Introduction

It's a question of whether we should privatize the normal water supply for the population. . . . The NGOs . . . bang on about declaring water a public right. That means that as a human being you should have a right to water. That's an extreme solution. And the other view says that water is a foodstuff like any other, and like any other foodstuff it should have a market value. Personally I believe it's better to give a foodstuff a value so that we're all aware that it has its price.

—Nestlé CEO Peter Brabeck, 2005

Forty years ago, when I was in grade school, the prospect of a large segment of the population shunning tap water, or families spending hundreds or even thousands of dollars per year on heavy multipacks of plastic water bottles for drinking, which they would lug from the store to the car to the kitchen, would have struck virtually everyone as a ludicrous vision or perhaps a dystopian fantasy.

Yet here we are. In 1980, U.S. consumption of bottled water barely reached two gallons per person per year, mainly imported Perrier in heavy glass bottles. In 2016, bottled water surpassed soft drinks to become the most consumed beverage in the United States, and by the end of 2021 Americans were swilling 47 gallons per year of it on average, for a total of 15.7 billion gallons, 70 percent of that in single-use plastic bottles (see figure 1).[1] One study found that among U.S. adults, bottled water accounted for a stunning 44 percent of *total* drinking water intake.[2] The bottled water industry's annual sales in 2021 reached $40 billion in the United States and $300 billion worldwide.[3] As figure 2 shows, it is far and away the world's most consumed packaged drink. China is now the biggest consumer of bottled water, guzzling one-fourth of the global total of 120 billion gallons in 2021. That total has increased

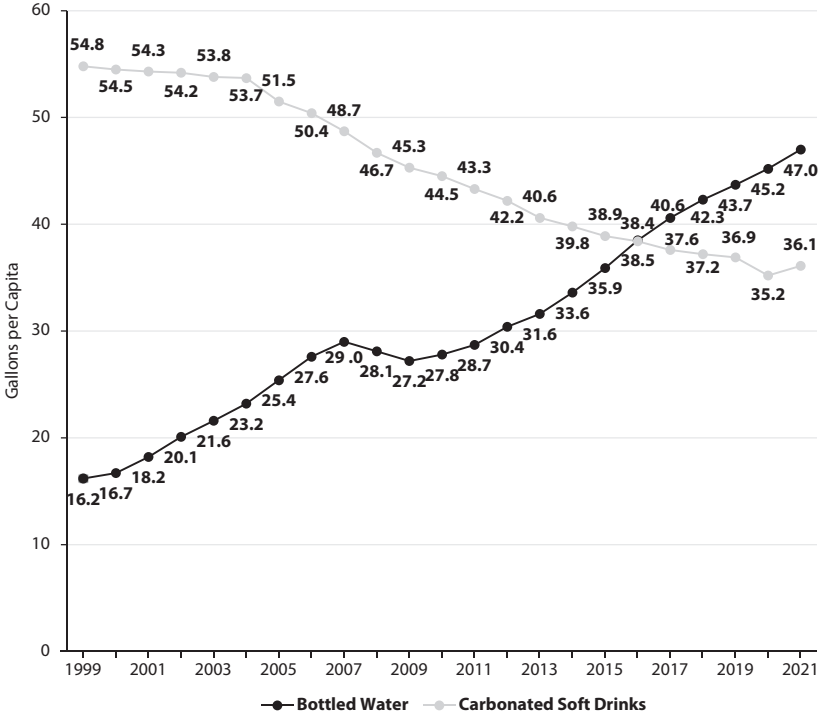

FIGURE 1. U.S. consumption of bottled water and carbonated soft drinks, gallons per capita, 1999–2021. Sources: Rodwan 2019; Beverage Marketing Corporation 2013, 2017, 2021; IBWA 2022; Statista 2022b.

by an average of 6 to 7 percent per year, with the fastest growth in East and Southeast Asia.[4] Clearly this is no minor phenomenon.

All of this water has to come from somewhere. Just under half of bottled water worldwide is extracted from groundwater, via natural springs, boreholes, or wells.[5] This requires gaining access to those sources, which in many cases are already in use by local communities and farmers, and certainly by natural ecosystems.[6] Much of the remainder—including nearly two-thirds of the bottled water sold in the United States—is instead drawn from public tap water supplies, a process that is ironically far less visible to the public.

