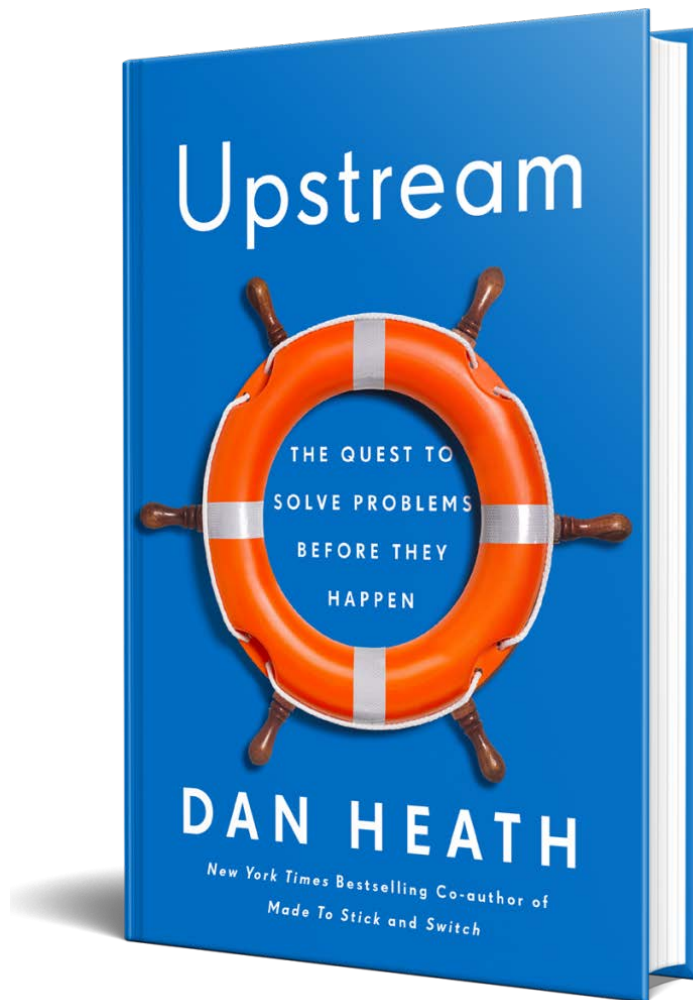


Chapter 1:

# MOVING UPSTREAM



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## CHAPTER 1

# Moving Upstream

You and a friend are having a picnic by the side of a river. Suddenly you hear a shout from the direction of the water—a child is drowning. Without thinking, you both dive in, grab the child, and swim to shore. Before you can recover, you hear another child cry for help. You and your friend jump back in the river to rescue her as well. Then another struggling child drifts into sight . . . and another . . . and another. The two of you can barely keep up. Suddenly, you see your friend wading out of the water, seeming to leave you alone. “Where are you going?” you demand. Your friend answers, “I’m going upstream to tackle the guy who’s throwing all these kids in the water.”

—A public health parable (adapted from the original, which is commonly attributed to Irving Zola)

In 2012, Ryan O’Neill, the head of the customer experience group for the travel website Expedia, had been sifting through some data from the company’s call center. One number he uncovered was so farfetched as to be almost unbelievable. For every 100 customers who booked travel on Expedia—

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reserving flights or hotel rooms or rental cars—58 of them placed a call afterward for help.

The primary appeal of an online travel site, of course, is self-service. No calls necessary. Imagine a gas station that allowed you to swipe a credit card right at the pump—and then, about 60% of the time, something went wrong that forced you to go inside the store for help. That was Expedia.

Traditionally, the call center had been managed for efficiency and customer satisfaction. Reps were trained to make the customer happy—as quickly as possible. Short calls minimized expenses. “The lens we were using was cost,” said O’Neill. “We had been trying to reduce that cost. Instead of a ten-minute call, could we make it a two-minute call? But the real question was: Why two minutes? Why *any* minutes?”

When you spend years responding to problems, you can sometimes overlook the fact that you could be preventing them. O’Neill shared his findings with his boss, Tucker Moodey, the executive vice president of global customer operations. Together, they dug into a basic but neglected question: Why in the world are so many customers calling us? They compiled a ranking of the top reasons customers sought support.

