public Health* dedicated most of an issue to detailing the story of COPC as rooted in Pholela. "Community Oriented Primary Care," *American Journal of Public Health* 92, no. 11 (2002).

13 Patrick Wolfe, *Settler Colonialism and the Transformation of Anthropology* (London: Cassell, 1999).

14 See figure P.1 in the preface.

15 Leonard Monteath Thompson, *A History of South Africa*, 3rd ed. (New Haven, CT: Yale University Press, 2001), 297.

16 Dorrit Posel, "How Do Households Work? Migration, the Household and Remittance Behaviour in South Africa," *Social Dynamics* 27, no. 1 (2001): 165–89; Cherryl Walker, *Women and Gender in Southern Africa to 1945* (Cape Town: David Philip, 1990).

17 Pholela had the second highest recorded level of labor migration in the country.

18 Steven Feierman offers an explanation of different illness categories, which seems to hold across various Bantu-speaking peoples. He notes that there are three categories of illness as well, though he refers to the category I have named illnesses that "just happen" as "illnesses from God." My choice of term follows from Harriet Ngubane's work on Zulu health and healing. I have chosen to call these illnesses that "just happen" because in my time in Pholela I never heard anyone refer to them as illnesses from God. While it is true that people would attribute many things to God, including illness in general, there was not a specific category as laid out in the framework here. Further, the idea of an illness that "just happens"—its lack of intentionality, and the element of surprise—seems most closely aligned with the spirit of this type of illness. Nonetheless, I owe a great intellectual debt to Steven Feierman and to other scholars like John Janzen for contributing to the framework I employ here for health and healing. Steven Feierman, "Struggles for Control: The Social Roots of Health and Healing in Modern Africa," *African Studies Review* 28, nos. 2–3 (1985): 73–147; Steven Feierman, "Explaining Uncertainty in the Medical World of Ghaambo," *Bulletin of the History of Medicine* 74 (2000): 317–44; Steven Feierman and John M. Janzen, eds., *The Social Basis of Health and Healing in Africa* (Berkeley: University of California Press, 1992); Harriet Ngubane, *Body and Mind in Zulu Medicine: An Ethnography of Health and Disease in Nyuswa-Zulu Thought and Practice* (London: Academic Press, 1977).

19 Health center doctors lumped both witchcraft and ancestor illnesses into a category they called "psychosocial" illnesses. This was their attempt to offer a scientific rationale to a category of illness they had no other way of explaining. That said, it is significant that they mentioned both ancestor and witchcraft illnesses, since their records offer documentary evidence that both were present in Pholela. 1944 PCHC Annual Report, National Archives Repository, Pretoria (SAB), Department of Health files (GES), vol. 1917, ref. 46/32; John Cassel, "A Comprehensive Health Program among South African Zulus," in *Health, Culture, and Community: Case Studies of Public Reactions to Health Programs*, ed. Benjamin D. Paul and Walter B. Miller (New York: Russell Sage Foundation, 1955); Kark and Kark, *Promoting Community Health*; Sidney L. Kark and Guy W. Steuart, *A Practice of Social Medicine: A South African Team's Experiences in Different African Communities* (Edinburgh: E. & S. Livingstone, 1962).

20 There is a burgeoning body of literature on political ecologies of health. For a good introduction, see Paul Jackson and Abigail H. Neely, "Triangulating Health toward a Practice of a Political Ecology of Health," *Progress in Human Geography* 39, no. 1 (2015): 47–64; Brian King, "Political Ecologies of Health," *Progress in Human*

Geography 34, no. 1 (2010): 38–55; Julie Guthman and B. Mansfield, "Nature, Difference and the Body," in *The Routledge Handbook of Political Ecology*, ed. Tom Perreault, Gavin Bridge, and James McCarthy, 558–70 (New York: Routledge, 2015); Brian King, "Political Ecologies of Disease and Health," in *The Routledge Handbook of Political Ecology*, ed. Tom Perreault, Gavin Bridge, and James McCarthy, 297–313 (New York: Routledge, 2015).

21 I explore the idea of entanglement and its usefulness for understanding health in chapter 4.

22 I take a lot of inspiration from Karen Barad's work. For example, see Karen Barad, "Posthumanist Performativity: Toward an Understanding of How Matter Comes to Matter," *Signs* 28, no. 3 (2003): 801–31; Karen Barad, *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning* (Durham, NC: Duke University Press, 2007).

