Engaging Science, Technology, and Society

Regioning with Resistance: Borderlands and Africa-Greater Mekong Subregion

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Abstract

Like zoonotic diseases which have captured the world's attention—including SARS diseases, such as Covid-19—drug resistant malaria is widely viewed as a threat emerging in Asia. This essay explores how scientists and policy makers act within this discourse, which shapes their work and the allocation of scarce health resources in Cambodia. Questions about the ethics and politics of science come to the fore when the Greater Mekong subregion is an experimental site of elimination for other places where malaria is endemic. It demands innovative ways of doing "region," following scientists' conceptions of the "Greater Mekong subregion," but also centering how borderlands are unique and important areas for the development of resistance. Africa-Southeast Asia relations are center stage, too, producing, I suggest, a region that is not geographically contiguous yet entangled through research, parasites, postcolonial conflict, and the biographies of scientists and health professionals.

Keywords

malaria; region; resistance; Cambodia; Southeast Asia

Introduction

How do we work with and thus also disturb different practices of making regions? "To region" is not a proper verb in English, but we can play with it anyway. This is the dictionary definition of the noun (2025):

> **Region**. An area or division, especially part of a country or the world having *definable characteristics but not always fixed boundaries.*
>
> - An administrative district of a city or country
> - A part of the body, especially around or near an organ
> - An area of activity or thought
>
> Regioning involves drawing things together because they are in spatial proximity ("abdominal region," "Mekong subregion") or share similar qualities ("tropical region"). Regioning can be violent, as in the way border regions are made through policing the movements of people and things. Regioning can designate zones of care, for example, co-producing health or environmental data in recognition of mutual vulnerabilities.

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In this engagement essay, I consider how technoscientific practices of malaria elimination in response to multidrug resistance are entangled with ways of doing "region." Like zoonotic diseases which have captured the world's attention—including SARS diseases, such as Covid-19—drug resistant malaria has been viewed in the global imaginary as a threat coming from Asia. Specifically, malaria resistant to front-line artemisinin-based drugs has clustered in the borderlands of the Greater Mekong subregion in Southeast Asia and China. More specifically, over the past sixty years, resistance to other antimalarials has also emerged in the region of western Cambodia, near the border with Thailand: chloroquine around 1957, pyrimethamine in the late 1960's, and artemisinins first reported in 2006.

I share with malaria scientists the desire to understand the question: why, here? I have been tracking discourse and practice of malaria elimination in Cambodia and in global health interstices over the past nine years. I began thinking about these entangled questions with human geographer Uli Beisel in 2014, and then as part of the multidisciplinary "Society-Resistance-Malaria" (SOREMA) team based at Institut Pasteur in Phnom Penh. SOREMA studied malaria drug resistance in relation to social and health inequalities, changes in ecosystems, and spatial movements of populations (Bourdier 2016).[1] My contribution was an ethnography of malaria sciences. It involved interviews and informal conversations; participation in malaria research and policy workshops; short visits to provincial research sites; and analyses of scientific articles and policy reports. SOREMA focused on labor migration within Cambodia, following the routes of migrants between villages, plantations, and forests, where the environment is changing rapidly, where inequalities are stark, and where malaria is most prevalent.

Malaria has long been environed in the plantation and embodied in the labor migrant (Packard 2007). In this sense, the socioeconomic and environmental contexts of malaria in Cambodia and the Greater Mekong subregion are not unusual. Migrant routes traverse forests and clearings: forest hearts carved out for logging and mining; forest edges receding to plantations and agricultural concessions, or relatively stable, abutting family plots and low mountains. Border zones between nation states are of importance because they are paradigmatically unequal places. International border zones (the Thai-Cambodia border) and sub-national border areas (the forest edge, the plantation edge), are biological, social, and economic environments where Anopheles mosquitoes bite, where medicines are in and out of stock, where people do not stay put.

