# Media Ruins

## Cambodian Postwar Media Reconstruction and the Geopolitics of Technology

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# INTRODUCTION: INFRASTRUCTURAL RESTITUTION

On a sunny and hot Phnom Penh Saturday morning in August 2017, I parked my motorbike at the Royal University of Fine Arts (RUFA) to join a heritage cinema tour. The organizers were the youth group Roung Kon ("cinema"), and our tour guide introduced herself as Kagna, a recent architecture graduate. She planned for us to visit twelve of the most famous pre-1975 cinemas; none of these was still running as a cinema and all rested in various states of demolition. We started our walk at the nearby Cinéstar, the remains of an early twentieth-century cinema. The roofless shell of a building held a line of colorful clothes, a brush and bucket for washing, an unused food cart, a plastic chair, a few bicycles, and a very large palm tree growing out of the concrete floor. Above a wall-less room (what was once a functional washroom) in the far corner of the building, a three-meter by four-meter block of white was painted onto the old cement. Here a graffiti artist had rendered a blue-tone portrait of a young girl. Her eyes look up, her mouth is slightly open, and her hair, parted to the side with a swept-away bang, shadows the left side of her face. She looks surprised or afraid. She might even be watching a scary moment in a film.

For the members of Roung Kon, revisiting these sites was critical for their generation; they were important social and cultural spaces during the "golden age," the extraordinary time of the arts in Cambodia after independence from France (1953) but before the worst of the civil war (1970–1975) and Khmer Rouge regime (1975–1979). "Neighborhoods are even known by old cinemas," Kagna explained. These cinemas were symbols of meaningful memories of entertainment and the arts. Another member of the group, Daro, later told me that he imagined older people walking past these spaces and thinking about the happy times they had there. "I don't have the memories [myself], but I can feel them." The mystery around the

cinemas drew Roung Kon in. "Most of the cinemas are gone but we can see some structures that still exist. We want to know more about them," Daro said.

Once these cinemas represented refuge: spaces to build social, in-person networks of trust, entertainment, and joy, critical in the tumultuous political history of Cambodia. These kinds of spaces were needed again in the years of 2017 and 2018. In a rapidly urbanizing Phnom Penh, heritage buildings like these were being torn down at a rapid pace. Casinos were being built in lieu of public, state-sponsored cultural or green space. Cambodia had also entered a politically sensitive period preceding the Cambodian general election (July 29, 2018), which human rights advocates have widely criticized for representing a pivot toward authoritarianism after twenty-five years of international support for democratization efforts. In November 2017, the Cambodian Supreme Court dissolved the primary opposition party, the Cambodian National Rescue Party. These political events were coupled with increased regulation of media and arrests for oppositional speech.

Media have long been linked to political power in Cambodia. Cinéstar was one of the first cinemas in Phnom Penh. Built within 100 meters of the Royal Palace and the National Museum, Cinéstar was once a royal theater, playing almost exclusively French films during the colonial period and early postcolonial period. Norodom Sihanouk was interested in film from an early age growing up in the palace with arts-loving parents. Sihanouk then ruled during the so-called Cambodian golden age of arts, the Sangkum Reastr Niyum (1955–1970) period, when Sihanouk himself became a filmmaker.

Though a time of flourishing arts, all was not well in Cambodia during the Sangkum Reastr Niyum period; instead, it was a time of intense geopolitical conflict and insupportable levels of domestic inequality. Amid increasing communist organizing, a US-backed coup threw Sihanouk out of power in 1970. The country was then embroiled in civil war between the Khmer Republic and the communist Khmer Rouge. The Khmer Rouge took power in April 1975 and ruled until January 1979. During this period, approximately a quarter of the Cambodian population died of execution, starvation, and disease.

This book's central argument is that Cambodian media creators and technologists perform *infrastructural restitution*, the creative reconstruction of historical media artifacts and infrastructures, as a way to access positive

affect about the national past and work toward political action. This work is particularly meaningful in Cambodia because the Khmer Rouge regime systematically destroyed cultural artifacts, including media (radio, film, photography, and music) from before their rule. In the decades of conflict following the Khmer Rouge, much of the remaining historical material decayed or was lost. Restoring these artifacts is significant to young media creators because they capture a time in Cambodia of peace, cultural flourishing, and beauty. Working with historical material also provides an avenue for remembrance of positive cultural histories and imagining building a better Cambodia, particularly relevant in an increasingly authoritarian and information-controlled environment.

