

Cleo Wölfle Hazard, *Underflows: Queer Trans Ecologies and River Justice*, Seattle: University of Washington Press, 2022. ISBN: 9780295749747 (cloth); ISBN: 9780295749754 (paper)

Environmental sciences, as many natural sciences often do, have a narrow idea of the methods and approaches taken to undergo research, and shy away from emotions, social science, and political thought. *Underflows: Queer Trans Ecologies and River Justice* provides a modus operandi for incorporating queer and trans theory within environmental justice, water management, and river science. As a queer and transgender individual who has done work in both the environmental justice field and the field of climate and health, I never quite felt I was reflected in the work and methods. This book was not only validating, but inspiring to say the least. Cleo Wölfle Hazard, through poetic narrative, their personal experience of co-producing research, and examples of incorporating art in their science, is unique within environmental sciences and necessary.

The author is ambitious in how they tackle extremely complex and multi-layered issues in an understandable way. Wölfle Hazard addresses environmental scientists, queer/trans theorists, and ecocritics to think about what it means to truly utilise a relational way of being with humans, non-human animals, and the environment that centres queer, transgender, Black, Indigenous, and people of colour (BIPOC) in a way that disrupts settler-colonialism and white supremacy. The author invokes the beautiful use of water-related terms such as “underflows” that is used both literally and figuratively to bring together queer/trans theorists and river scientists in their understanding of underlying hydrological and socio-political systems that are out of sight. They also bring to light the fluidity of both visible and invisible processes among both disciplines.

Rooted in the Pacific Northwest and parts of California, Wölfle Hazard creates relationships and collaborates with communities both Indigenous and non-Indigenous to disrupt settler-colonial water management. State water laws govern ground and surface water separately

without understanding that they are intrinsically connected. These laws have exacerbated the water issues in the West, are impacting Indigenous communities, and are impacting non-human animals. Ideas rooted in individuality, domination over nature, and the tragedy of the commons are detrimental to humans (especially Indigenous peoples), non-human animals, and the environment. Wölfle Hazard identifies principles of river justice through hyporheic imaginaries and a multi-species commons approach. The hyporheic zone is where ground and surface water intermingle, and hyporheic imaginaries enable ranchers and environmental advocates to work alongside non-human animals and the environment to recharge aquifers and rivers. Multi-species commons reimagines bodies of water as more than just for human use despite settler water law practice. Expertly, Wölfle Hazard sees the opportunity and potential to use queer and transgender studies and theory to transform settler ways of understanding of our environment in a way that is compatible with Indigenous ways of knowing and doing.

Queer and trans thought and ways of being can disrupt settler-colonialism and uplift Indigenous knowledge, with the caveat that queer and trans thought is not always focused on decolonization or being actively anti-racist. Wölfle Hazard describes queer and trans people's embodied experiences of "deviance, transition, scrappy livelihoods, and antiauthoritarian political acts ..." (p.31). Connecting those experiences to ecological processes, they describe how the way current ecological science views water bodies can be reframed by "transing" them. Just as there is no "right" trans body or body in general, the water body can be continually in transition. Transing extends to non-human animals, such as beavers; their behaviours such as *transfiguring* water bodies and *transgressing* private property lines are presented as examples of "transing". Furthermore, Wölfle Hazard urges readers to move past human/nature binaries just like gender binaries.

Queerness is embedded in the process of fieldwork, the kinship and communities humans have with non-human animals, and the grief we feel over the destruction of non-human animals and the environment. Wölfle Hazard describes fieldwork as queer time, because like cruising,

scientists revisit the same site over and over. Relationships between human and non-human animals go against the idea that non-human animals are incapable of community and that they are meant to be of use to us. However, by cultivating that relationship we are opening up to a queer vulnerability that transforms our mode of being to relational. Centring interspecies relationships is also a way of being that is crucial to many Indigenous cultures. By grieving, scientists can become kin with non-human animals and through that grief feel empowered to take up political action to disrupt settler colonialism and white supremacist systems.