Antimicrobial resistance tends to emerge in zones of inequality rather than absolute poverty (Farmer 1999; Koch 2011). In this sense, the socioeconomic and environmental contexts of malaria drug resistance in Cambodia and the Greater Mekong subregion are not unusual. In zones of inequality, "have" and "have not" are proximate. People earn money and have it to spend on medicines, but not consistently. Bosses or

[1] SOREMA was funded by the Agence Nationale de la Recherche (ANR), 2012–2015. It included anthropologists, parasitologists, geographers, entomologists, public health professionals, and a historian, primarily from Cambodia and France, but also from Viet Nam, the UK, and me, from the U.S. The project began in 2011; I joined at the tail end in 2015.

commanders provide prophylactic treatment, but sporadically or nor according to clinical recommendations (for example as monotherapy). Stark inequality, as Vinh-Kim Nguyen and Karine Peschard (2003, 467) argue, is a fecund condition for the emergence of drug resistance because there is partial access to drugs, inadequate doses or courses of antimicrobials.

How do malaria scientists work with antimalarial drug resistance as a problem of Southeast Asian borderlands? How do they work within discourse of the Greater Mekong subregion as an experimental site of malaria elimination "for Africa"? The case of antimalarial drug resistance brings forward two ways of doing "region": borderlands between and within states are important for the (re)emergence and persistence of resistance; Southeast Asia and Africa are a region, enacted through itineraries of drug resistant parasites; biographies of scientists and health professionals; and materialities of postcolonial conflict. Regioning with resistance, then, is a method of thinking "area" as not strictly spatialized, attuning to how phenomena emerge in particular times and places from biological and political differences within (borderlands) and similarities between (Africa-Southeast Asia).

Background

Malaria with delayed response to treatment with artemisinin-based drugs was reported in western Cambodia around 2006 and was soon found in other border zones in Myanmar, Thailand, Viet Nam, Lao PDR, and Yunnan Province in China (WHO 2015). Artemisinins, from the plant *Artemisia annua*, sweet wormwood, are relatively safe, act quickly, and are effective against different stages of the parasite life cycle (Dondorp et al. 2010). Artemisinin combination therapy, or ACT, combines artemisinin with a partner drug, and is the WHO recommended treatment for uncomplicated *falciparum* malaria, the most lethal parasite species globally, especially for children. Distressingly, *P. falciparum* have developed resistance to partner drugs, too, the drugs that mop up whatever artemisinin cannot kill.

Artemisinin-resistance is a new global health problem, but it is also a return. Over the past sixty years, resistance to other antimalarials has emerged in the same region of western Cambodia, near the border with Thailand: chloroquine around 1957, and pyrimethamine in the late 1960's. Some of these resistant strains travelled to sub-Saharan Africa, where the burden of malaria is heavy, causing the loss of hundreds of thousands of lives. Cambodian and foreign scientists work under the specter of these previous drug failures. As such, Phnom Penh has become a regional hub of malaria science and policy (Kong 2014). At the 2015 Cambodia Malaria Elimination Partners Convening, organized by the Bill & Melinda Gates Foundation, then-director of Cambodia's National Center for Parasitology, Entomology and Malaria Control expressed tentative hope that Cambodia could be a model of *elimination* of disaster, rather than the epicenter of it.

> We want to bring Cambodia's experience to the world. Cambodia is the epicenter of artemisinin resistance. We don't want to be known as the country that spread resistance to the world. We, also, do not want to be faced with this.

No one wants to be faced with this. The priority of the Ministry of Health and its partners, a consortium that includes the WHO, universities, government agencies, civil society organizations, and private foundations, has moved from containment of artemisinin resistance in Cambodia to elimination of malaria in the Greater

Mekong subregion. The WHO's Mekong Malaria Elimination programme (WHO 2015), started in 2017 and headquartered in Phnom Penh, supports elimination of all human malaria species in six countries: Cambodia, China (Yunnan Province), Lao PDR, Myanmar, Thailand, and Viet Nam.[2] The timeline for malaria elimination in the Greater Mekong subregion is 2030; the Cambodian government aims to eliminate malaria by 2025.

Targeted malaria elimination locates malaria care and control in the village, the forest, and the laboratory, that is, away from the centralized clinic. The challenges in the Greater Mekong subregion have been significant: five *Plasmodium* species; diversity in habits and habitats of *Anopheles* vectors; "hot populations" are migrants, mobile laborers, and ethnic groups who move between forest and village; "hot spots" are remote forested regions and politically contested border zones. Given these challenges, the goal is to interrupt malaria transmission temporarily (von Seidlin et al. 2019). For low endemicity contexts such as Cambodia,[3] the thinking goes that if interruption is long and complete enough, it will eliminate the parasite reservoir. Targeted malaria elimination activities include monitoring drug efficacy; strengthening reporting and surveillance systems; targeted drug administration (TDA);[4] chemoprevention in specific populations; intermittent preventative treatment for forest goers (IPTf);[5] weekly active fever screening; testing and treatment for symptomatic people; and long-lasting insecticidal hammock nets. Village malaria workers do much of this work.

