Persistent Organic Pollutants becoming Multiple: An ethnography of encountering pollutants in science, policy, and waste incineration

This thesis is an ethnography of persistent organic pollutants (POPs) and their "enactment" in different expert cultures. POPs encompass several human-made industrial pollutants and pesticides, which are listed and globally regulated under the Stockholm Convention and share certain properties. Aside from being toxic to living beings, they also persist in environments, accumulate in bodies and along food webs, and have the ability to travel long distances from their sources of release.

Drawing on twelve months of ethnographic research among scientists, policymakers, civil servants, and other experts in Tanzania and Norway, and short-term visits to other European countries, this thesis explores how POPs are engaged within different expert cultures, and how this generates them as 'multiple' in the sense of more-than-pollutants.

This thesis adopts an approach based on various bodies of knowledge, including anthropology of chemicals and toxicity, queer theory, Science and Technology Studies, and environmental toxicology, and asks how POPs are enacted. How are they becoming different? And what kinds of connections emerge from the various encounters?

From waste incineration in Norway and Tanzania, through scientific knowledge production among biologists, to the relentless work of experts continuously advancing the Stockholm Convention to improve global regulations, this thesis engages with POPs as entangled and connected, conceptualizing pollutants as relational (the theoretical frame is developed in Chapter 2) through scale and across different locations. Drawing on affect theory as a methodological approach in ethnographic research on chemicals (expanded on in Chapter 3), each ethnographic chapter zooms in on a different POPs encounter.

Chapter 4 looks at the negotiations of "low POP content limits" within the framework of the Stockholm and Basel Conventions and their interconnectedness with a "circular economy". Chapter 5 introduces incineration as a long-standing technology in waste management with a focus on unintentionally produced POPs from incineration in Tanzania. Chapter 6 follows closely the making of scientific

knowledge on POPs between Tanzania and Norway. And Chapter 7 describes the concerns and politics around incineration and POPs, this time in Norway. The Conclusion (Chapter 8) brings all these encounters together and specifies the various versions of POPs that are emerging within various realms and encounters.

To summarize, this thesis shows that POPs manifest as more than just chemicals. They become multiple as the relations and encounters from which they emerge vary. Thus, POPs challenge their own dominant version of being pollutants that can be measured and analyzed, demonstrating that they are emerging from and entangling relations.