The number one reason customers called? To get a copy of their itinerary. In 2012, roughly 20 million calls were logged for that purpose. Twenty million calls! That’s like everyone in Florida calling Expedia in one year.

At a support cost of roughly \$5 per call, that’s a \$100 million problem. So why weren’t customers receiving their itineraries automatically? The answers were pretty simple: The customer had mistyped her email address. Or the itinerary ended up in her spam folder. Or she deleted the itinerary by accident, thinking it was a solicitation. Compounding the

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problem was that there was no way on the website for customers to retrieve their itineraries.

O'Neill and Moodey took their data to Dara Khosrowshahi, then the CEO of Expedia. "We've got to do something about this," O'Neill recalled saying. Khosrowshahi not only agreed with their focus on reducing call volume, he made it the customer experience team's top priority. A "war room" was assembled, where people from different operating groups met on a daily basis, and the group was given a simple mandate: *Save customers from needing to call us.*

The war room group deployed solutions for the top drivers of customer calls, knocking off one at a time. The fixes for the number one issue—the itinerary requests—came relatively quickly: Adding an automated option to the company's voice-response system ("Press two to resend your itinerary"); changing how emails were sent to avoid spam filters; and creating an online tool to allow customers to handle the task themselves.

Today, virtually all of those calls have been eliminated. Twenty million support calls just vanished. Similar progress was made on the other "top 10" issues. Since 2012, the percentage of Expedia customers who call for support has declined from 58% to roughly 15%.

The effort to reduce call volume at Expedia was a successful *upstream* intervention. Downstream actions react to problems once they've occurred. Upstream efforts aim to prevent those problems from happening. You can answer a customer's call and address her complaint about a missing itinerary (downstream), or you can render that call unnecessary by ensuring that she receives her itinerary up front (upstream).

Surely we'd all prefer to live in the upstream world where problems are prevented rather than reacted to. What holds us

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back? Looking back on Expedia's success, what's particularly hard to understand is why it took so long to act. How could the company have reached the point where 20 million people were calling for itineraries? Shouldn't the alarm bells have been ringing rather loudly by the time, say, the 7 millionth call was logged?

Expedia's executives were not oblivious. They were aware of the huge volume of calls. It's just that they were organized to neglect their awareness. Like most companies, Expedia divided its workforce into groups, each with its own focus. The marketing team attracted customers to the site. The product team nudged customers to complete a reservation. The tech group kept the website's features humming along smoothly. And the support group addressed customers' issues quickly and satisfactorily.

Notice what was missing: It was no group's job to ensure that customers *didn't need to call for support*. In fact, no team really stood to gain if customers stopped calling. It wasn't what they were measured on.

In some ways, the goals of the groups actually encouraged more calls. For the product group, whose goal was to maximize bookings, the best move was to ask for a customer's email only once, because asking her to type it a second time would add friction. They might lose 1 person in 100 who'd be annoyed enough to abandon the transaction.

But the side effect of that decision, of course, is that some customers would mistype their emails, and they'd end up calling for an itinerary. That's a system failure. That customer never needed to call. Yet both teams would still look like heroes according to their goals: The product team closed a transaction, and the support team handled the resulting call quickly.

Mark Okerstrom, who was Expedia's CFO in 2012 and became CEO in 2017, said, "When we create organizations,

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we're doing it to give people focus. We're essentially giving them a license to be myopic. We're saying: This is your problem. Define your mission and create your strategy and align your resources to solve that problem. And you have the divine right to ignore all of the other stuff that doesn't align with that."

Okerstrom's point is that focus is both the strength and the weakness of organizations. The specialization inherent to organizations creates great efficiencies. But it also deters efforts to integrate in new, advantageous ways. In *upstream* ways.

And this is true in many parts of society. So often in life, we get stuck in a cycle of response. We put out fires. We deal with emergencies. We handle one problem after another, but we never get around to fixing the systems that caused the problems.

Therapists rehabilitate people addicted to drugs, and corporate recruiters replace talented executives who leave, and pediatricians prescribe inhalers to kids with breathing problems. And obviously it's great that there are professionals who can address these problems, but wouldn't it be better if the addicts never tried drugs, and the executives were happy to stay put, and the kids never got asthma? So why do our efforts skew so heavily toward reaction rather than prevention?