Encouragingly, Cambodia is in the "last mile" of *P. falciparum* malaria elimination, which means 83 per cent of public health operational districts have reported no local *P. falciparum* cases in the past three years (Sovannaroth et al. 2022, 4). The Ministry of Health and partners are currently focusing their work in the five provinces that account for 80 per cent of *P. falciparum* and mixed (*P. falciparum and P. vivax*) cases, centering on forest goers and migrant and mobile populations who work in forests. In Cambodia and other parts of the Greater Mekong subregion there are test and treat programs for specific groups at international borders.

Borderlands are Regions for the Emergence and Concentration of Antimicrobial Resistance

Despite different concepts and objectives, in malaria science, STS, and Southeast Asia studies, there is a sensitivity to borderlands as spaces that must be understood on their own terms, not only in relation to (or as margins of) a state center, and not only in terms of geographical space. As historian Thongchai Winichakul

[2] The Mekong Malaria Elimination programme is funded by the Bill & Melinda Gates Foundation, the US President's Malaria Initiative, and the Global Fund to Fight AIDS, Tuberculosis, and Malaria, and WHO 2022.
[3] "As malaria incidence is very low in Cambodia, the communities do not feel a strong incentive to participate in malaria activities" (WHO 2021, 7).
[4] As of this writing, two rounds of artesunate-mefloquine given at one-month intervals for all men between the ages of 15 and 49 years (Sovannaroth et al. 2022).
[5] Cambodia: artesunate-mefloquine provided throughout the year to eligible men (15–49 years) who go to "high-risk malaria areas such as forests in the following month" (ibid. 2022).

([1994] 1997) has shown, the Greater Mekong subregion has a long history of multiple, overlapping sovereignties in which power was the dynamic ability to command human and animal labor and fruits of that labor rather than claims to land. In the 1800s, local chiefs described the borderlands between present-day Thailand, Myanmar, Laos, and Cambodia as "golden, silver paths, free for traders" (ibid., 73). For Thailand, diplomatic and military encounters with the French and the British over the 19th century shifted conceptions of the border to a buffer zone between sovereign powers, and eventually, to a line marked on a map.

However, borderlands are not lines on a map. As Willem van Schendel (2005, 48) writes, "The particularities of individual borderlands allow location-specific ways of combining (illegal) goods, labor, and capital for profit, benefiting from the advantages of two territorial systems of regulation and avoiding their disadvantages." The selective permeability of borders permits some flows of people, materials, and money, but often the benefits and harms of these flows are distributed unequally among borderland populations (Law and Mol 2001). Furthermore, borderlands are dynamic, like an "accordion" (Baud and van Schendel 1997, 225) that contracts and expands to the pressures of social, economic, and political developments on both sides of the border. Borderlands are often zones of sharp inequality and complex power relations that involve nested triangles of states, local elites, and peoples (ibid.). Another image of thought for borderlands is a "worldwide honeycomb" best studied through "process geographies of transnational flows" (van Schendel 2002, 647).

These commonalities apply to Cambodia's borderlands. Over the past hundred years, the border has marked western Cambodia as Thai, then French, then Thai, then Cambodian. Its forests, rubies, sapphires, and rice fields have made it a site of elite enrichment, contested power, and a vast migrant labor system (Rungswasdisab 1999). Border areas were sites for massive movements of refugees during the civil war, and, following ASEAN 'battlefields to marketplaces' economic integration, are sites of precarious labor migration (French 2002; Liamdee 2020) and illegal but licit activities such as logging (Singh 2014, figure 1). These are areas of inequality, rather than absolute poverty, meaning that there is some access to health care and medicines. It is precisely this *partial* access—inconsistent stock, quality, courses of treatment—that contributes to the emergence of antimicrobial resistance (Yeung et al. 2015).

Figure 1. Photograph of a new road in Mondulkiri province, northeastern Cambodia. The reddish dirt cuts across lowland forest on either side. A new ochre path . . . for migrants and traders (Source: Jenna Grant, 2015).