Much of the contemporary work of infrastructural restitution is done on digital tools, which have rapidly grown in popularity in the past decade. In 2013, the United Nations International Telecommunications Union estimated that 7 percent of Cambodians had access to an internet connection. By 2019, a startup ecosystem report reported that 84 percent of Cambodians had access to the internet.[1] The majority of internet use in the country is the use of Facebook on internet-enabled phones.[2] Top tech analysts in Cambodia in 2017–2018 reported that Facebook was by far the most actively used web platform in the country. Approximately every internet user in Cambodia has a Facebook account and many confuse the internet for Facebook, a semi-monopoly that exists in many countries, particularly in the Global South.[3] This dramatic technological transition has had a profound impact on the Cambodian economy, culture, and politics.[4]

I began working in Phnom Penh, Cambodia, in January 2014 as a market analyst for a nongovernmental organization (NGO), researching the ways that digital technologies were being used in health care settings in rural parts of the country. I witnessed the beginning of this dramatic growth of the internet across the country. When I first arrived, fresh from working as a financial analyst in Silicon Valley, I started looking for "innovation" in stereotypical technology centers like coworking spaces and startup weekends based in the capital. As I continued living in Phnom Penh and became embedded in the city's vibrant cultural institutions as a researcher in the following years, I realized that the most inspiring technology work I was seeing was coming out of places I wasn't expecting—community art spaces and archives—and in forms that were emerging from Cambodia's particular histories of art, as well as its legacies of violence. These observations led to

the central question of this book: What is the role of media in post-conflict reconstruction?

Healing from past violence and using history to interpret the contemporary political world are important themes all over the world in 2021. In the United States, we are in the midst of pressing social dialogue about the ways that historical violence continues to be displayed through material culture (e.g., Confederate statues). We are collectively rethinking the ways that we tell history and how we deploy history to call for social change. These sorts of cultural reckonings in post-conflict environments have occurred in other parts of the world, for example, Latin America, South Africa, or Eastern Europe. This book contributes to these conversations and considers the particular role of digital media in processing the national past and moving forward.

Cambodia provides a compelling setting to explore the central themes of this book since its particular histories of conflict impact the use of digital tools in clear and multiple ways. When I refer to the "conflict" in Cambodia, I refer to the entire Cambodian war period, lasting from the late 1960s when the United States bombed Cambodia as a part of its war in Vietnam through Pol Pot's death in 1998.[5] Divisions between warring factions within Cambodia were deeply entrenched and continue to be, to some extent, unresolved. The line between victim and perpetrator was not always clear, especially because the Khmer Rouge recruited many child soldiers and the conditions of postcoloniality, poverty, war, and violence in the country before the regime made the ethics of and justifications for joining the Khmer Rouge complex. Though the Khmer Rouge atrocities happened approximately forty years ago, the ensuing conflict has delayed recovery and justice, including institutional justice. Members of the Khmer Rouge kept power long after the end of the regime, or were restored to power during reconciliations in the 1990s. Today victims and perpetrators often live in the same communities.[6]

Though the entire war period deeply affected Cambodia, the Khmer Rouge era was acutely disruptive and destructive to the country's art and culture. The regime, in calling for a radical restructuring of society and a return to Year Zero, attempted to destroy all cultural remembrance of earlier times in Cambodia. They specifically targeted intellectual and cultural figures for execution and tried to destroy the art, media, and libraries created before the regime. Former residents of Phnom Penh who were sent

into forced labor camps in the rural districts were not allowed to sing or play songs from the old regime, though many said that singing old songs in the fields remained a common form of resistance. These emotionally violent censorship policies continued through part of the People's Republic of Kampuchea (PRK) period following the Khmer Rouge.[7]

The core interest of this book is how practices of memory and healing in Cambodia occur on and through media, the communication outlets or tools used to store and deliver information and data. *Infrastructural restitution*— the creative reconstruction of media infrastructures—plays an important role in assuaging traumas and building new futures in Cambodia, a commemorative and healing process not yet fully accounted for in scholarship on Cambodian experiences or on collective trauma more broadly. This concept allows us to query the special relationship between work, memory, and materiality in a postcolonial and post-conflict setting and understand creative reconstruction as a form of healing and political action. Infrastructural restitution is a largely unrecognized and deeply affective form of labor that bridges social and technical, material and ephemeral, and online and offline worlds.

*Restitution* has two common, lay definitions: (1) the restoration of something to its original state, including things that are lost or stolen, and (2) the act of recompensing for injury or loss. Restitution takes on an air of justice; it is often understood as a physical adjustment to fix something historically unjust. In US law, the law of restitution refers to a form of compensation that can be awarded in some cases if there's a breach of contract. The purpose is to prevent one party from being unjustly enriched at the expense of another. Rather than to punish, the goal of the law is only to put the wronged person back into the position they were in before the breach happened. We can see this sense of restitution in action in the rightful return of looted Cambodian cultural heritage materials from art institutions in the West.[8]

I use the term *restitution* to describe a set of actions used to return to, reflect on, or honor a pre-conflict state. As in US law, the goal of restitution is not to punish but to go back to a previous state before the conflict. As opposed to in law, I am referring not to court-imposed compensation but rather to survivors or their ancestors working for a return to a previous condition. In defining restitution in this agentic way, I am inspired by Jihan El-Tahri's art project "Complexifying Restitution," which brings together

artists and filmmakers to reappropriate archives "as a tool to reinterpret our current reality and imagine an alternative future."[9] El-Tahri's definition of restitution empowers contemporary readers of history in reaction to the way that colonized subjects had a limited degree of self-representation.