Back in 2009, I spoke with a deputy chief of police in a Canadian city; it was one of the conversations that sparked my interest in upstream thinking. He believed that the police force was unduly focused on reacting to crimes as opposed to preventing them. "A lot of people on the force want to play cops and robbers," he said. "It's much easier to say 'I arrested this guy' than to say 'I spent some time talking to this wayward kid.'"

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He gave an example of two police officers: The first officer spends half a shift standing on a street corner where many accidents happen; her visible presence makes drivers more careful and might prevent collisions. The second officer hides around the corner, nabbing cars for prohibited-turn violations. It's the first officer who did more to help public safety, said the deputy chief, but it's the second officer who will be rewarded, because she has a stack full of tickets to show for her efforts.

That's one reason why we tend to favor reaction: Because it's more tangible. Downstream work is easier to see. Easier to measure. There is a maddening ambiguity about upstream efforts. One day, there's a family that does not get into a car accident because a police officer's presence made them incrementally more cautious. That family has no idea what didn't happen, and neither does the officer. How do you prove what did *not* happen? Your only hope, as a police chief, is to keep such good evidence of crashes that you can detect success when the numbers start falling. But even if you feel confident your efforts accomplished something, you'll still never know *who* you helped. You'll just see some numbers decline on a page. Your victories are stories written in data, starring invisible heroes who save invisible victims.

In this book, I'm defining upstream efforts as those intended to prevent problems before they happen or, alternatively, to systematically reduce the harm caused by those problems. Teaching kids to swim, for instance, is an excellent upstream way to prevent drownings. But sometimes even experienced swimmers can find themselves at risk of drowning. That's why, to me, a life preserver is also upstream technology. At first glance, life preservers seem reactive—anyone who needs a life preserver tossed to them is already experiencing a problem, after all. But if the “problem” we want to

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solve is *people dying from drowning*, then the life preserver can prevent that.

A telltale sign of upstream work is that it involves systems thinking: Because authorities are aware of the risk of drowning, life preservers are purchased and distributed to locations where they will be readily available if an emergency happens. By contrast, a father frantically diving into the pool at the waterpark to assist his struggling son—that's reactive. (There is usually an interplay between downstream and upstream: After the father saves his son, the waterpark will likely review the incident and make systemic changes to ensure something similar doesn't happen again. The downstream rescue leads to the upstream improvement.)

I prefer the word *upstream* to *preventive* or *proactive* because I like the way the stream metaphor prods us to expand our thinking about solutions. This chapter began with the parable of the drowning kids, which contrasts two locations: downstream and upstream. But the reality is that we can intervene at many points along an almost limitless timeline. In other words, you don't head Upstream, as in a specific destination. You head upstream, as in a direction. Swim lessons are *further* upstream than life preservers. And there's always a way to push further upstream—at the cost of more complexity.

To consider the spectrum of upstream action, let's take a specific problem: In 2013, burglars broke into my parents' house in College Station, Texas. My parents were taking a walk around the neighborhood, and while they were gone, the burglars kicked in the back door and stole a wallet, two iPhones, and some jewelry. My parents filed a report with the police, but unfortunately the thieves were never caught. The downstream response failed.

What might have prevented the burglary altogether? Sec-



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onds before: a deafening alarm. Minutes before: the visible evidence of an alarm system—like those security-company signs you see in people’s yards. (Or maybe this would have only deflected their attentions to a neighbor’s house.) Hours before: a more palpable police presence.

Months before: If the thieves had been arrested previously, they might have been enrolled in certain kinds of behavioral therapy that can break the cycle of recidivism. Years before: Let’s keep in mind that no kid grows up aspiring to burgle homes. So a far-upstream solution to theft would be: Create a community context where theft seems pointless because of the plentiful opportunities available. (If this seems Pollyanna-ish, by the way, wait until chapter 5: There’s a country that practically eliminated teenage drug and alcohol abuse by embracing a similar philosophy of opportunity.)

Could we imagine preventing a burglary *decades* before it happened? Yes. We’ll never run out of room upstream. The psychologist and child development expert Richard Tremblay argues that the best time to prevent aggressive behavior is when the criminal is still in his mother’s tummy. Tremblay points to a cluster of risk factors involving the mother that predict a child’s chronic physical aggression: maternal poverty, smoking, malnutrition, anger, and depression, plus poor marital relations, low education, and having the baby as a teenager. These factors tend to come together, according to Tremblay—and more important, they can be *changed*. Tremblay is currently working on a program that helps pregnant women in these high-risk situations. “To solve the aggression problems, which are mainly a male problem, we need to focus on females,” Tremblay told *Nature*. “If you ameliorate the quality of life of women, it will transfer to the next generation.”