"Borderlands" is useful, too, for understanding malaria drug resistance at the subnational level. Here, borderlands are environmental. In Cambodia, malaria is acquired outside, mostly in the evening or nighttime, mostly concentrated in forests or near forest edges. The forest edge is ever shifting, giving way to rubber and cassava plantations, roads, and displaced people clearing new plots of land (Beban 2021). At one of our SOREMA research team meetings, we discussed the issue of mosquitos and deforestation. An anthropologist asked the entomologists to speculate about the habits of *Anopheles dirus*, one of the main malaria vectors:

- Is it thinkable that *dirus* can get out of the forest?
- Unlikely. *Dirus* can live for seven months. It is a monkey-biting mosquito. It lays eggs on the ground, but bites more in the trees than on the ground. Something about their breathing apparatus means it is less likely to self-regulate and survive hot dry weather. *Dirus* will not survive deforestation.

Even patchy forest edges, former forests, and the border zones between plantations and forests are sites of heightened transmission (Vantaux et al. 2021). A sardonic interpretation, then, is that deforestation is good for malaria elimination.

When Rath and I interviewed former malaria patients and their health providers in Srae Ktum village in Mondulkiri, northeastern Cambodia, men, women, and children regularly went to forests to gather wood or forest products. Men spent a few days *in* the forest, sleeping in hammocks with insecticide-treated nets, if available. People traveled *through* the forests to get from home to field or village, or to the cool, clear stream for fishing and bathing. Vanny, a farmer and mother of four, believed she got malaria while foraging in the forest.[6] A popular Village Malaria Worker in Srae Ktum told us that the Health Center was out of malaria medicines from December to February, so patients bought malaria medicines in the private sector, where the recommended three-day course of ACT costed $1 USD (see Res 2017).

Figure 2. Photograph of the edge of a rubber plantation, view from the side of the road, Kratie Province (Source: Jenna Grant, 2022).

There is a well-documented global history of plantations as a site of violence, overwork, malnutrition, disease, and political resistance (Nading 2023). Set in tropics deemed "uninhabitable" for white Europeans,

[6] Interview with author and Rath, March 6, 2015.

plantations continue to be concentrations of capitalist expansion "interlocking workings of human worth, race, and space" (McKittrick 2013, 6; see also Aso 2010). In colonial Indochina, the "workings of human worth, race, and space" had deadly consequences—to take one example, 100 per cent malaria infection rate among laborers on the Suzannah rubber plantation, located in the highlands that straddle present-day Cambodia and Viet Nam (Aso 2013, 427). In contemporary malaria elimination, plantation *edges* (figure 2) are a persistent malarial environment—persistent yet dynamic, shifting with planting and reaping—and migrant laborers, long the victim of malaria, continue to be among the most vulnerable.

One theory about the emergence of resistance in Cambodia has to do with the quality and use of artemisinin over time. Artemisinin became available in the mid-1970s (Dondorp et al. 2010), and its long-term use as monotherapy, often in counterfeit formulations of inconsistent quality (e.g. Nayyar et al. 2012), contributed to the selection of resistant parasites. This story of resistance involves processes that are general and universal—selection, parasite life cycles—that encounter the effects of local conditions—subtherapeutic drug levels in the blood, that may result from availability or access to drugs as well as the quality of the drugs themselves. Plantations are central because they are sites to which migrants, money, and medicines move, unevenly, and they are carved out of forests where mosquitoes prefer to live.

Southeast Asia–Sub-Saharan Africa as Region

A second entangled area, perhaps a more striking topology of drug resistance, is a bipolar region involving the Greater Mekong subregion and sub-Saharan Africa. The standard first paragraph of scientific articles (and my writing is not exempt) goes something like this: For the third time in the past fifty years, antimalarial drug resistance has emerged from northwestern Cambodia. It is now present in other border zones of the Greater Mekong subregion. We must avert the pattern of previous resistances. We must prevent the spread of artemisinin resistant parasites to regions where malaria is a serious problem, namely, sub-Saharan Africa.

From the perspective of WHO a global view is to be expected; its ambit, its responsibility, is the world, after all. So, too, is a global view expected for the Institutes Pasteur (figure 3), which follow the territories and routes of French empire. Imperialism has shaped the geographies of medical science, as well as health and disease, in Cambodia, as elsewhere. French colonial medicine and biological sciences forged particular interactions between Africa and Southeast Asia. Experience of war and landmines may forge other interactions.