The politics of restitution can be fraught and contested as restitution encompasses both conservative and progressive impulses. Returning to a pre-conflict state often challenges the contemporary status quo and can be a form of progressive social action. Yet restitution can also harken back to and occasionally romanticize historical inequities and violence or entrench old power structures. The political meanings of restitution differ according to perspective and change through time, and we will see a variety of political meanings emerging from the work of infrastructural restitution.[10]

The kinds of restitution this book describes are specifically *infrastructural*. Building on scholarship of infrastructure, its framing addresses the interdependence of materiality, work, and structural power within the work of restitution. These include forms of coordinated action between people and machines, transnational sociotechnical systems, and the power dynamics embedded in these assemblages. This definition emerges from the sociology and anthropology of infrastructure, and my theoretical contributions are most directly related to conversations in those fields and related fields like science and technology studies, information communication technology for development, and human-computer interaction.

Scholars of infrastructure have long paid attention to the relationship between form and content, and the myriad impacts of infrastructural materiality. For example, critical media infrastructure scholars acknowledge the material hardware that make up media and information infrastructures, and the impacts of this materiality on information content and delivery.[11] These scholars break myths of the ephemerality of information including the rhetorical framing of so-called cloud data storage.[12] They point to the intense material hardware required for digital information and the energetic and environmental consequences of this information.[13] Drawing on this literature, throughout the book, I pay attention to the *stuff* of infrastructure—transistors, film reels, air conditioners, cinemas, smartphones—and the way that this stuff takes on important political, affective, and symbolic meaning.

Conditions of techno-materiality act as limitations and inspiration for infrastructural restitution. Working from critical media infrastructure

scholars like Parks and Starosielski, and Larkin, I pay attention to the physical qualities of media technologies and how they move through space.[14] This infrastructural approach gives a fresh understanding of the geopolitics of technology, highlighting how materials act as affordances and agents in foreign and domestic politics, moments of cultural encounter, and modes of power. Looking at a history of devices allows us to develop a sense of media use and access that is impossible to develop through content analysis alone, particularly in this context where the archival record is patchy or weak. Paying attention to the material qualities of media infrastructures allows us to glean new insight into how media were taken up and used by average media consumers. Taking this approach also gives us a deeper sense of the constraints and possibilities for media artists and the conditions under which they were able to create new kinds of films and radio content. In later chapters, aging media materiality acts as a vector for accessing positive affect about the past.

In contrast to a primarily physical conceptualization of infrastructure, I emphasize that the *work* and the materiality of infrastructure are inexorably tied, an insight that has been developed particularly strongly in the sociological tradition of infrastructure. Leigh Star throughout her career paid attention to the often unrecognized and undervalued work of infrastructure, particularly the kinds of "work that makes work happen."[15] In 1996, Star and Ruhleder theorized that infrastructure is social and technical, global and local, labor and material.[16] This approach underscores that infrastructure does not need to be large or even "technical," though Star does hold onto the material component of infrastructure.[17] Since Star, scholars have highlighted the active, iterative making and remaking of infrastructures in science and technology studies and critical technical scholarship through concepts like "infrastructuring" or "creative infrastructural action."[18] Nguyen's concept of "infrastructural action," for example, describes members of the Vietnamese diaspora bringing cheaper and higher quality smartphones from the United States to Vietnam for family members; this case demonstrates well the ways that infrastructural work can take on dimensions of global scale.[19]

There is a social justice ethic to paying attention to invisible infrastructural work. The concept helps to recognize people whose labor and creative contributions are often overlooked, particularly in technical fields or the innovation economy. Star points out that the work of librarians, archivists,

technicians, nurses, and homemakers can be considered infrastructural in
the sense that they provide support for the accomplishment of interrelated
tasks.[20] This insight is aligned with Star's complementary work on "residual
categories."[21] This concept captures the things or people who are left out
of bureaucratic forms because they exist outside or between categories, and
the psychological and material outcomes of that marginalization.

Invisible infrastructural work often takes on a character of care. For
instance, Star and Strauss suggest that nuns saying prayers for the sick and
troubled practitioners can be understood as a kind of infrastructural work:
this contemplative work helps the community to function.[22] Self-care,
too, is a kind of work when it allows us to do other work. In one extreme
example, Star and Strauss borrow a story from Morrison's *Beloved* of the
slave Sixo who steals a pig from his master. He justifies that this theft is
a form of work, since feeding himself will allow him to produce more in
the fields. Labor scholars have long recognized invisible forms of affective
labor, or work that is done to produce emotional experiences for others.[23]
We can see this kind of work done, for example, by customer service agents
who pretend to be a different race or nationality in order to produce com-
fort for people on the other end of a line.[24] Lindtner describes the role of
"happiness workers" who are responsible for lifting the affective mood of a
coworking space so that independent workers can more effectively do the
work they need to do.[25]

Infrastructural restitution is fundamentally a form of work (restitution
is an action), but a highly affective and often invisible form of work. Often
infrastructural restitution takes on forms that are previously recognizable
as infrastructural (e.g., sophisticated transnational logistical work). I also
expand the traditional concept of infrastructural work to include processes
of emotional healing through creative and cooperative action. These forms
of work are infrastructural work because they build a more emotionally
healed baseline from which media creators and technology producers can
move forward and dream toward new futures. It is part of the healing work
that allows *any* work to happen. Recognizing the affective and, at times,
even metaphysical level of infrastructure helps us see this highly affective
form of work as infrastructural.