If we could assume that all these solutions worked, we’d

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prefer the solutions further upstream—the ones where fewer kids ever became criminals. But while upstream solutions are generally more desirable, they're also more complex and ambiguous. Think of it: Tremblay is proposing to improve a pregnant mother's environment so dramatically that she'll be prone to fewer risk factors (poverty, anger, depression), which means that her child will be less prone to aggressive tendencies, which could in turn lead to a reduced risk of criminal activity. Maybe 18 years later, the woman's child will end up going to college instead of breaking into a house. Downstream efforts are narrow and fast and tangible. Upstream efforts are broader, slower, and hazier—but when they work, they *really* work. They can accomplish massive and long-lasting good.

So, what's right, upstream or downstream? Should we stop a burglary with an alarm system—or by nurturing the mother of the future “criminal”? The first and best answer is: Why in the world would we choose? If corporations can mount multiple levels of protection to *prevent network downtime*, then surely, we can invest in multiple levels of protection against crime and other important problems.

If, in a world of scarce resources, we absolutely must choose one point of intervention, then here's the uncomfortable answer: We don't know which one is right. The world hasn't gathered enough evidence (let alone mustered the will) to pick the right point on the “stream” for crime—or, for that matter, on the stream of almost any major problem. That's one of the main reasons I wrote this book. Because, while we have a wide spectrum of available options to address the world's problems, we've mostly confined ourselves to one tiny stretch of the landscape: the zone of response. React, react, react.

We spend billions to recover from hurricanes and earth-

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quakes while disaster preparedness work is perpetually starved for resources. There are hundreds of agencies and organizations that exist to help the homeless, but how many organizations are dedicated to *preventing people from becoming homeless*? When Ebola starts to spread in a foreign nation, it becomes an international priority—and afterward it's hard to attract funding to support the local health systems that could prevent the next outbreak.

It's not that the upstream solution is always right. And it's certainly not the case that we should abandon downstream work—we will always want someone there to rescue us. The point is that our attention is grossly asymmetrical. We're so focused on saving the drowning kids in the river that we fail to investigate why they need saving at all.



Nowhere is the need for this shift more evident than in the \$3.5 trillion health care industry, which constitutes almost a fifth of the American economy. The US health care system is designed almost exclusively for reaction. It functions like a giant Undo button. Blocked artery? We'll unclog it. Broken hip? We'll replace it. Impaired vision? We'll correct it. If all goes well, you will be restored to your baseline health. But it's hard to find someone in the system whose job it is to address the question *How do we make you healthier?* (As distinct from *How can we respond to the problems that make you unhealthy?*)

Could the health system shift upstream? To do so would require major changes in policy, and health care policy is a notoriously partisan issue. Hoping to understand more about

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the underlying values of conservatives and liberals, an organization called The Health Initiative, led by Rebecca Onie and Rocco Perla, convened two focus groups in Charlotte, North Carolina: one with African American Democratic women and one with white Republican women. Each group was asked, “If you had a hundred dollars, how would you spend it to buy health in your community?” They were given the option to spread the hundred dollars across several categories.

The African American Democrats allocated about a third of the funds to the formal health care system (hospitals and clinics) and the great majority outside it: \$25 to healthy food, \$19 to affordable housing, and \$14 to childcare, for instance. What about the white Republican women—how did they spend their funds? In almost exactly the same way; they agreed nearly to the last percentage point. The same findings held up in other focus groups conducted around the country—with men, with Latinos, with swing voters, and more. “The similarities in the spending patterns were stunning,” said Perla. “That stopped us in our tracks.”

So, even as we engage in fierce fights with people across the aisle, we’re all secretly in agreement about how our spending *should* be allocated. Across the political spectrum, we think the best way to “buy health” is to invest two-thirds of our money into systems that make people healthy (food, housing, etc.) and one-third into systems that heal sick people. To say it a different way, for every \$1 we spend on downstream health care, most of us think it would be wise to spend \$2 upstream.