Figure 3. Photograph of a map on the wall of the Institut Pasteur du Cambodge that shows the locations of Pasteur Institutes around the world (Source: Jenna Grant, 2015).

This Africa-Southeast Asia "region," I propose, is formed by itineraries of drug resistant parasites; biographies of scientists and health professionals; and materialities of postcolonial conflict. The majority of European scientists and health workers with whom I spoke had worked in Africa prior to coming to Cambodia. Their motivation for coming to work in Cambodia was to halt the spread of drug resistance to Africa. In the course of a conversation about his research, a French parasitologist at the Institut Pasteur expressed this commitment to me in a quiet but grave tone, "I am here for the African people."[7] He had worked in Madagascar; others worked in Congo, Tanzania, Cape Verde, and Mali, all places of high malaria prevalence. In different ways and in different moments, these scientists were involved with efforts to adapt to the loss of first line treatments due to drug failure. They tried to prevent the loss of life.

[7] Conversation with author May, 2015.

For Maarten, the head of mission for MSF-Belgium, elimination was a way to bypass the problem of how to detect subclinical levels of parasites. In 2015 MSF-Belgium piloted a targeted elimination of *falciparum* malaria in the north of Cambodia, bordering Thailand. MSF has a long history in this region; they were one of the first organizations to enter the country after the fall of Democratic Kampuchea, and in the 1980s and 1990s, one of the few foreign organizations providing health services in Khmer Rouge enclaves at the border. The pilot malaria elimination project began with a surveillance survey and was followed by mass drug administration in a circumscribed area.

Maarten, a Belgian nurse, was surprised at the low prevalence of malaria in Northern Cambodia. With help of the Institut Pasteur's new mobile PCR laboratory, funds from the Gates Foundation, and analysis and modeling support from the Oxford-Mahidol group (MORU) that has driven much of the targeted malaria elimination interventions in the Greater Mekong subregion, MSF searched for parasites in the blood of villagers. They were expecting prevalence of 7 per cent or more, but found around 2 per cent in one village, and less than 1 per cent in another. These numbers were small, but nonetheless significant in two ways: seven of the eleven positive cases carried *Plasmodium* species with the mutant alleles that indicate reduced sensitivity to artemisinin, what came to be called the marker for resistance (Ariey et al. 2014). And all of the cases were asymptomatic and had very low levels of parasites in their blood.

When I asked Maarten why MSF was so interested in working on artemisinin resistance, he replied: "The main reason is Africa. *P. falciparum* is the killer in Africa. We have seen the devastating effects of previous resistances. I have seen it myself, I worked for years in Tanzania." MSF had been involved in getting ACT affordable and scaled up in the face of chloroquine resistance in sub-Saharan Africa. They did not want to do this again, scale up another drug in the face of mass failure of the first line treatment.

Phasy, a Cambodian molecular biologist, described her research in terms of how *different* the artemisinin case is from previous resistances: now we have a molecular marker for resistance, a mutation in the K13 propeller region of *P. falciparum*, something her lab at Institut Pasteur had the central role in discovering (ibid.). With mobile PCR screening, in a van that can analyze samples in remote villages, it is possible to follow the resistant parasite genetically, in real time. With chloroquine and pyrimethamine, Phasy reminded me, these techniques of making resistance visible were available only years after its spread.

In 2015, many eyes were on the MSF targeted malaria elimination project. At the Cambodia Malaria Elimination Partners Convening, the young French epidemiologist who presented MSF's pilot work was grilled intensively by doctors from the Cambodian Ministry of Health. How are you reporting adverse events? How will *we* know about them? Which database are you using? At the time, the Cambodian government was critical of mass drug administration. The Ministers' questions remind me of those asked of another high-profile experimental project, the 2003 clinical trial of tenofovir for prevention of HIV, now known as PrEP (Grant 2016). Local and international NGOs had voiced concern about the risks and benefits. Then-Prime Minister Hun Sen amplified the critique of foreign researchers acting on Cambodian bodies. He cancelled the trial as an act of sovereignty, protecting Cambodian people from being used, in his words, as "guinea pigs."

