Atomic Junction

After Atomic Junction, along the Haatso-Atomic Road there lies the Ghana Atomic Energy Commission, home to Africa's first nuclear program after independence. Traveling along this road, Abena Dove Osseo-Asare gathers together stories of conflict and compromise on an African nuclear frontier. She speaks with a generation of African scientists who became captivated with "the atom" and studied in the Soviet Union to make nuclear physics their own. On Pluton Lane and Gamma Avenue, these scientists displaced quiet farming villages in their bid to establish a scientific metropolis, creating an epicenter for Ghana's nuclear physics community. By placing interviews with town leaders, physicists, and local entrepreneurs alongside archival records, Osseo-Asare explores the impact of scientific pursuit on areas surrounding the reactor, focusing on how residents came to interpret activities on these "Atomic Lands." This combination of historical research and personal and ethnographic observations shows how Ghanaians now stand at a crossroads, where some push to install more reactors, whilst others merely seek pipe-borne water.

ABENA DOVE OSSEO-ASARE is Associate Professor in the Department of History at the University of Texas at Austin, holds a secondary appointment as an Associate Professor in the Department of Population Health at UT's Dell Medical School, and is a serving member of the editorial boards of *Endeavour* and *Social History of Medicine*. She is the author of *Bitter Roots: The Search for Healing Plants in Africa* (2014), which was awarded the Melville J. Herskovits Prize in African Studies and the American Historical Association Pacific Coast Branch Book Prize.

Atomic Junction

Nuclear Power in Africa after Independence

ABENA DOVE OSSEO-ASARE
University of Texas at Austin

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Have no fear for atomic energy
'Cause none of them can stop the time

Bob Marley, *Redemption Song*
(Island Records, 1980)

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Preface: Nuclear Reveries

I first learned about Ghana's nuclear ambitions from my father and his friends. I half-remember an evening in State College, Pennsylvania when I was a child. Ghana had fallen into the grip of yet another military dictatorship and many of the country's intellectuals had taken flight to distant, snowy lands. My father taught materials science and engineering at Pennsylvania State University. That night, some Ghanaian researchers and their families had come for dinner and I overheard a heated discussion as I fell asleep. The next day, my father was laughing. He could not believe that with all of the economic and political problems at home, some of his friends were still fixated on bringing nuclear reactors to Ghana to generate electricity. I learned early on that African countries had the intellectual capacity – the first scientists and mathematicians I met were from Rwanda, Kenya, Nigeria, and Ghana – to have nuclear dreams. But, with near-famine conditions across the continent in the early 1980s, it seemed unethical to devote finite financial resources to such an expensive vision. My childhood visits to Ghana were tinged with shock at visible food scarcity, crumbling infrastructure, and beaten-down cars.

Many years later, I spent a summer back in Ghana with my brother Dankwa in 2004. He was staying at a friend's house in Haatso, a suburb outside of the capital city, Accra. I had lived in Accra on previous occasions, but I had never stayed in this part of the city. Haatso and its environs were in transition. Wealthy families were building large, impressive mansions. Many of these lavish homes were incomplete. Inside the dark structures, often lacking pipe-borne water or electricity, families came to "squat." They strung up vibrant fabric curtains to demarcate their makeshift homes, burning mosquito coils all night to keep the insects at bay.

I often found myself passing along the Haatso-Atomic Road, which terminated in a nexus of roadways popularly called "Atomic Junction." Along the way, sharply pointed iron fixtures emerged from tall grasses,

shielding a long winding boulevard onto the hidden campus of the Ghana Atomic Energy Commission. Drivers of minibuses crammed with passengers whizzed through Haatso, Madina, and surrounding suburbs announcing their destination, "Atomic, Atomic, Atomic." Local entrepreneurs had added "Atomic" to the names of the pharmacy, clinic, gas station, and other businesses nearby. Slowly, the adjective "Atomic" had become a geographic designator for an emerging suburb, evoking the dawn of an African nuclear age.

What was the Ghana Atomic Energy Commission, and what did people do there? I began discussing my interest in the organization with family and friends, at church, and over meals. In 2006, after posing dutifully in photographs with my new husband for family at Christmastime, I stayed in Accra a couple of extra weeks and arranged to meet with some of the scientists who worked at the Ghana Atomic Energy Commission. On my first day, I watched as the driver of the taxi I had hired went in circles in his bid to find the place. "The Commission, the Commission, it is a law firm, correct?" he asked nervously. When we finally reached the gates, he was shocked when I mentioned to the guard that I had an appointment with the Director and he opened the gates. We were in.