As it turns out, that ratio is pretty close to the global norm for developed countries. The average spending pattern over time, across other developed countries, is that for every \$1 a nation spends downstream, it spends between \$2 and \$3 upstream. There is one outlier among those nations and,

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yep, it's us. In the US, for every \$1 spent downstream, we spend roughly \$1 upstream. That's the lowest proportion of upstream spending to downstream among our peer countries.

The narrative we're used to hearing about health care is that the US "spends too much." That's oversimplified. It's true—by a long shot—that we spend more on formal health care as a percentage of GDP than any other developed country. But if you add together what nations spend on health care plus what's called "social care"—which is basically upstream spending, ranging from housing to pensions to childcare support—you find that the US is unremarkable. We're 9th out of 34 countries in total spending, according to data in a 2017 study by Elizabeth Bradley, Heather Sipsma, and Lauren Taylor.

As Bradley and Taylor point out in a book called *The American Health Care Paradox*, what's really distinctive about the US approach to health isn't so much the *quantity* of spending but the *way we spend it*. Compared to other countries, we spend more money fixing people's ailments and less keeping them healthy. We're downstream; other countries are upstream.

In fact, it's even worse than that: Even our *upstream* spending is not as upstream as other countries. According to a RAND research report, other developed countries spend almost triple what we do, as a percentage of the upstream budget, on supporting families (child credits, childcare assistance, etc.). Meanwhile, we spend about 30% more than they do on "old age" spending.

Where the US health system excels, as a result of this downstream focus, is in treating patients with serious diseases such as cancer or heart disease. That's why Saudi princes fly to Houston or Boston to have their cancer treated. But it's not just princes who benefit—it's anyone with those diseases.

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The US is a world leader in knee replacements, and bypass surgeries, and the number of people living with kidney transplants, and the percentage of seniors who get hip replacements within six months of needing one. These are the fruits of investing in downstream action.

What about the flip side—the disadvantage of our downstream focus? Let's consider some evidence from Norway, which makes for an interesting comparison because our total spending on upstream and downstream health is similar as a percentage of GDP. But Norway's spending priorities are radically different than ours: For every \$1 spent downstream, they spend roughly \$2.50 upstream.

What do Norway's different priorities buy? Take childbirth as an example. A pregnant Norwegian woman will pay nothing for all prenatal visits. Nothing for the delivery. Nothing for the visits after the baby is born. It's all covered.

Assuming the parents are employed for 6 of the 10 months before their baby is born, they are entitled to a whole slew of leave: The mother takes 3 weeks before the expected delivery date. Then, both parents can take off 15 weeks afterward. After that period ends, the family still has an additional stash of 16 weeks to divvy up between parents as they see fit. And, Americans, you better sit down for this one: All of this leave is paid. That's 49 weeks in total. (By the way, if the mother or father don't meet the work requirement, they don't receive paid leave, but they do receive a lump-sum check of roughly \$9,000.)

When the child turns one, he or she is guaranteed a place in a full-time, high-quality day care, and parents are charged on a sliding scale capped at a few hundred dollars a month. And families are sent a small monthly payment—a little over \$100 per month per child—that continues every month until

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they turn 18. That money could help pay for diapers or food or school supplies. Or it could be used to start a college savings fund—though that would be somewhat pointless, since college tuition is free in Norway.

Which country's population is healthier: Norway or the US? It's not a close call: In infant mortality, Norway has the 5th best results internationally; the US is 34th. Life expectancy: Norway is 5th, the US 29th. Least stressed: Norway is 1st, the US is 21st. Happiness—surely that's where we vault ahead? Nope: Norway is 3rd, the US is 19th.\*

Remember, both countries spend roughly the same on health (upstream and downstream) as a percentage of GDP. Norway is not spending more; it's just spending differently. We cranked up the treble, Norway cranked up the bass. Our choice as a nation has been to get better and better at fishing drowning kids out of the river.

We could choose differently.