Self-silencing of feelings that may arise in scientific work can lead to a lack of political will and lack of action through that grief, therefore continuing settler-colonialism and the hierarchy of racial power through that silence. During the AIDS epidemic, queer and transgender individuals publicly grieved and collectively pushed for policies and medical research to end homophobic invisibility and to protect people living with HIV/AIDS. Collective political will, or what Wölfle Hazard refers to as underflows, can accomplish a lot, including changing scientific language and engaging science to promote health in humans, non-human animals, and the environment in ways that centre anti-racism and Indigenous ways of life.

Wölfle Hazard argues that art is a tool and outlet for engaging in grieving non-human kin as an environmental scientist. They created an interactive art installation where they wore a paper-mâché salmon head and invited environmental scientists to sit down and answer question prompts about the feelings around their study organism. Just like during the AIDS epidemic where art was used to change the cultural landscape of ideas towards LGBTQ+ individuals and people living with HIV/AIDS, we need more environmental and climate art to do the same for the kinships that we create with non-human animals and our environment.

Wölfle Hazard also goes beyond including queer and trans thought and relationships with the world by including, affirming, and welcoming queer and transgender scientists in the field. There are many queer and trans scientists that either have to hide who they are or cannot conduct field research in countries that persecute LGBTQ+ people. Even in the United States, there are

many areas (urban, suburban, and rural) where it is dangerous to be LGBTQ+. It is up to cisgender, heterosexual scientists to be allies, to learn about queer and trans histories, incorporate queer and trans thought, and create space for queer and trans scientists to flourish.

The final section of Wölfle Hazard's book focuses on the connection queer and trans people have with water and waterfronts. Historically they have found community and solace in forests, farms, and near water, although often in ways that perpetuated settler-colonialism and white supremacy (p.147). Using Jose Esteban Muñoz's idea of the "Brown Commons" (2020), Wölfle Hazard explores how incorporating queer and trans thought in environmental justice is to transcend the settler boundaries placed by Manifest Destiny. Although admittedly, it took me a while to truly understand what the brown commons was, once I understood it became quite clear that different ways of feeling and relationships to the waterfront can do reparative work of dismantling capitalism. Using the concept of queer cruising both literally and figuratively as a way of demonstrating their point was both refreshing and poignant.

LGBTQ+ communities, in all their diversity, are continually found to be disproportionately impacted by environmental degradation and climate-related events. Understanding the needs of LGBTQ+ communities goes beyond studying vulnerabilities and impact, but also incorporating queer and trans histories and ways of being in environmental sciences and studies. This book is timely, unique, and very applicable to many fields within feminist, gender, and sexuality studies, environmental justice studies, and all environmental fields. It is critical that climate and environmental scientists understand the potential for the transformational change that can occur by collaborating with and centring BIPOC communities, queer and trans communities, and non-human animals. For those who are in the feminist, gender, and sexuality field, incorporating environmental studies and non-human kinship can transform and break down societal binaries.

Overall, *Underflows: Queer Trans Ecologies and River Justice* is ambitious in what it tries to achieve and connects many disciplines and fields together to disrupt settler colonialism

and white supremacy in water management and river science. Wölfle Hazard provides a succinct introduction at the beginning, laying out all the concepts they will be delving into. The chapters themselves build on one another, travelling through each complicated aspect of river justice, environmental justice, queer and trans theory, and the intersection of them all. Each chapter is written with each audience in mind in a way that different fields can understand, so that they can take something away to integrate into their own work that is resistant to settler colonial and white supremacist ways of being, thinking, and doing.

Reference

Muñoz J E (2020) *The Sense of Brown* (eds J Chambers-Letson and T Nyong'o). Durham: Duke University Press

Leo Goldsmith
Yale School of the Environment
Yale University
leo.m.goldsmith@gmail.com

July 2022