



SIGNS OF WATER: COMMUNITY PERSPECTIVES ON WATER, RESPONSIBILITY, AND HOPE

Edited by Robert Boschman & Sonya L. Jakubec

ISBN 978-1-77385-235-5

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Introduction

Robert Boschman and Sonya Jakubec

Where life dwelled, water flowed through it.

—Lynn Margulis, *Symbiotic Planet: A New Look at Evolution*

This book is concerned with community responses to water issues. In the fifteen chapters gathered here, contributors from multiple perspectives and disciplines from around the world weigh in on water: how it flows through human life in specific locations. Fifteen of the twenty-one writers gathered here are women; and all the research and documentation concern water at the community level, stemming from fieldwork, art, and collaborative experience across the Americas as well as in the EU, Africa, and Asia. Many contributors have worked in and studied particular communities and their relationships to water—with respect to, for example, access, facilitation, health, history, and politics—from rural northwest Cameroon to South Africa, the U.K., Japan, Brazil, India, Indonesia, and Canada. They also record the histories of a number of major river basins, including the Upper Xingu (Brazil), the Fraser (British Columbia), the Tambraparni (South India), the Mackenzie (Northwest Territories), and the St. Lawrence (Quebec). Most are deeply engaged with Indigenous communities struggling with a wide range of overlapping issues relating

to water, such as rights, sanitation, pollution, and the long-term and on-going effects of colonization.

As demonstrated in these chapters, Indigenous peoples are raising their voices and being heard, and water especially ranks among their most pressing concerns. From Tucson, Arizona and Java, Indonesia, to northern Brazil, Alberta, northwest Cameroon, and South India, Indigenous communities are fighting everyday for healthy access to, and long-term viability of, both water and justice in the face of long and relentless histories of colonization, commodification, exploitation, and contamination.

Six interrelated approaches, all community-based approaches to knowing, thinking about, and working with water, frame this volume: immersions, formations, histories, interventions, responses, and implementation. In practice, of course, these approaches are used together throughout the book, as they do in the life of water itself (and indeed in our own lives), but we think it is clarifying to design the flow of chapters with various emphases, beginning with the existential and concluding with the infrastructural. Hence in this book the reader's experience begins with works by anthropologist Julie Laplante and literary scholar Michaela Keck, both of whom study water's immersive characteristics relative to human lives and communities—and moves gradually through politics, history, and art towards basic community actions culminating in Anna Frank's engineering essay regarding water harvesting. We begin with an anthropological quest and end with an infrastructural solution; and in doing so Laplante and Frank, like the other contributors in between, take us to many different human communities around the world. All are concerned deeply with water.

As an anthropologist, Laplante leads readers on a quest to study water as substance both natural and cultural: a water imaginary that is very human but also places us firmly in what we call *nature*. Reading Laplante, who travels to and lives in Quebec, Brazil, South Africa, and Java, we encounter water anew, as though for the first time. What is water? What is our relationship to and with it? As Julia Laplante reminds us, "We are also water" (p. 19).

Following Laplante's contribution, with the second chapter of Section I *Immersion*s, is Michaela Keck's revealing work on the British nature writer Roger Deakin, a proponent of "wild swimming." Living and working in

northern Germany, Keck studies the practice of swimming in and along rivers, gorges, and other waterways regardless of current social norms and prohibitions. Like Laplante, Keck resists the “objectification of water” (p. 20). Immersion (in this case, the practice of wild swimming) is inherently social and communal (p. 50): “being human means consisting of water” (p. 49). The portrait of Roger Deakin that emerges here is informed by the respective works of Bruno Latour and Tim Ingold, both of whom also impact Julia Laplante’s anthropological quest to know water intimately. Neither Laplante nor Keck is interested in romanticizing water; both reject the idea of water as some pure substance, found for example in the ubiquitous plastic bottle that one buys and then abandons. As we discover reading Keck, wild swimmer Roger Deakin finds himself in conflict with regulatory forces concerned with private property and human health. Politics are inevitable.