One thing I hoped to do was take a look at the reactor itself. At the center of the pretty campus with rolling lawns and trim hedges there stood a tall-story building with no glass over the windows. It was completely empty inside, with wind and dust blowing through. I soon learned that the reactor was not in this ghostly, uncompleted structure, even though many outside the gates thought it was. Rather, I was told to check for a small single-story building off to the side.

Along the path to this unassuming office block, I met a slim man named Kofi Anim-Sampong. I gave him my card and he started to laugh. Was I the same Osseo-Asare as the family living in Pennsylvania? He had done a short course on nuclear engineering there and recalled fondly the soups my mother prepared for him during his stay. He had been so surprised that a white lady could manufacture such excellent Ghanaian food! How were my parents? What brought me to the Commission that day? In fact, he was the scientist in charge of the reactor and would be happy to give me a look round and introduce me to his team.

Inside, I put on a badge to monitor radiation exposure. We stepped across the hall to meet several technicians working with computers

Figure 0.1 Kofi Anim-Sampong (r) and colleague with the GHARR-1 (*Source*: author photo)

connected to the reactor. "How did Ghana get a reactor, again?" I queried my host. "It was provided by China in 1994 – see, the manuals the men are looking through are mostly in Chinese." He kindly took me inside to look at the reactor itself. The walls were built so that they would fall in such a way as to contain radiation should there be an accident there. The reactor was in the floor, behind a round metal wall with the Commission motif similar to the ones on the campus gates above the word "GHARR-1," for Ghana Research Reactor Number One. It looked like a bunch of tubes connected to metal boxes floating in a little pond. We took a few photos, me alone in a turquoise-and-brown striped shirt I got at Urban Outfitters in Harvard Square before my holiday trip leaning against the gate, a couple of us together, the scientists in white lab coats (Figure 0.1). Afterwards, we had lunch in the staff cafeteria across the lawn. I learned that day that nuclear power could be simultaneously secretive and very mundane.

As this book details, Ghanaian scientists have nurtured nuclear dreams since the middle of the twentieth century. They transformed a rural farming community into the hub of Ghana's nuclear enterprise.

The creation of the Atomic-Haatso Road, culminating in the Atomic Junction interchange, carved out a new path for physicists to reach the laboratories of the Ghana Atomic Energy Commission. From here, these scientists moved around the world, seeking access to nuclear technology. They initially learned physics in Russian and courted the Soviet Union, then Germany, then the United States, then China for a reactor. During the long wait for a fission facility, the Commission sent out technicians to monitor radiation at X-ray machines around the country. And they became favored representatives from Africa at inspections of the International Atomic Energy Agency throughout the world.

Meanwhile, the neighborhoods along the Haatso-Atomic Road expanded to breaking point, building up pressure at the perimeter of the expansive grounds for the Commission that first President Kwame Nkrumah's regime expropriated in the 1960s. This pressure culminated most recently in an actual explosion. At Atomic Junction itself, several kilometers from the reactor, a petrol tanker caught fire as it was offloading fuel at a station. The tanker exploded, setting fire to a cooking gas depot next door along the busy Haatso-Atomic Road. Seven people were killed and at least 68 injured in the short time it took for the Atomic Fire Brigade to respond. A spectacular orange mushroom-shaped cloud loomed over the suburb, showing that despite occasional fears about the risks of siting a small low-power nuclear reactor in the area, poor regulation of petrol stations was a more pressing worry for the country. *Atomic Junction* is an African dream-story where scientists manage the risks and benefits of nuclear power in an ever-changing, chaotic postcolonial city.

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The staff of the Ghana Public Records and Archives Administration (PRAAD) made this project possible through their endless support locating and scanning documents for me. I especially thank search room head Bright Botwe for his close attention to my research over many years and director Felix Ampong for his warm enthusiasm and hospitality since 2002. My gratitude also goes to Killian Onai, formerly of PRAAD, who continued to support me in his capacity as archivist at the University of Ghana, Legon.

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Abbreviations

DRC	Democratic Republic of the Congo
GAEC	Ghana Atomic Energy Commission
GHARR-1	Ghana Research Reactor Number One
IAEA	International Atomic Energy Agency
SNAS	School of Nuclear and Allied Sciences
UK	United Kingdom
UCGC	University College of the Gold Coast
US	United States of America
USSR	Union of Soviet Socialist Republics