Who is selling us this water? The biggest players in the bottled water industry are four huge multinational corporations: two of the largest food giants, Nestlé and Danone Group, and the two top beverage behemoths, Coca-Cola and PepsiCo. These companies went on a worldwide buying spree after the turn of the century, snapping up regional and

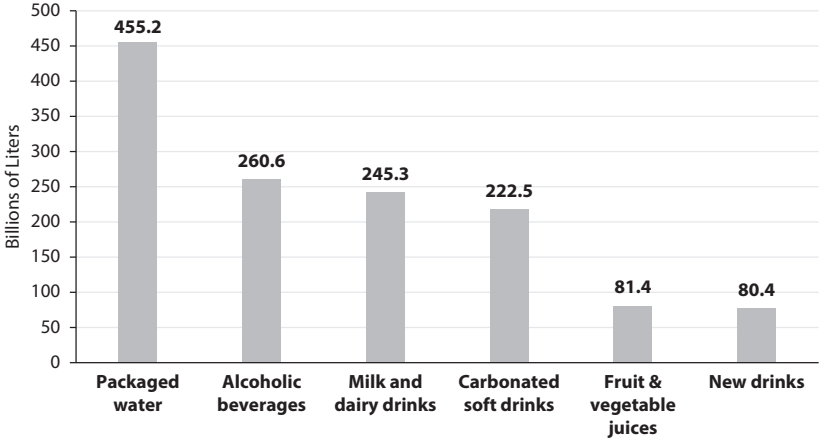

FIGURE 2. Worldwide packaged beverage consumption volume, 2021 (in billions of liters). Source: Adapted from Statista 2022a.

national bottlers along with their water sources and bottling plants. Most of these firms (which also use enormous quantities of water in their food products) work to influence global water policy as well, either through involvement in the World Water Forum and its sponsor the World Water Council or via the 2030 Water Resources Group, an industry-dominated body created by the World Bank to advise the United Nations, whose governing board includes the chairman of Nestlé and the CEO of Coca-Cola.[7] At the same time, many smaller water bottlers continue to survive and thrive, especially across the global South.

. . .

The vignettes in the preface, and Peter Brabeck's quote in the epigraph above, are scenes from a particular kind of war over water. This is a conflict in which bottled water and beverage firms are squaring off not only against many residents of communities whose water they are extracting or want to bottle, but also, it would seem, against public tap water itself—or at least our reliance on the tap as a trustworthy source of drinking water. This raises challenging issues for public water utilities, whose central purpose is to provide the very same substance—drinking water—which they do for an infinitesimally small fraction of the cost and environmental impact of bottled water. The bottled water industry, however, insists that its product is in competition not with tap water but rather with soft drinks, beer, and other beverages.[8]

But this battle over bottled water is only one facet of a much larger global conflict that has been raging in its current form since at least the 1980s: the struggle over whether water should be primarily a market commodity or a public good. These linked conflicts revolve around a simple truth: in a highly unequal world, when access to safe drinking water is premised on the ability to pay, some people will inevitably go without. This obvious yet fundamental fact lies at the root of the deep objections by critics to both the privatization of tap water systems and the commodity of bottled water. It also explains why the tensions over bottled water—a substance dramatically more expensive per unit volume than tap water—are closely related to, and often as intense as, the major battles over water utility privatization that have erupted around the world in recent decades.

Unbottled examines the social movements that are increasingly contesting the commodity of bottled water and the social, cultural and environmental consequences of its growth, both in North America and worldwide. It explores the implications of a profound and ongoing shift, in which the world's people are getting an increasing share of the water they drink from private corporations in plastic containers, rather than from a household or shared faucet served by a public water utility. It addresses the fraught question of where our next drink of water should come from—a tap or a bottle—and what the answer means for human rights, the natural environment, and the future of public water systems.

The dynamics behind bottled water's meteoric growth differ by world region. In significant parts of the global South (or Majority World),[9] because of colonial legacies, debt, austerity, and other factors, many governments have been unable to extend tap water systems fast enough to keep pace with rapid urbanization, even where the political will exists to do so. In this context, corporations, consumers, and governments are increasingly turning to packaged water—in single-serving bottles, multigallon jugs, plastic sachets, cartons, and other forms—as a solution to the actual or perceived scarcity of safe drinking water.[10] In this book I use the term *packaged water* to refer to this wider range of forms of commodified water, of which the various types of bottled water are the biggest subset. In most large cities in the South, there is a two-tier packaged water market: the transnational firms and their subsidiaries target middle- and upper-income consumers with higher-priced branded water, while local vendors and refillers supply poor and working-class residents with lower-cost water of often uncertain origin and quality. Yet for the poorest residents, even the cheapest options can

be prohibitively expensive, highlighting the concerning implications of this commodity for the human right to water.[11]