American theorist C.R. Grimmer sees water as a political formation constructed and wielded by neo-liberalism so that water is perceived as neutral, pure, and a matter of choice. As the opening essay found in *Formations*, Section 2 of this book, Grimmer’s chapter on the Detroit water shut-offs of 2013–2016 provides transitions from Keck’s portrait of wild swimmer Roger Deakin. If Keck takes Deakin as her immersive figure, Grimmer takes the African-American multimedia artist Beyonce who, through *Lemonade*, immerses herself in water in a way seen by millions. Like Deakin’s confrontation with the owners of the waterfront river where he wants to swim, “Can’t you read the sign?,” Beyonce reveals water’s substantive historical and political reality. She evokes water’s significant role in the histories of oppressed and exploited human communities. Water is anything but pure and apolitical. Like all the contributors to this volume, Grimmer makes clear that water is relational. When in the spring of 2013 Detroit Water and Sewage began to carry out 70,000 shutoffs in 730 days, the United Nations intervened (without success) to defend residents’ human rights (p. 65). Water is not a commodity that is chosen and purchased but rather a right that is inherent and available to all people, as established by the UN in July 2010 (www.un.org/en/sections/issues-depth/water/).

Not only the United States but Canada should be meeting this right—the right to clean, healthy, and accessible water—to all citizens. Yet, as Denise L. Di Santo makes clear in chapter 4, in which she documents

histories of contaminated water supply in both Tucson, Arizona, and Fort Chipewyan, Alberta, this is not the case. Indeed, Di Santo at the outset of her essay describes being warned by an Indigenous resident of Fort Chipewyan (through which the Athabasca River flows into Lake Athabasca) not to drink the water when she visits that community. In the wider context, Di Santo offers a detailed history of the formation of environmental justice in the United States and Canada over the last forty years (pp. 87–91), while placing both Fort Chip and Tucson in the foreground of this history. With their water sources (the Athabasca and Tucson basins) contaminated by industry, both communities have endured not only serious health impacts but also disrupted cultural traditions; and both have had to wage public and legal campaigns for acknowledgement and remedy.

Di Santo emphasizes repeatedly the issue of externalized costs, a potent theme arising throughout this collection. Such costs are too often borne by Indigenous communities and communities of colour. Even as C.R. Grimmer and Denise Di Santo both make this plain, their work is powerfully corroborated in chapter 5 by Marcella LaFever, Shirley Hardman, and Pearl Penner, authors of “Indigenous Stories and the Fraser River: Intercultural Dialogue for Public Decision-Making,” which rounds out Section II, *Formations*. These three researchers have painstakingly recorded—and here in this book documented—the first-person stories of the Stó:lō and other First Nations elders testifying before the Cohen Commission of Inquiry into the Decline of Sockeye Salmon in the Fraser River (2012, <http://publications.gc.ca/site/eng/432516/publication.html>). Their chapter crucially emphasizes the centrality of Indigenous knowledge and stories. Indigenous voices are primary here; they come first, and their concerns about the Fraser River and Sockeye salmon are foremost in the reader’s mind in this chapter. Through their storytelling before the Cohen Commission regarding the Fraser River and the human relation to salmon, “the Stó:lō [people of the river]” (p. 112) speak of the values needed to sustain not only the Fraser River system but any waterway: sharing, relations, and communication. Curating this collection, we hope, contributes to all three.

Sharing, relations, and communication seem obvious as ecological values for living sustainably with water, a human right. Would that we lived in a world where such values were instantly obvious and accepted as

common sense, and did not have to be restated before a government commission organized on the decline of a fishery in a major, world-renowned river in Canada. The contradictions are alarming in a country frequently recognized as the best country in the world on a variety of metrics, including quality of life, and particularly those related to environment (<https://www.usnews.com/news/best-countries/overall-rankings>). Would that we lived in a world where water as a human right were a given and not contested by global corporations—Swiss Nestlé, for instance—which view it as a commodity to be acquired and sold for profit to consumers. In a world where sharing, relations, and communication were the norm regarding water, the problems addressed in *Histories*, Section III of this book, would not exist, at least not as direly as they do according to the four historical essays which follow the work of LaFever, Hardman, and Penner on the Fraser River.

We, as editors, have recognized the ways in which these authors' original scholarly work can be juxtaposed fruitfully with that of their Brazilian colleagues, Fernanda Viegas Reichardt, Andrea Garcia, and Maria Elisa de Paula Eduardo Garavello, who have no less painstakingly documented the historical and political water-related issues extant in the Upper Xingu River Basin, which is part of the Amazon River Basin, "the most extensive water network of the planet" with "nearly 60% of the Brazilian Indigenous population" (p. 156). During their research in the field, they travelled more than 24,000 kilometers, and their photographic images are compelling. Like other writers make clear in this book, the authors of this chapter draw close connections between water and traditional cultures, diversity, and biodiversity, and provide evidence to that end. Their call for the legal protection of the Upper Xingu regions in face of Brazil's ongoing frontier practices of deforestation is based on their integrated research work involving immersion and participation with and in the communities they encounter.