Infrastructure studies also point to the *relational* character of infrastruc-
ture. That is, as much as we consider the things and work of infrastructure,
we must also focus on the relationships inherent to infrastructure and the

ways that people differentially interact with infrastructure. Infrastructure is always embedded in social relations; it can never be separate from local hierarchy and global politics.[26] These already-established power dynamics are lived in and through infrastructure. For example, in "The Ethnography of an Infrastructure," Star points to city water infrastructure as a set of relationships instead of a set of things. The infrastructure has a variety of meanings depending on one's relationship to the infrastructure. She explains, "The cook considers the water system as working infrastructure integral to making dinner, but for the city planner or the plumber, [the water system] is a variable in a complex planning process or a target for repair."[27] In this way, the infrastructural lens gives us an avenue into analyzing violence, power, and structural inequality. Inside an infrastructure, one person's affordance is another person's barrier.[28] Infrastructure theory has thus given a potent lens to analyze critically questions of circulating technology.

Infrastructural restitution is a relational practice that occurs within power structures. Conditions of privilege and power have led to infrastructural violence through media technologies, under all kinds of political arrangements. Today the postcolonial politics of the platforms (Facebook and the smartphone app) on which much of the infrastructural restitution is done marks a continuation of some colonial politics and the impulses of the "imperial archive" and bound the types of work that many artists do.[29] As I will show, independent media creators have long co-opted imperialist and nationalist media infrastructures for their own purposes. Contemporary media creators, too, creatively appropriate transnational technology platforms that exist only within an unequal matrix of transnational and capitalist power dynamics. Actions of infrastructural restitution occur within structures of imperialism and global capitalism while often promoting justice agendas. These tensions and contradictions abound within infrastructural restitution, and this work takes on complex matrices of affect.

In order to build the concept of infrastructural restitution, I bridge insights from infrastructure scholarship with literature at the intersection of media and memory throughout the chapters of this book. Bringing these bodies of scholarship together helps us to see that infrastructure is comprised of and helps to constitute immaterial things like affective and psychological experience, including memory and emotions, and extra-human immaterial things like ghosts and hauntings. Media infrastructure takes on a special character in Cambodia, where the memories of colonialism,

authoritarian politics, and conflict are painfully significant and sometimes suffocating in their unrelenting presence. In many postcolonial settings, memory often remains unsettled and memory conflicts play out in material things (such as in the urban form of the city) through the contestation over heritage, identity, and difference.[30] Avery Gordon writes that the past—particularly those legacies of colonialism and slavery that she calls *ghostly matters* or *hauntings*—is constitutive of the present and must be attended to.[31]

In Cambodia, Edwards argues that it was the intersection of French and indigenous worldviews in the 1860s that first fostered national identity.[32] "Cambodian" culture is an ever-changing thing; however, this style of nationalism fundamentally shaped the ideologies of political leaders post-independence, from Sihanouk to Lon Nol to Pol Pot to Hun Sen, including its emphasis on replicating imagery of Angkor Wat. Each of these leaders adopted a myth that Cambodians are changeless and propagated a backward-looking, Angkor-centric nationalism. They did so by cordoning off the colonial era as somehow inauthentic.

During the Khmer Rouge period, the past was (nominally) banned—nostalgia was renamed "memory sickness."[33] Pre–Khmer Rouge songs, books, culture, and arts were forbidden, as was money. This memory sickness was part of the Khmer Rouge policy of *kamtech*, "to destroy and then to erase all trace: to reduce to dust," or eliminating all forms of individualism to preserve the primacy of Angkar (or "the organization," the name that the Khmer Rouge leadership used to refer to itself).[34] But Pol Pot and Khmer Rouge leadership actually placed themselves within the *longue durée* of Cambodian history and compared themselves to the "Original Khmer" (*Khmer daem*), a figure who predated the French arrival in Cambodia. They therefore did not abolish history but instead erased colonialism from Cambodian history, continuing to replicate and rely on the emblem of Angkor Wat.[35] These contests around "true Khmer-ness" play a role in the conservative nature of infrastructural restitution, as some media workers lean on past media artifacts to make arguments about political legitimacy and nationalism.

Post-conflict memory is also central to this story, and in Cambodia, it is a complex emotional experience that is at the same time collective and deeply individual. Collective trauma like terrorist attacks, war, and genocide can powerfully disturb people's worldviews and challenge the

common basic belief that the world is benevolent, predictable, and meaningful.[36] In post-conflict settings such as Guatemala, Germany, Vietnam, and South Africa, memory has become a particularly subjective, political, and contested terrain. Scholars have described how plural memories of the past become points of cultural tension, often played out through material things like monuments.[37] Schwenkel's concept of "recombinant history" describes the disputed collective understandings of history in the Southeast Asian context.[38] Different memories are "not additive but dialectical" so their recombination requires fitting together competing representations.[39] Cambodian memory work happens in many forms, for instance, through arts, craft, body work, and spiritual practices, and this book is in conversation with other scholars of commemoration in Cambodia such as Kristina Uk, Cathy Schlund-Vials, Khatharya Um, Boreth Ly, Lina Chhun, Ashley Thompson, and Anne Guillou, among others.