In the rich countries of the global North (or Minority World), where access to clean tap water in the home is nearly universal, the reasons for bottled water's rise are different. Bottled water firms promote their product by appealing to consumer concerns with social status, purity, fitness, and health. Their advertising campaigns have sometimes also disparaged tap water, both capitalizing on and contributing to public fears about water quality.[12] News coverage of disasters of unsafe tap water, such as in Flint, Michigan, or Walkerton, Ontario,[13] further increases demand for bottled water. However, bottled water on average is no safer than tap water, is less strictly regulated, contains much higher levels of microplastics,[14] and at least in the United States largely consists of refiltered municipal water—including Coke's Dasani, Pepsi's Aquafina, and Nestlé Pure Life brands.[15]

These dynamics have provoked resistance in a wide range of forms and places. The oppositional movements fall into two broad categories: those contesting bottled water consumption and those resisting the bottling industry's water extraction. On the consumption end, campaigns to "reclaim the tap" have succeeded in pushing hundreds of city governments, schools and universities, and other institutions to promote the high quality of local tap water, reinvest in public water infrastructure including drinking fountains, and ban the purchase and sale of bottled water. One major impetus for these campaigns is bottled water's major negative environmental effects, which include an energy footprint up to two thousand times higher than tap water, major greenhouse gas emissions, substantial water waste in manufacturing, and the immense worldwide plastic pollution problems generated by the disposal of over half a trillion plastic beverage bottles annually.[16] At the extraction end, proposals to site or expand high-volume pumping and bottling facilities have generated fervent opposition, with local residents mobilizing around concerns including depletion or pollution of local groundwater, harm to fisheries, increased truck traffic, minimal water fees paid by bottlers, and negligible economic returns to communities. Drought and climate change–related water scarcity tend to supercharge these conflicts. Bottled water extraction is also a target of activism across the global South, with conflicts in Mexico, Brazil, Pakistan, Indonesia, India, and other nations.[17] Many of these struggles have received support from a cluster of national and international advocacy groups, some of which also facilitate local and global campaigns against tap water privatization.

Academic attention to the riddles posed by the rapid growth of bottled water has been surprisingly sparse. A substantial body of work examines the privatization of municipal tap water, particularly the efforts by international financial institutions and the global water services industry to open public water utilities to private management and ownership, and the vibrant movements that have arisen in opposition, from Bolivia to Indonesia to Indianapolis to Italy. However, this work has largely neglected the other major avenue of drinking water commodification: the growth of bottled and packaged water and its transformation into a global industry. Much of the published research that does address bottled water places it as a minor addendum to discussions of tap water privatization, and vanishingly little centers primarily on the social movements that are contesting this commodity. Yet the bottled water industry is dominated by a different group of multinational companies, and it has generated distinct opposition movements. This industry's continued rapid expansion, along with the explosion of public concern around the linked crises of climate change, drought, groundwater depletion, plastic waste, and decaying public infrastructure, makes a current examination of this commodity and its countermovements especially necessary.

In the following chapters I explore the causes, as well as the social, environmental, and cultural consequences, of bottled water's dramatic growth. I examine how the soaring fortunes of bottled and packaged water are connected to the growing global crisis of fresh water access, and I assess the implications of this commodity for realizing the human right to water. I also chart a range of social movements around packaged water, considering the parallels and divergences in their tactics and strategy, and asking how they are situated in relation to the broader international water justice movement, which fights water utility privatization and defends public and community water systems. Finally, I analyze the repercussions of bottled water's expansion for the future provision of safe public tap water—which many view as a quintessential public good[18]—and for social justice and sustainability more broadly.

Chapter 1 examines struggles over public versus private provision of water, focusing on the past four decades, during which a wave of privatization of public water utilities has taken place around the world, pushed by international financial institutions and private water firms and often abetted by governments. It briefly describes the opposition movements that have arisen in response to this privatizing trend and evaluates their outcomes. This chapter also explores several conceptual

lenses for understanding privatization, commodification, and capital accumulation. It employs those ideas to develop a set of arguments about how bottled water is distinct—both in the way that it commodifies water and in the kinds of challenges it poses to the public provision of drinking water. Chapter 2 turns to the global bottled water industry, examining the reasons for its rapid growth and consolidation, and documenting how the industry has promoted its product by contrasting it with tap water. It asks why people in the United States and other wealthy nations have increasingly come to fear their tap water, explores how justified those concerns are, and traces efforts by the industry to cast doubt on the quality of public tap water. It scrutinizes the environmental, economic, and social effects of this commodity, including how the shift away from the tap and toward bottled water has exacerbated existing social inequalities and more recently has contributed to a growing backlash against single-use plastics. It also addresses the spread of bottled and packaged water in the global South, examining the role it plays in settings where tap water does not represent a safe or reliable drinking water source, and explores tensions over the role of packaged water in meeting international goals for improving clean water access.