23 The importance of relationships to the production of science is not new. I go into this in more detail in chapter 2. More specific to the question of medicine, medical anthropologists have long offered a critical look at biomedicine and how it is enacted, taught, and understood, recognizing it as socially constructed. For example, in her examination of the first medical school in Malawi, Claire Wendland demonstrates that far from the universal medical education one might expect from a school modeled on and accredited by institutions in the Global North, this medical school is deeply shaped by poverty, inequality, and traditional healing systems that students have experience with. The result is a Malawi-specific, or at least sub-Saharan African–specific biomedicine. Wendland, like many scholars of postcolonial medicine, teaches us that biomedicine and science more generally are culturally and geographically local. As we will see, and as was the case in Malawi, the social medicine developed by the PCHC was deeply shaped by the communities, homesteads, and people of Pholela. Sandra Harding, "Postcolonial and Feminist Philosophies of Science and Technology: Convergences and Dissonances," *Postcolonial Studies* 12, no. 4 (2009): 403; Claire L. Wendland, *A Heart for the Work: Journeys through an African Medical School* (Chicago: University of Chicago Press, 2010). For further examples, see Donna J. Haraway, *Simians, Cyborgs, and Women: The Reinvention of Nature* (New York: Routledge, 1991); Donna J. Haraway, *Primate Visions: Gender, Race, and Nature in the World of Modern Science* (New York: Psychology Press, 1989); Donna J. Haraway, *When Species Meet* (Minneapolis: University of Minnesota Press, 2008); Byron J. Good, *Medicine, Rationality and Experience: An Anthropological Perspective* (Cambridge, MA: Cambridge University Press, 1993). Also see Barad, *Meeting the Universe Halfway*, for an excellent analysis of the role of scientific apparatuses in the production of scientific knowledge and worlds.

24 My particular orientation to world making is rooted in debates about nature and society. I find these debates useful for two reasons: First, they led to or enabled a renewed interest in the material world, accounting for the relationships between humans and nonhumans within social theory and the social sciences. Building from this base, perhaps the single most important insight of this scholarship is that nature and society have always existed in relationship to one another,

and further that it was post-Enlightenment science that sought to (artificially) separate them. There are two major approaches to understanding nonhuman agency in science studies: actor-network theory and assemblages. Along with John Law, Michel Callon, and others, Bruno Latour developed ANT in order to understand the role of nonhumans like animals and bacteria in the production of science. In this theory, various actants (a term significant for its openness to nonhuman actors) are assembled in a network through which they are connected to each other. Their actions, intentional or not, affect the other members in the network in ways that are both predictable and unpredictable. Each actant is therefore shaped by the other actants both directly and indirectly, as causality in the network emerges relationally. Most importantly, ANT is processual, focusing on new actors and new ways of acting; it is fundamentally interested in agency and change, where agency is distributed among actants and change is cumulative. While the different actants matter, their relationships matter more, as all action, all agency, emerges through the network. An ANT approach could be valuable for understanding the health center's program to remake homesteads (the subject of chapter 3).

While this is useful for thinking relationally, a number of scholars have critiqued ANT for its flatness, which obfuscates power differences, for the fact that it doesn't sufficiently account for the researcher, and for the fact that it focuses on the collective, often at the expense of the individual. Drawing on the work of Deleuze and Guattari, a number of scholars offer the assemblage as an alternative way to think about worlds, agency, and causality relationally. In this thinking, all entities—assemblages and their component parts—are relational. These assemblages are heterogeneous and productive—they act in the world—and they are more than their parts. Put another way, assemblages are parts and wholes, which hold together through difference. As Anderson et al. write, "Assemblage privileges processes of formation and does not make a priori claims about the form of relational configurations or formations" (176). Assemblages are about the coming together—their relationships. Much as in an actor-network, assemblages are made up of distinct elements, all of which have the same ontological status at the start. Unlike ANT scholars, however, scholars who work through assemblages often trace power hierarchies, which emerge through the organization of and relationships in the assemblages. As a result, they see power differences as the result of relationships and as constitutive of relationships. The result is that questions of power are embedded in assemblages in a way that they are not in ANT. One aspect of assemblages that I find particularly useful for understanding health, healing, and social life is the focus on relationships and process without detailing causal pathways. (This is different from ANT, where relationships are mapped in a network.) In this way, an assemblage is valuable for understanding illness as always social and biological. Another valuable aspect of assemblage thinking is that a number of scholars see assemblages as an ethos of engagement, as a way to think about what might be possible rather than simply what is. This focus on engagement with the world opens up new ways to think about and understand worlds.