The core interest of this book is how practices of memory in Cambodia occur on and through media, the communication outlets or tools used to store and deliver information and data. Through the chapters, I build on scholarship that queries the relationship between media and memory in post-conflict settings like Cambodia. This scholarship addresses ghosts and hauntings as remnants of historical violence in the built world, the power of media to curate collective memory, and the clarifying role of noise in understanding the possibilities of media for emotional healing.

I am also in conversation with scholars in the fields of postcolonial science and technology studies and human-computer interaction who describe and theorize the movement of new digital tools into postcolonial settings. Chan's *Networking Peripheries* shows how digital alternatives flourish in spaces far from centers of global technology such as Silicon Valley. She argues that computing and innovation cultures are rendered locally specific due to language, religious practice, gender dynamics, and other social factors. In *The Charisma Machine*, an ethnography of the One Laptop per Child program, Ames argues that American technology interventions often fail to understand fully or design for conditions and infrastructures outside the United States. She also illuminates problematic power dynamics between MIT-based techno-elites and the global users for whom they purportedly design. Irani's *Chasing Innovation* charts the ways that the racist, nationalist, and class prejudices of the Silicon Valley design sector exacerbate global inequality. In *Prototype Nation*, Lindtner describes the ways that growing

distrust in the Western model of development and digital governance led to a change in China's global image from a copycat tech manufacturer to a new frontier of innovation through democratized making.

*Media Ruins* builds on these critiques while also offering a story about the ways that technology users make use of tools that are unexpected to their original Silicon Valley designers and in line with their own local needs and environment. *Media Ruins* holds in tension the political economy of transnational platforms and the ways global media creators appropriate these platforms and use them as channels for healing and political action. *Media Ruins* focuses on the ways that history matters in understanding the contemporary geopolitics of a locally specific internet and innovation culture. Cambodia represents an excellent case for interrogating these questions since its histories of trauma and conflict so clearly impact contemporary digital work.

In order to build these arguments, I offer reflection on the role of media infrastructure in the historical and contemporary geopolitical climate of Cambodia, critical to understanding both the conflict in Cambodia and the dynamics of healing from it. Infrastructures and all of the bits, workers, warehouses, and wires of technology are now some of the key pieces of international relations. Mainstream media often paint the contemporary world as a polarized one with two major models of digital governance. The first is best exemplified by the current Chinese government, which enacts communitarianism, nationalization of platforms, and strict state information control and censorship. The second model of digital governance is most visibly represented by American technocapitalism, where monopolized technology companies obscurely keep data as proprietary for advertising. The extent to which these models are truly different is questionable: Chinese companies exploit workers and use data for information capitalism, and corporate monopolies in the United States are deeply entwined in state structures. Though emerging from supposedly different ideological places, the reality of these two governance models often appears quite similar, with both enacting forms of surveillance capitalism.[40] Both countries are competing for global users on their domestic internet platforms as a form of capitalist expansion.

Cambodia is one of the liminal media points that is emerging at the margins of these competing epistemologies about global digitization amid empire shift. During the run-up to the 2018 national election, Chinese

influence grew in matters of digital media policy, while Cambodian relations with the United States and European Union chilled. Both regions continue to have major corporate spheres of influence in Cambodia and the Southeast Asian region at large. Chinese corporate interests are dominant in new telecom infrastructures such as 5G, but the American corporate platform Facebook remains by far the most popular way for most Cambodians to use the internet.

The Cambodian government, in line with regional trends and based on the Chinese model, is moving toward technological "localization," and is trying to rein in American influence in technology and regain control over the "digital economy" and data flows. This move toward control and sovereignty, though sometimes couched in the language of decolonization, is also tied to a pivot toward authoritarian politics. Cambodian independent media creators are working again within a context of authoritarian information control similar to the environment artists lived through in the early Cold War.

The year 2017, when I was conducting the majority of the fieldwork for this book, marked a resurgence of censorship and control policies in Cambodia. The government began to use digital platforms as governing tools, enacting new internet-enabled surveillance technologies and strategies. That August, the Cambodian government dramatically curtailed freedom of speech on the internet and in the media sector more broadly by systematically closing major critical media outlets, including newspapers and radio stations. The government also established new telecommunication laws and began making arrests based on critical Facebook activity. This closure in the media sector was coupled with the dissolution of the primary opposition party, the arrest of its president, and the fleeing of many opposition leaders.

This book shows the ways that digital media technologies have broadly become tools for global geopolitical meddling and authoritarianism in Cambodia, and that this trend is part of a clear historical trajectory. I describe the historical legacies of four important contemporary media governance trends: foreign interference (United States Information Service [USIS], 1955–1963), media authoritarianism (starting from the Sangkum Reastr Niyum period, 1955–1970, particularly 1963–1970), South-South geopolitics (including the Vietnamese occupation during the 1980s), and Westernized neoliberal development (starting from the United Nations Transitional

Authority of Cambodia, 1992–1993). In sum, the book shows that media have long been tightly linked to political power in Cambodia.