But what are the actual practices of the movements taking on packaged water—what do they look like on the ground? Beginning with the toxic water disaster in Flint, Michigan, chapter 3 investigates the relationship between threats to tap water safety, environmental injustice, neoliberal austerity, and disinvestment in public infrastructure, and how the bottled water industry has benefited from these trends. It examines how the Flint crisis has spawned a highly diverse coalition that connects urban tap water crises with the bottled water industry's groundwater extraction in rural communities. It also addresses the implications of packaged water's growth for the future of municipal tap water, asking how we can restore trust in our public water infrastructure. Chapter 4 traces the history of bottled water movements in North America, focusing on a handful of key organizations and their shared roots in earlier and broader activism. It then examines the organized pushback against packaged water from the consumption side: a constellation of campaigns by city governments, public and private institutions, university students, community organizations, consumer and environmental NGOs, and others to increase tap water consumption and access, problematize the commodity of bottled water, and often ban its sale.

The following two chapters focus in depth on two major regional conflicts over bottled water extraction in North America. Chapter 5

travels to Cascade Locks, Oregon, the site of a decade-long struggle over Nestlé Waters' proposal to pump and bottle state-owned spring water in the scenic Columbia River Gorge, which culminated in a precedent-setting vote on a ballot measure to ban water bottling. Chapter 6 moves to Canada, where an alliance of water advocacy groups and Indigenous activists in southwestern Ontario is engaged in the nation's most sustained and visible conflict over bottled water. They have squared off against Nestlé Waters (and now its successor, BlueTriton) over its ongoing water extraction in a wholly groundwater-dependent region and its efforts to expand to new sites, substantially reshaping provincial water policy in the process.

In chapter 7, I step back to take stock of this range of oppositional efforts. This chapter assesses the parallels and divergences among the movements, communities, and organizations covered in the book, identifying the lessons they offer regarding water commodification and asking to what extent they represent an effective force for *de*commodification. It considers the implications of their varying degrees of success for the prospect of ensuring the human right to water and for the future of public water and public goods more broadly. Finally, the Conclusion considers where all of this leaves us and offers a series of concrete recommendations for curtailing the negative impacts of this commodity's global spread, regulating the industry's practices, strengthening and expanding access to public drinking water, and more.

While the book delves into a wide range of intersecting issues that lend themselves to multiple interpretations, I make five main arguments in these pages. First, the unique characteristics of bottled water differentiate it from tap water—a substance that has posed major obstacles to profitable privatization—and render it a more ideal commodity for capital accumulation. Bottled water's plastic packaging and far greater mobility allow it to bypass costly and elaborate tap water networks, disconnecting it from any shared public endeavor and hastening the commodification of water on a global scale. Second, these traits make the growth of bottled and packaged water a threat to the future provision of high-quality drinking water by public water systems—a threat potentially even more serious than that posed by tap water privatization. As this commodity increasingly displaces water consumed from public (and community-managed) sources, it is helping to erode the century-old project of universal public provision of safe drinking water that has brought incalculable health benefits to many parts of the world. Third, bottled and packaged water both illuminate and exacerbate the

racial, class, and geographic divides between the water "haves" and "have nots." Widespread dependency on bottled water is an indicator of water injustice, both in the global North and in the South. It intensifies existing social inequalities, and its availability can enable governments to postpone or avoid making critical investments to repair or extend public tap water systems. Fourth, the diverse countermovements that are contesting bottled water consumption, pushing to expand access to public drinking water, and resisting commercial water extraction for bottling constitute an emerging and increasingly coherent movement for decommodification. Finally, while there are already partial linkages between bottled water opposition movements and the global water justice movement that opposes privatization and supports public and community water systems, these connections can be greatly strengthened, and these two sets of movements can more explicitly embrace each other's core concerns. They have the potential to unite around a shared critique of bottled water's distinctive threat to realizing the human right to water.

This book is based in large part on ethnographic field research that bridges multiple sites across national borders. Overall it is the product of over a decade of research, which took place between 2010 and 2021 in the United States, Canada, Mexico, and Brazil, including more than one hundred interviews with a wide range of participants involved in struggles over bottled water extraction and consumption, both in those countries and in other nations. They include local community residents on multiple sides of these conflicts; grassroots activists; staff and volunteers with local, national, and international organizations working on water, environmental, and consumer issues; representatives of bottled water firms; water researchers; staff of public water utilities and state agencies; local elected officials; and many others. The interviews were complemented by extensive observation at community meetings, conferences, international forums, protests, and other public events, and by analysis of documents, publications, and news media coverage.

Before exploring the larger concepts of commodification, privatization, accumulation, and decommodification and how they apply to water in its various forms, we first need to examine how drinking water was transformed from a market commodity into a public good, and then (partly) back again. The next chapter takes on both of these tasks, setting the stage for a deeper look at the phenomenon of bottled water and the movements that are complicating its continued growth.