What they discover and report to readers syncs with the historical fieldwork of Henry Bikiwibili Tantoh in northwest Cameroon, who records a statement that applies to this book in various ways: "The water crisis that many communities face is progressively about how people, as individuals, and as part of a collective society, govern the availability, usage, and control over water resources and their benefits" (p. 203). Tantoh reports

on how traditional communities living in continuous relation to the same water sources for epochs have, in recent historical times, seen that relation disrupted. The question here, again, is “how to dismantle the fortress of centralised management institutions and replace them with an all-inclusive system that is not the only protector and supporter, but also an enabler and liberator” (p. 188). And once again, this time in Sub-Saharan Africa, and in a country that Tantoh states is second only to “the Democratic Republic of Congo in terms of quantity of available water resources” (p. 196), readers encounter top-down water governance that is the legacy of colonialism. As a scholar of water stationed in the field in northwest Cameroon, Tantoh finds and articulates evidence paralleling and corroborating conditions related to water, as reported in the other chapters, that pertain to population, climate, drought, degradation, contamination, and lack of access. Repeatedly, he informs readers that local communities are excluded from governance in respect to the very water that sustains their existence. Cultural discontinuities are as harmful to human health and ecology as any other environmental malpractice. While Tantoh stresses that solutions must be local and sensitive to historical context, he also uses the term *polycentric* in relation to water governance that works for all.

In the chapter that follows, Arivalagan Murugeshapandian, working from archival sources, provides a history of the Tambraparni River basin in South India. Again, the impact of colonialism is clear. First the river is conquered through the colonial critique of Indigenous knowledge systems and practice concerning water sharing, irrigation, and fishing. Murugeshapandian employs the term “alarmist discourse” in his careful unfolding of the evidence. Such discourse makes way for new infrastructure—dams, reservoirs, and regulations; then the authorities “use the river system as a tool to take control of the forests from Indigenous peoples” (p. 220), even though (and perhaps even *because*) their ancient irrigation system throughout the basin worked well for centuries. What Arivalagan Murugeshapandian articulates here is a history of conflict between colonial and post-colonial governments and Indigenous fishers and farmers. Priorities are awarded to industries focused on water extraction and hydroelectric power requirements, while traditional farmers must literally beg for allotments to see their crops survive (p. 229). Likewise, Indigenous fishers are compelled to pay angling fees even as industrial aquaculture

is established in the newly formed reservoirs (p. 232). Authoritarian discourse sets the stage for new infrastructure projects that, once established, exclude and disenfranchise local and traditional peoples while empowering government-sanctioned industry.

A world away, but with a history that overlaps the time period Murugeshapandian covers, the Mackenzie River system in northern Canada undergoes its own alterations at the hands of colonial and post-colonial governments. The longest river in Canada, the Mackenzie serves a vast complex of interrelated watersheds. Reg Whiten, the author of chapter 9, focuses on the Upper Kiskatinaw and Upper Peace basins to the south as well as the pristine Peel in the far north. Whiten's extensive experience in, and knowledge of, this region extends across the Mackenzie River system, significant parts of which fall under the terms of Treaty 8 (1899). He carefully documents the impacts on Indigenous nations within this large area. Like other contributors in this collection of essays, Whiten emphasizes the significant role that grassroots exclusion has played in the rise of water-related issues in the Upper Kiskatinaw and Upper Peace basins. In recent decades, other water-related concerns have also developed across communities throughout this region. The ongoing construction of the Site C Dam on the Peace, despite opposition from First Nations and other activists, only reinforces Whiten's concerns about community exclusion. Through this continuing concern regarding top-down decision-making processes regarding river basins, Whiten forcefully foregrounds the Peel River basin, which falls under Yukon's 1993 Final Umbrella Agreement, and which in turn has been confirmed by the Supreme Court of Canada.

The fourth section of this collection, *Interventions*, constitutes the place where the voices of artists come to the fore on behalf of water. Our book on water is entitled *Signs of Water* for a host of reasons, the foremost of which must be that the artist's production is no less important to community wellbeing in relation to water than that of the anthropologist's (with which this volume begins) or the engineer's (with which it ends). Canadian poet Richard Harrison, winner of the 2017 Governor General's Award for poetry, highlights in his meditative essay on water, culture, and environment how colonial culture—with its default emphasis on wheel-based technologies—has robbed itself (and those it has dominated) of opportunities to see community and life differently. Harrison, whose

family home was hit hard in the 2013 flooding that inundated Calgary, Alberta, grieves over water. Specifically, he raises the problematic relationship between roads and water in ways that invoke other essays in our volume, such as the chapters on Brazil, the Fraser River, and the Mackenzie discussed above.

