

8. Troubled Knowledge: Health, Harm and the Environment in Late Industrialism (Workshop)

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Over the last decades, a growing number of scholars in the natural and social sciences have shown the devastating health effects of environmental pollution on humans and other living beings. Hydrocarbon extraction, chemical pollutants within extensive plantation regimes as well as the environmental effects of global supply-chains are only some examples of contemporary economic, industrial, agricultural and medical activities, which are deeply gendered and racialized. All this has contributed to environmental degradation, the breakdown of biological and social systems as well as the increase of chronic health problems, hitting particularly the most precarious, in both the Global South and North. While numerous public actors corroborate the validity of such knowledge, other actors, however, contest not only the intertwinements between environmental pollution and health issues but also its anthropogenesis.

We wish to discuss in how far anthropological methods provide the necessary time and depth to further knowledge on experiences and relations through which growing levels of toxicity, pollution, and atmospheric warming manifest as health issues, as well as to understand the controversial and informal forms of knowledge production that surround this. Therefore, we ask:

- Through which knowledge practices do economic and political actors try to obfuscate the connections between pollution, toxicities and human and more-than-human dis-ease?
- Which role does anthropological knowledge play in ongoing debates about the health effects of late industrialism?
- How do people and activists on the ground produce and spread decolonial, anti-ableist, participatory and collaborative knowledge about the relations between health and environments?
- In which ways do daily living experiences, that anthropological knowledge is based on, challenge and complicate existing causative models about the dis/juncture between environmental pollution and health effects in human afterlives?

Agronomical pluralism and more-than-human health: The troubled knowledges of post-Green revolution agriculture in South India

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Late industrial agriculture is a prime site for the study of troubled knowledge about harms, toxicity and the environment. Small scale producers in the Global South increasingly find themselves in a situation that I call agronomical pluralism (in analogy to medical pluralism) in which they have to navigate contested, conflicting and partly incompatible knowledges/practices in regard to farming, soil care and plant maintenance. Based on long-term ethnographic fieldwork in agrarian South India, and in particular in the landscapes of the Western Ghats that have been the site comparatively high pesticide use, extractive plantation agriculture and a related epidemic of farmers suicides, this paper focus on the uncertainty and contestations around more-than-human health. This includes questions about cancers, birth defects and other NCDs that communities suspect to be caused by practices of pesticide use, although vehemently denied by industry and government agronomy. More than human health also points to the ontological politics of microbial care for soil health, symbiotic understanding of plant and animal health and practices and concerns around polluted foods. I suggest agronomical pluralism as a lens for capturing power, knowledge, biopolitics, and health in late industrial agriculture.

Mental health and toxic urban environments: Contested knowledge, minor repair in Delhi, India

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Over the last years, scholars have shown the mental health related effects of late industrialism environments. Some call attention to mental distress provoked by climate change and environmental degradation and show that especially young people worldwide experience a new kind of suffering that has been designated as environmental distress, ecological grief or climate anxiety. While these terms risk pathologizing subjectivities, they also hold the potential for political mobilization around care and repair in the context of planetary suffering. Others explore the mental health and neurocognitive effects of pollution and toxins. They hypothesize, for example, air pollution's links to depression, autism or dementia. What emerges are new notions of *environ-mental health* and *dis-order* beyond individualized pathology. Based on preliminary research in Delhi, the aim of this paper is to look into various ways people draw connections between environmental damage, toxins and mental health in highly polluted urban contexts in India. Which knowledge about environ-mental dis-order circulates in urban spaces and everyday debates?

How is this knowledge bodily sensed, theorized, resisted or ignored? How do people carve out viable lives amongst and in spite of states of urban environmental degradation? What are the minor gestures of recuperation or repair?

Climate change, health outcomes and intervention strategies of Rohingya refugees in Bangladesh

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Rohingya ethnic communities fled from Myanmar to Cox's Bazar, Bangladesh, due to ethnic and political conflict. After the massive influx in 2017, more than 1 million Rohingya refugees have been settled in designated Rohingya camps (expansion sites). During influx and post-settlement in the camp area, refugees are experiencing several health issues. This paper focuses on the various factors of climate change in the Rohingya camp/ resettled area in Cox's Bazar, Bangladesh. It analyzes how these climate factors enhance health risks, and what the strategies of NGO professionals and health care providers addressing refugees during the emergency beyond religious and cultural norms and values. For this study, 23 Semi-structured interviews were conducted with NGO professionals, healthcare providers, and Rohingya refugees. Due to climate change and extreme events, Rohingya refugees are experiencing several health issues and sudden death in the camp. Deforestation, extreme precipitation, storm, landslide, and cyclones are the refugee camp's main climate change and environmental factors. Waterborne disease, sudden death, anxiety, depression, and other mental health issues are significant health outcomes due to these climate change and environmental factors in the refugee camp Cox's Bazar.