How will resistant parasites travel to Africa? Will they travel in the blood of migrant workers? Will they emerge independently? An Africa-Southeast Asia region is also formed through postcolonial world ordering, assertions of sovereignty that include rejecting global health experiments (Folayan and Peterson 2020; Grant 2016) and contributing soldiers to "peacekeeping." In 2014, one fear was that artemisinin-resistant parasites might travel from Cambodia to Africa with soldiers. Around the time I started working with the SOREMA project, I was struck by a headline in the English-language paper, *The Cambodia Daily*: "RCAF in Africa: Fears of Drug Resistant Malaria" (Hruby 2014).

The wide-angle photograph, by Siv Channa, that accompanied the article depicts linear formations of uniformed Royal Cambodian Armed Forces at Phnom Penh's Pochentong International Airport, on bended knee, white gloved hands in *sompeah*. Three men at the front of the formation hold the Cambodian and the UN flags. The caption states that the soldiers are going to Mali on a UN peacekeeping mission where they will share demining and engineering expertise. The article describes how some involved in malaria control worried that soldiers would bring parasites back to Cambodia. Others worried that soldiers would carry artemisinin resistant strains to Mali. Testing these soldiers before and after their missions was a complicated endeavor, requiring coordination between the army, the UN, the Institut Pasteur, and the National Malaria Center.

Mali, like Cambodia, was colonized by the French. Both Mali and Cambodia were viewed by the French as less economically and politically important than their neighbors—present-day Senegal and Côte d'Ivoire, present-day Viet Nam—and thus infrastructure, civil service, education, and health systems were less elaborated. Postcolonial Mali, like Cambodia, endured civil, regional, and global conflict during and after the Cold War, during and after globalization. Mali, unlike Cambodia, is a malaria endemic country. Seasonal malaria in Mali is caused almost exclusively by *P. falciparum*; front-line treatments consist of artemisinin-based drugs (WHO 2023, 166). In 2014, Cambodian troops went to Mali as part of MINUSMA (UN Multidimensional Integrated Stabilization Mission in Mali, which lasted from 2013–2023). In 2014, the only country in Africa with confirmed artemisinin partial resistance was Rwanda. (Molecular markers of artemisinin partial resistance have since been confirmed in Eritrea, Uganda, and Tanzania, see ibid., 87). Understandably, preventing both the spread and the independent emergence of malaria resistant to artemisinins and partner drugs has been of highest importance.

Conclusions

Malaria elimination programs work within these histories of multiple sovereignties and of a notion of power as the ability to control flows (people, parasites, medicines, as well as timber and gold. . .). As ethnographies of malaria illuminate multispecies relations between people, environments, and mosquitoes (Kelley and Beisel 2011), the challenge for an ethnography of resistance is to investigate social and biological factors, involving people, parasites, drugs, and scientists in borderlands.

I have proposed that technoscientific discourse and practice of working with malaria drug resistance in the Greater Mekong subregion show the constitutive entanglements of different ways of making "region." One of these ways is centering borderlands between and within states; another is enacting "Africa-Southeast

Asia" as a region. Together they are part of a growing interest among Southeast Asia studies scholars to study "trans-regional comparative engagements" (Chua et al. 2019, 45).

Migrants have been central actors in global malaria histories and futures because they move, and malaria parasites move with them. Ecology, too, is not static. In Cambodia, deforestation for plantation agriculture changes where and how people work and sleep, and where villagers go to cultivate, gather, fish, and hunt. Plantations are sites to which migrants, money, and medicines move, unevenly, and they are carved out of forests where mosquitoes prefer to live. These changing positions make hospitable conditions for the development of drug resistance.

Elimination is the mood of our time. Not everyone subscribes to artemisinin resistance as the primary crisis of malaria. There are crises of detection, of bad drugs, of access to diagnosis and care, prevention of child death. We can understand these as histories of war, mining, and migration at the border; histories of medicine use and genetic surveillance; biologies of parasites that mutate, mosquitos that shift with changes in forest habitat; and humans enacting those changes. Artemisinin resistance in Cambodia and the Greater Mekong subregion might be a history of a place, a history of a parasite, or, in the future, a history of UN missions and global health interventions.

What are the regions in, with, or against which we work? How are they made, through which boundaries and characteristics? Are you or the people you work with experimenting with regioning, perhaps as a technique for denaturalizing harmful relations or making space to live otherwise?

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