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\* Some qualifications here to avoid oversimplifying. Even if the US matched Norway's level of upstream spending, there's no guarantee we'd see comparable population outcomes. Making an entire citizenry healthy is complicated, and the legacy of inequity and racism in the US makes it harder than in the (comparatively) homogenous Norwegian population. The other issue is more of a math point. It's not that there's anything sacrosanct about these "ratios" of upstream-to-downstream spending. (You could make the US's ratio look better, for instance, by slashing downstream health care spending. But that wouldn't make anyone healthier.) Here's the point: If you think of spending on health as a giant pot of money, we are allocating that pot way differently than other countries. And if we want to improve health, we'd be wise to either *add* upstream spending or shift it from downstream to upstream.

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My goal in this book is to convince you that we should shift more of our energies upstream: personally, organizationally, nationally, and globally. We can—and we should—stop dealing with the symptoms of problems, again and again, and start fixing them.

At the same time, we should be open-eyed about the challenges we'll face as we make that shift. Take this example from Mexico City: City officials in 1989 banned the general public from driving one weekday per week, based on the last digit of their license plates. The intent was to encourage use of mass transit options and thereby improve air quality. It was a noble upstream effort to *prevent* air pollution.

It didn't work. Many Mexicans bought a second car—often an old clunker, to keep costs down—so they could drive every day. Air quality did not improve.

Good intentions guarantee nothing.

What I find fascinating about upstream efforts is the way they reflect humanity at its best and worst. To go upstream is a declaration of agency: *I don't have to be at the mercy of these forces—I can control them. I can shape my world.* And in that declaration are the seeds of both heroism and hubris.

Sometimes that desire for control leads to astonishing success—think of the eradication of smallpox, a virus that had killed an estimated 300 million people in the 20th century alone, across every corner of the planet. Thanks to a massive worldwide effort, smallpox was systematically stamped out of existence. The last human being to be naturally infected with smallpox was a hospital cook named Ali Maow Maalin in Merca, Somalia. After he was found to be infected in 1977, a frantic two-week effort led to the vaccination of 54,777 people in the surrounding community, just



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to make sure the disease couldn't spread further.\* And that was the end of smallpox. We didn't treat it; we vanquished it. That's upstream work at its best.

But that desire for control—*I can mold this situation to my desires*—can also tempt us to act in situations that we don't fully grasp. We tinker with systems we barely understand, stumbling into a maze of unintended consequences. There's no doubt that our noble efforts to make the world better can very easily make the world worse.

There are knotty problems that upstream leaders must untangle. How can you detect problems before they occur? How can you measure success when success is defined as things *not happening*? (Remember the scenario of the police officer who used her presence to prevent crashes, rather than filling her ticket book.) And, by the way, who should we expect to pay for those things that do not happen?

Ahead, we will dive into this complexity and meet people who have thrived in spite of it. We'll visit the first city in the US to eliminate chronic homelessness. We'll study a major urban school district that increased its graduation rate by 25 percentage points by focusing intensely on a single year of high school. And we'll encounter an internet company, offering a subscription service, that discovered it could predict

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\* An amazing postscript: Maalin lived and later devoted himself to eradicating polio in Somalia, using his experience with smallpox to highlight the importance of vaccines. By the way, there was another person *unnaturally* infected with smallpox in 1978 under tragic circumstances: Janet Parker, a medical photographer in the UK, whose darkroom was directly above Professor Henry Bedson's lab. Bedson had been working with the smallpox virus, and in a rush to complete some research, he had cut corners on safety, allowing the virus to travel up to Parker through an air duct. Parker died, and, shamed by what he had done, Bedson committed suicide.

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which customers would cancel their annual subscriptions *within 4 weeks of their initial sign-up.*

Our exploration will come in three stages. First, we'll grapple with the three forces that push us downstream, impeding our ability to prevent problems. Then, in the heart of the book, we'll study the seven fundamental questions that upstream leaders must answer. We'll study both successful and unsuccessful prevention efforts, uncovering strategies that succeeded and obstacles to beware. Finally, we will consider "far upstream" thinking: What do you do when you're facing a problem that has never happened before (and may never happen at all)?

Most of us would agree that "an ounce of prevention is better than a pound of cure," but our actions don't match those words. In most of our efforts in society, we've optimized ourselves to deliver pounds of cure. Speedy, efficient pounds of cure. We celebrate the response, the recovery, the rescue. But we're capable of greater things: less Undo and more Outdo. What the world needs now is a quieter breed of hero, one actively fighting for a world in which rescues are no longer required. How many problems in our lives and in society are we tolerating simply because we've forgotten that we can fix them?