Freedom and Trepidation: Fishing in Toxic Waters in South India

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My research work focuses on the everyday lives and livelihoods of those who live by state-owned coal fired thermal power plants in Ennore, a coastal peninsular suburb located to the north of Chennai (Tamil Nadu, India), and conceptualizes their bodily engagement, labour, and protest in the context of the multiple toxic substances suffusing the landscape. I would like to participate in the workshop by presenting my research on the artisanal labour of the fishermen who fished by Ennore's power plants, describing the ways in which toxic coal (together with the many by-products that arose from its combustion and circulation) seeped through their bodies and their environment. I argue that the constant bodily engagement with coal-based toxicities, every time the fishermen fished in Ennore's polluted

waters, advanced upon them a distressing 'feeling'; on the one hand, labouring with the toxic had become a necessity in validating their identities as male fishers, while on the other hand, interacting with the toxic only accelerated the notion that they were rapidly disintegrating with their landscape. In presenting this research, I wish to draw particular focus to the uneasy ways in which labouring bodies mediate, challenge and embrace the toxic to meet particular ends.

Silent Suffering: Unknowing Contamination and Bodily Harm in a Former Uranium Mining Town in Kyrgyzstan

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Mailuu-Suu, a former uranium mining town in Kyrgyzstan, records unusually high rates of birth defects, miscarriages, stillbirths, and cancer, and most locals experience hair and teeth loss. These medical conditions, experts argue, cannot be disassociated from the radioactive waste that contaminates soil, air, and water in and around the town. But locals habitually silence the impact of contamination on their bodies, either because of their own convictions, religious beliefs, and societal considerations or because silencing is a necessary step to continue living in Mailuu-Suu. This is because the adverse socio-economic conditions brought by the Soviet Union's dissolution and the town's subsequent de-industrialization hinder them from moving away from Mailuu-Suu. In this context, silencing is an act of breaking free from contamination and an expressive swapping of "precarious half-lives" for a semblance of normal life. Inevitably, then, silencing becomes an index of how people develop relationships to their environs and to their bodies and how these relations are caught up in shame, fear, and hope. As importantly, silencing is also a symptom of the powerlessness and lack of agency felt by those experiencing a dystopia characteristic of the ecological catastrophes and environmental injustices incurred in late industrialism.

Rethinking antimicrobial use in India: *jugaad* medicine and the limits of 'master knowledge'

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Antimicrobial Resistance (AMR) is often framed "the next pandemic", even though it is already in full force. While most of the debate takes place in academic circles, containment strategies are built upon a 'master knowledge' and primarily aim at better regulation. At the same time, these regulatory efforts are not able to penetrate into everyday lives, where the use of antimicrobials is a quick and (mostly still) effective fix imposed by economic necessities. This paper builds on

ethnographic fieldwork in rural and (peri-)urban India, and focusses on the knowledge practices of poultry farmers and informal medical providers, and how they deploy antimicrobials as a type of jugaad ('making things work under meagre conditions') medicine. These practices unfold in a context, where informal modalities of negotiating the everyday prevail, and globally mediated academic knowledge of 'correct' usage simply eludes the stakeholders' lived realities. While powerful industry actors shift the blame on governments and individuals, standardized public health policies are often in complete disregard of local requirements and imposing them can even be counterproductive. The deep immersion of an ethnographic approach allows brokering interwoven layers of knowledge in order to connect tacit, situated practices with the global academic debate and regulatory efforts.

Toxic Islands: Ecologies of Care and Altered Lives in the French Antilles

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Chlordecone is an inorganic insecticide that was used extensively in the two French overseas departments of Guadeloupe and Martinique from 1973 to 1993 to combat the banana weevil (charançons du bananier). Over the past decades, various political and public debates as well as several local organizations and activists have emphasized the toxicity of chlordecone and other phytochemical products used on the two Caribbean islands. The spread of such molecules in the environment has been linked to high rates of birth defects, various forms of cancer and chronic diseases in the population. Protesters have also criticized the effectiveness of the action plans implemented by the French government to "manage" the toxicity of these two territories. In light of recent political outcomes and new public demonstrations, this presentation aims to critically analyze the multiple ecologies of support as well as the alternative forms of care toward the environment that have been put into practice by the Martinican population. The manifest purpose of such practices is to oppose and resemantize the toxic relations that have marked the altered lives in the world-plantation with its past and present unequal social dynamics of slavery and (neo)colonialism.