If Harrison at the close of chapter 10 imagines the wake of a boat he rides in, JuPong Lin and Devora Neumark suggest building a boat and offer a blueprint for such a project based on the craft of an actual boat builder. Their performance score composition, "Instructions for Being Water," is also offered here for inspiration and use. Using language that evokes Walt Whitman (who had much to say about water), they "lean towards each other and again outward. We invite new kinships" (p. 289). Visual artist Barbara Amos leads a similar collective called The Red Alert Project, and in her eponymously titled chapter 12, Amos demonstrates how her community work coincides with not only that of the Fierce Bellies Collective (created by Lin and Neumark), but the efforts of the Ghost River community, also located in Alberta, documented by Sharon Meier MacDonald in chapter 13. Both Amos and MacDonald, with their respective communities, have courageously opposed the watershed damage that is ongoing in this region, even in the unmitigated ruin that followed the great flooding of 2013. Both testify that they work at times under duress.

Sharon Meier MacDonald's chapter on the Ghost River watershed constitutes the opening piece in this volume's penultimate section, wherein two very different communities provide response models to critical water issues in their respective bioregions. In the aftermath of the 2013 flooding that swept through the Bow River watershed in southern Alberta, an event that awakened many Albertans to the reality of climate change, the Ghost River community located within this corridor came together to meet the crisis before them. Unfortunately, this meant facing industry, particularly the timber industry, which, at that time, was bent on clear-cutting even with the ecological disaster that had just unfolded with unprecedented fury. MacDonald's work documents this period when, dramatically, the people of the Ghost River region united, with First Nations and settlers alike working together.

Similarly, Bill Bunn and Robert Boschman, whose research is supported by a Social Sciences and Humanities Research Council grant, have

twice visited the abandoned remains of Uranium City, once home to about 4,000 citizens. In the aftermath of Eldorado Mining Corporation's sudden eclipse of its uranium ore extraction and milling operations throughout this area in 1982, the community now holds about fifty people. As in the work of Reg Whiten (chapter 9), what is documented here through fieldwork, archival study, and interviews concerns the Treaty 8 (1899) region of Canada, which spans three provinces and a territory. It is here specifically, the ancient home of the Dene, where Bunn and Boschman begin their chapter focusing on Patrick Deranger, a Dene Elder who was born on the very land where Uranium City would later be established and because of which the Deranger family would be relocated. For Patrick Deranger, who died while this book was being written, the city's legacy was personal and complex, but among the many issues he faced water came first. It informs the Dene world view, and in this region the challenges are numerous given the intensive extraction and milling of uranium ore at multiple locations. With exceptions, as Bunn and Boschman have documented, these sites have not all been remediated. The most serious, Gunnar, an open-pit uranium operation from the mid-twentieth century that sits right on the shores of Lake Athabasca, is only now being attended to, at a cost to taxpayers of approximately \$100 million CAD. That a project like Gunnar should never have happened in the first place is perhaps a point of contention to be debated by historians and environmentalists. What surely cannot be acceptable, however, is that a toxic field like Gunnar should be left behind for later generations to deal with and pay for. *Indeed, this region generally represents how colonialism and industry together create external costs as legacies to be borne by those who had nothing to do with their creation but must suffer and live with the consequences.* On many counts, the above statement stands for this volume, with its emphasis on communities forced to deal with the decisions of magnitude taken by others, who too often made no plans or provisions for consequences and impacts.

If Bunn and Boschman's chapter on Uranium City constitutes a kind of denouement to this volume, Anna Frank's chapter demonstrates how the science of infrastructural engineering can be deployed in ways that are anything but reckless. Frank brings to fruition here the theme of hopeful implementation and the successful search for good working results that can be found throughout these chapters, and which Robert Sandford

observes in his Foreword. Moreover, with her careful historical context of the technology she describes, large-scale rain and flood water harvesting, Frank reveals how and why ancient water technologies, such as the qanat, actually worked. With an engineer's insight and a storyteller's sense of wonder, she lays down plans for how proven infrastructures such as the qanat can and will take us into the future as we deal with global climate change.

The editors of this book have also highlighted Frank's closing statement, "**We are on the brink of endless opportunities to learn more by consolidating science instead of breaking it apart into traditional silos,**" precisely because it calls on hope, vision, collaboration, and multi-disciplinary action when we need these most crucially. Today is not a day for despair but for "investment and realization." This book is likewise a project that has been realized with hope and a multitude of visions, perspectives, and disciplines, all focused on human communities in their relation to water, essential to all life. This book is here for all to read, use, rely on, and most importantly perhaps, build on.

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