While valuable, for our purposes in understanding the worlds of health and healing that Pholela's residents occupied, assemblages also have their limitations. Most important is that though all action is relational and components change over time, assemblages retain their distinct, *individual* components. While the components at the end might not be the same as the components at the beginning, they retain some of their distinctiveness. While helpful, I find that this fidelity to individual elements does not fit perfectly with thinking through witchcraft, nor with thinking about research. Ben Anderson et al., "On Assemblages and Geography," *Dialogues in Human Geography* 2, no. 2 (2012): 171–89. Some key texts from these debates include Bruce Braun and Noel Castree, *Remaking Reality: Nature at the Millenium* (London: Routledge, 2005); William Cronon, *Uncommon Ground: Rethinking the Human Place in Nature* (New York: W. W. Norton, 1996); Carolyn Merchant, *The Death of Nature: Women, Ecology, and Scientific Revolution* (San Francisco: HarperSanFrancisco, 1981); Raymond Williams, "Ideas of Nature," in *Nature: Critical Concepts in the Social Sciences*, vol 1: *Thinking the Natural*, ed. David Inglis, John Bone, and Rhoda Wilkie, 47–62 (London: Routledge, 2005); Bruno Latour, *We Have Never Been Modern* (Cambridge, MA: Harvard University Press, 2012); Gilles Deleuze and Félix Guattari, *Anti-Oedipus* (London: A&C Black, 2004); Gilles Deleuze and Félix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia*, translated by B. Massumi (Minneapolis: University of Minnesota Press, 1987); Martin Müller, "Assemblages and Actor-Networks: Rethinking Socio-Material Power, Politics and Space," *Geography Compass* 9, no. 1 (2015): 27–41; Beth Greenhough, "Assembling an Island Laboratory," *Area* 43, no. 2 (2011): 134–38; Colin McFarlane and Ben Anderson, "Thinking with Assemblage," *Area* 43, no. 2 (2011): 162–64. Sarah Whatmore, *Hybrid Geographies: Natures, Cultures, Spaces* (London: SAGE, 2002). See also Sarah Whatmore, "Materialist Returns: Practising Cultural Geography in and for a More-Than-Human World," *cultural geographies* 13, no. 4 (2006): 600–609.

25 Using the example of epigenetics and toxins, Becky Mansfield and Julie Guthman reveal that the boundaries between bodies and their environments are never hard and fast; rather, they are imbricated in one another. Julie Guthman and Becky Mansfield, "The Implications of Environmental Epigenetics: A New Direction for Geographic Inquiry on Health, Space, and Nature-Society Relations," *Progress in Human Geography* 37, no. 4 (2013): 486–504; Guthman and Mansfield, "Nature, Difference, and the Body"; Becky Mansfield, "Race and the New Epigenetic Biopolitics of Environmental Health," *BioSocieties* 7, no. 4 (2012): 352–72; Becky Mansfield and Julie Guthman, "Epigenetic Life: Biological Plasticity, Abnormality, and New Configurations of Race and Reproduction," *cultural geographies* 22, no. 1 (2014): 3–20. See also Heidi Eileen Hausermann, "'I Could Not Be Idle Any Longer': Buruli Ulcer Treatment Assemblages in Rural Ghana," *Environment and Planning A* 47, no. 10 (2015): 2204–20; Becky Mansfield, "Environmental Health as Biosecurity: 'Seafood Choices,' Risk, and the Pregnant Woman as Threshold," *Annals of the Association of American Geographers* 102, no. 5 (2012): 969–76; Neely, "Internal Ecologies and the Limits of Local Biologies"; Becky Mansfield, "Health as a

Nature-Society Question," *Environment and Planning A* 40 (2008): 1015–19. For those unfamiliar with political ecology, the following provide a useful introduction: Raymond L. Bryant, *The International Handbook of Political Ecology* (Cheltenham, UK: Edward Elgar, 2015); Tom Perreault, Gavin Bridge, and James McCarthy, eds., *The Routledge Handbook of Political Ecology* (New York: Routledge, 2015); Paul Robbins, *Political Ecology: A Critical Introduction* (Malden, MA: Wiley-Blackwell, 2012); Dianne Rocheleau, Barbara Thomas-Slayter, and Esther Wangari, *Feminist Political Ecology: Global Issues and Local Experience* (New York: Routledge, 2013).

26 Robin D. G. Kelley, "What Did Cedric Robinson Mean by Racial Capitalism?," *Boston Review*, January 12, 2017; Robinson, *Black Marxism.*

27 Mark Hunter, "The Materiality of Everyday Sex: Thinking beyond 'Prostitution,'" *African Studies* 61, no. 1 (2002): 99–120; Mark Hunter, *Love in the Time of AIDS: Inequality, Gender, and Rights in South Africa* (Bloomington: Indiana University Press, 2010).