In addition to detailing the national-level geopolitics of technology we see in Cambodia and their historical roots, this book also shows how Cambodian young media creators respond to these issues with infrastructural restitution as a form of political action. I show the ways that Cambodian media creators use the praise of historical moments as a way to call subtly for change. I also demonstrate how Cambodian media creators have established or preserved spaces of communication and independent thought. Brick and mortar spaces of trust have become only more important as the internet becomes widely understood as an unsafe place.

Politically, this work is motivated by the feminist imperative to describe what kinds of care practices work amid broken systems of authoritarianism, imperial legacies, racial hatred, violence, and techno-dystopianism. It is resonant with the feminist attention to "glitch politics": studying and describing how people (particularly those in progressive grassroots movements) "thrive otherwise" against the oppressive and exploitative aspects of our digitally mediated worlds.[41] This feminist approach is aligned with Tsing's narrative of the hardy cultures of Southeast Asian diaspora mushroom hunters in the capitalist ruins of the Pacific Northwest or Escobar's attention to the interdependent, autonomous communities of the Cauca River Valley of Southwest Colombia who are designing a transition to a radically plural way of being.[42] Dwelling on the past might lead us to be stuck in an overwhelming sense of sadness and tragedy. Instead, we can choose to look at the ways that media have helped new creators process feelings and politically engage with new ways of thriving. This study of infrastructural restitution attends both to the ways that media becomes a tool for nationalist, state power and to personal, affective, and future-building work.

*Media Ruins* works between the modes of history and ethnography, tracing continuities between older forms of media (film and radio) and contemporary commemorative media projects, which use digital tools in conjunction with older media forms. Instead of seeing the digital as a break or gap, this book insists on historicizing the digital to see its social impacts as part of longer-term processes of commemoration, governance, and cycles of violence. I illuminate the relationships between colonization, technological imaginations, and nationalism and make linkages between contemporary media infrastructures and their historical precedents.[43] I therefore

move between three different methodological voices—archival-based history, oral history, and ethnographic description—in order to shed light on its narrative arc from various perspectives and give its story multiple dimensions.

This book is based on six years of historical research and ethnographic participation in the arts and technology communities of Phnom Penh and Battambang, Cambodia, including twenty months of research from June 2017 until January 2019. I conducted over 100 audio-recorded interviews (in Khmer and English) with technology producers, media artists, and active social media users across rural-urban, age, and income demographics in Cambodia, and had countless informal conversations around issues of historical and emerging media technologies. I also participated in and helped organize participatory art and design events, and attended approximately two dozen events on historical memory, art, and technology. The cases in this book are selected from this collection of experiences and represent ethnographic relationships built over a six-year period. The historical sections of the book are based on document review in six archives in Cambodia and in the United States. I supplemented my archival research with oral histories with Cambodian elders and a review of secondary historical sources.

I consider theory and method together, and so my choice to use an interpretive, critical, and historical approach to analyze questions of contemporary emerging technology is itself significant. It says something about how I understand the interdependence of cultural, political, social, and historical worlds and computing ones. Qualitative research, particularly ethnography, gives us an opportunity to make useful stories about technical worlds and helps us make sense of the ways the "technical" impacts and is impacted by the "social."

Ethnography is particularly well suited for trying to get at the messiness, incoherence, and instability in things that I am interested in (like infrastructures), which tend to be seen from the outside as monolithic things.[44] I see the "field" as a metaphor to refer to the places, sites, and times that helped me get answers to my research questions.[45] My research questions, however, couldn't be answered by sitting in a particular location over the course of my research period. Many of the phenomena I wanted to understand were spread out, part-time projects, done during my participants' nights and weekends at home, at coffeeshops, and at coworking spaces, online and offline. I therefore needed to construct my research site as a

"network."[46] This strategy was particularly suited to helping me study the interrelationships between online and offline spaces, work, and social life. I bought a motorbike in June 2017 and learned how to ride it so I could get around Phnom Penh more easily and go where I needed to for research. I regularly attended the abundance of arts and technology events from art history talks to tech startup weekends and social enterprise networking nights, which were mostly advertised on Facebook and held on weekends and evenings. These events exposed me to new kinds of information about technology and the arts of memory in Cambodia, and also gave me other spaces in which to interact with and build relationships with a community of artists, technologists, and academics interested in my research questions.

Facebook was an invaluable tool in my research process. Throughout the course of the project, Facebook became an object of study, a tool of research, and a site for participant observation. Almost all of my younger participants actively used Facebook, and I used Facebook to set up meetings using Messenger, to call participants with follow-up questions, and to communicate in other various ways (e.g., posting on others' pages or liking their photos). I used Facebook to better understand social relations between various social groups and subgroups and to keep up with collaborators without visiting them in person. I was able to find primary sources (e.g., some films) better on Facebook than in institutional archives. Facebook lists nearly all public events in Phnom Penh and helped me stay involved in many communities. As Burrell suggests, multi-sited ethnography now necessarily includes online spaces in various ways since online life is inseparable from offline life.[47] Since returning to the United States, Facebook has been a way to observe Phnom Penh–based happenings and keep in contact with friends and colleagues in Cambodia. It has both enlarged the sites of research and made them more tightly linked to each other.