28 Stacy Leigh Pigg, "The Credible and the Credulous: The Question of 'Villagers' Beliefs' in Nepal," *Cultural Anthropology* 11, no. 2 (1996): 160–201. See also Patricia Henderson's work on AIDS and its impact on social and economic life: Patricia C. Henderson, "The Vertiginous Body and Social Metamorphosis in a Context of HIV/AIDS," *Anthropology Southern Africa* 27, nos. 1–2 (2004): 43–53; Patricia C. Henderson, *AIDS, Intimacy and Care in Rural Kwazulu-Natal: A Kinship of Bones* (Amsterdam: Amsterdam University Press, 2011).

29 Langwick argues that medical pluralism is insufficient for understanding different regimes of healing because it requires strict boundaries between them. She uses therapeutic objects and the practices through which they are used, take on meaning, and heal as a way to understand difference and overlap. My argument is slightly different, focusing on the ontology of witchcraft to rethink the meaning of health and illness (as opposed to healing). Stacey Ann Langwick, *Bodies, Politics, and African Healing: The Matter of Maladies in Tanzania* (Bloomington: Indiana University Press, 2011).

30 Feminist science studies and relational approaches more generally offer a way to understand the relationships between the biology and social life that make up health. In other words, they offer a nonbinary way of understanding health, offering a relational approach as an alternative to an understanding of health based on the separation of the biomedical and social sciences. For these scholars everything is relational—there are no distinct individual elements. As Donna Haraway writes, "Beings do not preexist their relatings." Donna J. Haraway, *The Companion Species Manifesto: Dogs, People, and Significant Otherness*, vol. 1 (Chicago: Prickly Paradigm, 2003), 6. See also Karen Barad, "Posthumanist Performativity"; Barad, *Meeting the Universe Halfway*; Haraway, *When Species Meet*; Whatmore, *Hybrid Geographies*; Whatmore, "Materialist Returns."

More specific to health, Margaret Lock and other anthropologists developed a particularly useful concept: local biologies. This concept asserts that the biology of health and illness is always entangled with the culture of a place; biology is local. For a further explanation, see P. Sean Brotherton and Vinh-Kim Nguyen,

"Revisiting Local Biology in the Era of Global Health," *Medical Anthropology* 32, no. 4 (2013): 287–90; Margaret Lock, *Encounters with Aging: Mythologies of Menopause in Japan and North America* (Berkeley: University of California Press, 1993); Margaret Lock, "The Tempering of Medical Anthropology: Troubling Natural Categories," *Medical Anthropology Quarterly* 15, no. 4 (2001): 487–92; Margaret Lock and Patricia Kaufert, "Menopause, Local Biologies, and Cultures of Aging," *American Journal of Human Biology* 13, no. 4 (2001): 494–504; Neely, "Internal Ecologies and the Limits of Local Biologies."

31 Stacey A. Langwick, "Articulate(d) Bodies: Traditional Medicine in a Tanzanian Hospital," *American Ethnologist* 35, no. 3 (2008): 428–39.

32 Just as I do, Langwick draws heavily from the work of Annemarie Mol. The idea of "ontological coordination" comes from her explanation of Mol's ethnography on arteriosclerosis in which the body multiple—the multiple bodies at work in diagnosis, treatment, and living with arteriosclerosis—offer "moments of ontological coordination," in Langwick's words. She draws on this idea developed around the body to think about the other objects of therapeutic practices and the landscapes from whence they come. Langwick, *Bodies, Politics, and African Healing*, 23. See also Annemarie Mol, *The Body Multiple: Ontology in Medical Practice* (Durham, NC: Duke University Press, 2002).

33 I offer a more complete argument about overlapping ontologies in an article about using objects to understand multiplicity. Abigail H. Neely, "Worlds in a Bottle: An Object-Centered Ethnography for Global Health," *Medicine Anthropology Theory* 6, no. 4 (2019): 127–41. In addition, see Marisol de la Cadena, "Indigenous Cosmopolitics in the Andes: Conceptual Reflections beyond 'Politics,'" *Cultural Anthropology* 25, no. 2 (2010): 334–70; Marisol de la Cadena, *Earth Beings: Ecologies of Practice across Andean Worlds* (Durham, NC: Duke University Press, 2015); Langwick, *Bodies, Politics, and African Healing.*

34 Scherz, "Stuck in the Clinic."

35 I take inspiration from Sandra Harding's work on feminist and postcolonial STS for this point. As Harding writes, "[F]eminism and postcolonialism both argue in effect that how we live together both enables and limits what we can know, and vice versa. Thus when new kinds of persons 'step on the stage of history' to rearticulate how they see themselves and the world, new kinds of sciences, philosophies of science, and epistemologies are both generated and also relied on by their listeners." Harding, "Postcolonial and Feminist Philosophies of Science and Technology," 403.

36 Vandana Shiva, *Biopiracy: The Plunder of Nature and Knowledge* (Berkeley, CA: North Atlantic, 2016), 8. See also Anne Pollock and Banu Subramaniam, "Resisting Power, Retooling Justice: Promises of Feminist Postcolonial Technosciences," *Science, Technology, and Human Values* 41, no. 6 (2016): 951–66; Angela Willey, "A World of Materialisms: Postcolonial Feminist Science Studies and the New Natural," *Science, Technology, and Human Values* 41, no. 6 (2016): 991–1014.

37 These community names are pseudonyms, chosen by people in the communities.

38 Thokozile and I have written about our experience conducting research and the

relationships that shape our practice elsewhere. Abigail H. Neely and Thokozile Nguse, "Relationships and Research Methods: Entanglements, Intra-Actions, and Diffraction," *The Routledge Handbook of Political Ecology*, ed. Tom Perrault, Gavin Bridge, and James McCarthy, 140–49 (London: Routledge, 2015).

39 Sarah Hunt, "Ontologies of Indigeneity: The Politics of Embodying a Concept," *cultural geographies* 21, no. 1 (2014): 27–32.

40 For examples, see A. T. Bryant, *A History of the Zulu and Neighbouring Tribes* (Cape Town: C. Struik, 1964); A. T. Bryant, *Zulu Medicine and Medicine-Men* (Cape Town: C. Struik, 1966); W. D. Hammond-Tooke, *Rituals and Medicines: Indigenous Healing in South Africa* (Johannesburg: Ad. Donker, 1989); W. D. Hammond-Tooke and Isaac Schapera, *The Bantu-Speaking Peoples of Southern Africa*, 2nd ed. (London: Routledge and Kegan Paul, 1974); Eileen Jensen Krige, *The Social System of the Zulus*, 3rd ed. (Pietermaritzburg: Shuter and Shooter, 1957); Monica Wilson, *Reaction to Conquest: Effects of Contact with Europeans on the Pondo of South Africa* (London: Oxford University Press, 1936).

41 For example, see Sidney L. Kark, *Epidemiology and Community Medicine* (New York: Appleton-Century-Crofts, 1974); Sidney L. Kark, *The Practice of Community-Oriented Primary Health Care* (New York: Appleton-Century-Crofts, 1981); Kark and Steuart, *A Practice of Social Medicine.*

42 Here I follow Karen Barad, who uses "matter" and "meaning" to articulate the relationships she is interested in in the production of science and worlds. Barad, *Meeting the Universe Halfway.*

43 Donna J. Haraway, *Modest_Witness@Second_Millennium.Femaleman©_Meets _Oncomouse™: Feminism and Technoscience* (New York: Routledge, 1997), 273.

44 Barad, "Posthumanist Performativity," 823.

45 Barad, "Posthumanist Performativity"; Barad, *Meeting the Universe Halfway*; "Interview with Karen Barad," in *New Materialism: Interviews and Cartographies*, ed. Rick Dolphijn and Iris van der Tuin, 48–70 (Ann Arbor, MI: Open Humanities Press).

46 This is, of course, old hat for people who conduct ethnographic research and feminist scholars more broadly. For example, see Sharlene Mollett, "Mapping Deception: The Politics of Mapping Miskito and Garifuna Space in Honduras," *Annals of the Association of American Geographers* 103, no. 5 (2013): 1227–41; Gillian Rose, "Situating Knowledges: Positionality, Reflexivities and Other Tactics," *Progress in Human Geography* 21, no. 3 (1997): 305–20; Farhana Sultana, "Reflexivity, Positionality and Participatory Ethics: Negotiating Fieldwork Dilemmas in International Research," *ACME: An International E-Journal for Critical Geographies* 6, no. 3 (2007): 374–85; Juanita Sundberg, "Masculinist Epistemologies and the Politics of Fieldwork in Latin Americanist Geography," *Professional Geographer* 55, no. 2 (2003): 180–90.

47 Thokozile and I wrote a piece about research as diffraction. Neely and Nguse, "Entanglements, Intra-Actions, and Diffraction."