Chronicling digital innovation in Cambodia, a postcolonial, post-conflict setting, adds an important counterpoint to many American histories of technology, which often simplistically and monochromatically relate moments of Western techno-scientific innovation in elite academic settings or technology centers like Silicon Valley. Though the so-called techlash—including critical takes on the bias inherent to algorithmic systems or the privacy concerns with the big tech business models—has started to seep into the American and European press and consciousness, there are far fewer conversations about the impacts of tech on daily life, security, and

social infrastructures in other parts of the world. When these are presented, they often are packaged in patronizing or sensationalized ways, in extreme settings.[48] This book explores the monopolistic and exploitative nature of Silicon Valley–generated tools, but without stripping users of their agency and creative capacity. This book also puts these new transnational tools into a historical perspective, and shows that the US government media initiatives in the early Cold War period are resonant with contemporary expansionist corporate policies.

My positionality as a white, American, and middle-class researcher in Cambodia has important limits. White privilege exists in Phnom Penh in many clear and some subtle ways. Wealth and power are now associated with the infrastructure of the international development organizations that populated the city during and after the United Nations Transitional Authority of Cambodia. My best work has come only through dialogue with Cambodian friends and researchers at all stages of research, from problem delineation to execution and analysis. I do not claim to know the experience of Cambodia in the way that my Cambodian or Cambodian diasporic participants do. This book is a product of my deep listening to my participants, interpreted through my own embodied, historical, and psychological experience. I also feel some responsibility, as an American and as a former tech worker, to research and write about the problematic kinds of work that American corporate and government entities have done in settings around the world.

I did in-depth and audio-recorded interviews of major actors in my case studies in homes, coffee shops and offices, often with multiple visits or conversations. These interviews were semi-structured. I wrote the interview protocol specifically for each person, depending on my specific interest in their experience. I also did strategic interviewing and oral histories among older Cambodians (forty-plus) who had memories of 1980s and 1990s Cambodia and were involved in reconstruction efforts and/or had television and radios during the PRK period. I also interviewed people in the contemporary technology startup community and in the radio and film industries to get a sense of major issues and concerns in these sectors.

I sometimes brought a research assistant with me for Khmer-language interviews, though many interviews I conducted alone in English. Lyna Kourn, Sokanga Hun, Masy Sou, Nhip Socheat, Pang Sovannaroth, Kimsru Duth, and Dara Kong all acted as research assistants/interpreters for

interviews at various points during the research period.[49] Interviews that included three people were often easier and more effective on a number of levels than interviews with two people; we could develop a rapport and familiarity more easily and I often felt more comfortable having a friend with me. Interviewing with a Cambodian interpreter also sometimes helped the interview subject feel more comfortable because of the cultural familiarity of the Cambodian interviewer. I also appreciated having a research assistant to process interviews with afterward if there was particularly sensitive or important information shared.

I used English, French, and Khmer language for data collection. Many arts and technology events are in English, the dominant international language of Phnom Penh, and many of my participants speak English. I read archival documents from the Cold War period in French, Sihanouk's primary language of communication. I took two years of formal Khmer language at Cornell and an intensive course in the summer of 2017 in Phnom Penh. I also had a Phnom Penh–based tutor named Y Socheat, whom I met with three times a week for an hour for language learning in 2014, 2016, and 2017–2018. I continued learning new vocabulary words and we spoke together to increase my fluency in understanding and speaking. Socheat also helped me with translations of textual documents or audiovisual Khmer-language materials I found in the archives. This project is substantially based on original English translations of Khmer and French-language primary sources. I chose to primarily present words in this text as English translations of interviews and textual materials, partially because of challenges in the standardization of Khmer romanization.[50]

I recruited interview participants through snowball sampling, directed emails, and phone calls, or by showing up at someone's office or workplace and asking for an interview. As with many ethnographies, access posed a challenge at times. Access was easier to younger, more cosmopolitan participants than it was to older, establishment figures, who sometimes required special permission or emails. These older, establishment actors required more intense scheduling and often didn't allow me to "hang out" the way I could with younger people.

I wrote frequently during my research period. In the "Manifesto for Field Work," Willis and Trondman say that half of ethnography is "richly writing up the encounter, respecting, recording, representing at least partly in its own terms, the irreducibility of human experience."[51] I iteratively took

several kinds of notes and more formal writing throughout my research periods.[52] I took morning notes in a "personal" notebook—my habit was to write two pages a day of handwritten observations, personal reflections, and notes on my own mood and well-being. I kept a second notebook with me through the day for more "professional" jottings, notes while in meetings, analytical thoughts, or descriptive observations during the day. I tried as much as I could to transcribe the second ("professional") notebook into a computer in the evening, particularly after a fruitful research day, and added more analytical thoughts, to form analytical memos based on theory and research questions in the grounded theory tradition.[53] I wrote analytical reflections during downtime when I wasn't at events or while hanging out at coworking spaces. Part of my impetus for writing so much was that I wanted to make sense of what I was learning and to make sure I was continuing to collect the most important information for my writing. Sometimes writing felt like a break from the social parts of research, which could be exhausting for the introverted parts of myself.

The book is broken into two distinct halves. Part I is historical, describing the film and radio cultures of Cambodia from 1955 through the 1990s and demonstrating the tight linkages between media and politics in Cambodia through regime changes. The chapters in part I describe the construction of the media sector in Cambodia and its reconstruction after the violence of the Khmer Rouge. Part II describes contemporary media commemoration projects and is based on my ethnographic participation in the arts and technology communities of Phnom Penh. This part describes contemporary infrastructural restitution, and each chapter highlights a different dimension of the concept.

Chapter 1 provides critical context on the origins and development of film and radio infrastructures in Cambodia before the destruction of the Khmer Rouge period, and the moment of (relative) peace and cultural flourishing that contemporary media reconstructors reference. Norodom Sihanouk declared Cambodia independent from French Indochina in November 1953 and then established effective one-party rule under his Sangkum Reastr Niyum party from 1955 until 1970, during which time Cambodia was officially neutral in matters of Cold War policy. This was also a period of thriving Khmer modern art, architecture, music, and film—and deep inequality.[54] The chapter argues that the investment of the United States Information Service (USIS) in film and radio in Cambodia between 1955

and 1963 strengthened and supported national audiovisual media infrastructures. Sihanouk then deployed these same infrastructures to undergird his authoritarian power from 1963 to 1970.

The second chapter introduces the concept of infrastructural restitution empirically and describes the work, materiality, and relationality of media reconstruction during the PRK period (1979–1991) in the city centers of Phnom Penh and Battambang after the fall of the Khmer Rouge. It tells the stories of state workers who repaired and reformulated media infrastructure within a context of many obstacles, including extreme poverty and continued but often unpredictable interparty violence. This work was deeply political, as film and radio in this period remained central to the political workings of the state and its wars with opposition parties. The media workers I interviewed came from a particular position as state workers. The state also enacted censorship, and Eastern Bloc countries contributed heavy-handed media advising. Noting this context, I argue that media workers demonstrated agility and resourcefulness in rebuilding after disaster. This work was highly affective and the media workers were recovering from losses and acute trauma from the Khmer Rouge.

The third chapter describes the violence and cultural frictions that emerged in the process of (re)constructing the material, social, and ideological infrastructures of independent media in 1990s Cambodia. Under Cold War conditions, the United Nations backed a coalition that included the Khmer Rouge until the Paris Peace Accords in October 1991, when borders officially opened to Western trade. In early 1992, over 20,000 foreign personnel entered the country as part of the United Nations Transitional Authority Cambodia (UNTAC) to run an election in May 1993. The third chapter argues that UNTAC worked in the Cambodian media sector naive to the historical links between the media sector and political power, instigating further violence. As an ahistorical form of work, I contrast UNTAC's media work to infrastructural restitution and, in so doing, illuminate some of the dangers of ahistorical work and the conservative elements of infrastructural restitution. The first case in this chapter concerns the construction of the Radio UNTAC broadcasting station, the first nonstate media outlet since the Khmer Rouge came to power. The second half of the chapter describes broader media transitions ushered in by opening to Western trade and economic privatization during this period.

In part II, chapter 4 focuses on infrastructural restitution's quality as a subtle form of political action. It gives the case of Roung Kon, a group of architects who find, survey, and exhibit the models of heritage cinemas of Cambodia, built before the war. Building on the theory of ruins, rubble, and hauntings, I give a sense of the complex and contradictory affective resonance of cinemas as what I call *media ruins*. They represent modernist and technological space in decay, inhabited by memories and ghosts, including the ghostly presence of movies themselves. The infrastructural restitution of media ruins acts as a form of hidden script of political action in an increasingly authoritarian context in contemporary Phnom Penh. Roung Kon praises and mourns the flourishing arts and space of the cinema from the Sangkum Reastr Niyum partly to encourage public support for the arts and sustainable urban development. In so doing, they suggest an alternative to contemporary information control.

The fifth chapter illustrates how infrastructural restitution is way to access positive affect about the national past and, as such, works as a kind of healing action. The chapter describes a contemporary Cambodian youth group called Preah Sorya (Sun God) who research, recover, distribute, and screen Cambodian films from before the Khmer Rouge period. This chapter focuses on the relationship between trauma and media materiality. Preah Sorya does their work in order to commemorate those lost during the war period, heal what they call "problems of the way of the heart" (*banhhaa phlauv chett*), and dream toward new futures. They creatively incorporate *disintegration noise* (the decay of film or overlapping of multiple historical formats) into their live-action and online projects.

The sixth and final chapter returns to the transnational tensions of infrastructural restitution. It analyzes and contrasts the creation, use, and promotion of two internet-based platforms (Amazing Cambodia and the Bophana Center's App-learning on Khmer Rouge History) that store and disseminate historical photographs, music, film clips, and historical documents, using Facebook and a smartphone application. This chapter describes the rural-urban mobility of infrastructural restitution, as both projects involve substantial research and dissemination trips around the Cambodian provinces. It focuses on the interplay of influence between the US-based tech companies, foreign donor influence, and the grassroots, locally oriented practices of the creators of the tools.