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Introduction: A Rendezvous of Victory

For it is not true that the work of man is finished,
That we have nothing more to do in the world,
That we are just parasites in this world,
That it is enough for us to walk in step with the world,
For the work of man is only just beginning and it remains to conquer all,
The violence entrenched in the recess of his passion,
And no race holds a monopoly of beauty, of intelligence, of strength, and,
There is a place for all at the Rendezvous of Victory.[1]

—AIMÉ CÉSAIRE (AS TRANSLATED BY C.R.L. JAMES)

A Personal Note

MY ARGUMENT to you is this: our collective relationship with the Earth's environment is—or should be—constitutional. Specifically, it should be republican. In this book, we will talk about what a republic is and what we mean by environment. We will discuss how, when seen through this lens, politics should help us live in our home, exercise our voice, develop institutions, and define our purpose: to build a society of free people authoring their life together in a place. In doing so, we define the *Environmental Republic*.

Before we get to all of that, however, I want to begin with a personal note. I am a scientist. Science is often invoked to justify environmental action. I lead a research center that produces science and economics to inform our response to climate change. This is where I should start, then. I believe science

illuminates our environmental problems, but it does not define them. I have spent two decades as a practitioner, working on environmental issues across economics, infrastructure, finance, and conservation. A crucial lesson I have drawn is that many commentators vastly overstate the authority of science in guiding us through fundamentally political choices about our future.

I don't mean to say that scientific diagnosis is incorrect. Indeed, science makes powerful claims about our predicament. On several dimensions, we have exceeded the operating experience of the planet's ecosystems (at least as we, *Homo sapiens*, have known them since we showed up some three hundred thousand years ago). That is all true. We are in uncharted waters. Nowhere in this book will you find arguments against this diagnosis.

I also do not intend to minimize the measurable risks this means for us as a species. I have little time for crude utilitarian arguments of the "it is bad, just not as bad as you think" type.[2] I certainly do not intend to engage in any form of pseudoscientific denial, nor do I believe that "technology will solve it on its own."[3] I am entirely convinced that we face a serious problem, an existential one for some, maybe many.

But something is not working in our approach to environmental challenges. We search for solutions by beginning with scientific diagnosis. This leads us to identify a portfolio of technologies, the adoption of which is made possible by consumer choices and regulatory intervention by states, often complying with multilateral commitments—in short, a targets-based, technocratic approach. After decades of it, concentrations of CO_2 in the atmosphere have kept increasing, biodiversity loss is at an all-time high, and conditions on the planet are changing at an accelerating pace. If that is a solution, it is not working. Technocratic performance management simply cannot be what a solution looks like.

Climate change, which has provided an accelerating metronome to my career, is a case in point. I wrote my first scientific work on the general circulation of the atmosphere as the world signed the Kyoto Protocol in 1997, the first major agreement committing countries to reduce emissions. I was in the middle of writing my PhD dissertation when the United States refused to ratify it. By then, we had known by how much our emissions would alter Earth's climate for well over three decades. Suki Manabe and Dick Wetherald (both of whom were at the Geophysical Fluids Dynamics Laboratory in Princeton, where I was studying) had estimated climate sensitivity back in 1967. Their result—about three degrees' warming for a doubling of CO_2 concentrations—is dead center in the range we still use to this day.[4] The scientific

diagnosis was clear: excessive concentrations of CO_2 and other greenhouse gases in the atmosphere were leading the planet towards unsustainable warming.

Such was my conviction in this diagnosis that in the early 2000s I left the research I was pursuing (after my doctorate, I had moved to MIT) to pivot my career towards real-world solutions. I joined the private sector, working with corporations and governments to tackle long-term strategic issues related to climate and sustainability. My day job was to apply economic analysis to global value chains to understand how the mass adoption of a wide portfolio of technologies and policies could transform energy and industrial systems.[5] Much of our economy runs on fossil-fuel burning, the principal source of CO_2 emissions. To reduce the latter, we had to electrify the economy (displacing coal, oil, and gas at the point of consumption) and ensure that electricity is produced without emissions. If implemented, this plan would take care of a substantial portion of the problem.

It seemed straightforward. Many of the technologies already existed at the time. Today, they are commonplace.[6] The electrification of the economy, from public transport to electric vehicles and heating, is well under way. The increasing rate at which we recycle materials and repurpose products is increasing our energy efficiency and reducing our reliance on fossil fuels. And those sectors for which electrification is difficult—cement and primary steel production, for example, or aviation—are seeing large investments in innovation. In electricity supply, solar panels are the fastest-growing source of energy in the world. On- and offshore wind turbines are everywhere, complementing geothermal and hydroelectric plants. Nuclear power—contentious because of the management of spent fuel—is also part of the picture. We knew all this was possible. We had a plan, it was doable, and it needn't cost too much.[7]

In 2009, as the world was due to meet in Denmark for a Conference of the Parties of the UN Framework Convention on Climate Change, it was becoming increasingly clear that those of us who believed in the rational inevitability of our collective plan had misjudged the situation. There had been some progress—no question, emissions could have been much higher—but nothing worked out as most of us had hoped. Around that time, I briefly joined the IPCC, the Intergovernmental Panel on Climate Change, as a lead author of the chapter "Cross-Cutting Investment and Finance Issues."[8] That IPCC assessment, the fifth, was meant to do what every report since the 1990s had done: diagnose problems and quantify solutions. Crucial work—don't misunderstand me—but you could feel a change in the wind.

The 2009 meeting in Copenhagen was supposed to produce a post-Kyoto framework but took place in the aftermath of the global financial crisis and as we entered Europe's sovereign debt crisis. It collapsed with no substantive deal. Countries would take another seven years to reach agreement in Paris on how to reduce emissions.

By then, I had switched to working in environmental conservation in countries that, we hoped, could make a difference. We know that the planet's ecosystems play a crucial role in mitigating our emissions and their impacts. We simply cannot afford to lose them. Here, too, we landed on the implementation of a suite of science-informed solutions that, added up, might reduce our impact on the natural world, from intensifying food production to reduce agricultural deforestation, to finding alternatives to meat that do not rely on everyone becoming vegetarian, to protected areas. But the planet continued in its inexorable, extraordinary loss of biological diversity.[9] We were not having the impact we had hoped for.

Truth be told, it has been a litany of disappointments. In 2024, countries that over thirty years ago joined the Convention on Biological Diversity—a treaty supposed to deliver sustainable governance for ecosystems across the world—failed to agree, yet again, on how much they were willing to spend to achieve their objectives.[10] Similarly, plastics pollution, which makes our chemical presence detectable even in the remotest parts of Antarctica, remains unsolved. In 2025, after years of negotiations, countries failed to agree on an international treaty on this subject, too.[11] Even the 2016 Paris agreement, hailed as a remarkable success a decade ago and arguably the most advanced of environmental treaties, has proven fragile, as shifting political winds have turned against ambitious climate action.[12]

You might conclude that this is just how it should be: an effortful process encountering obstacles that will ultimately be overcome as that famous arc of the "moral universe" bends towards justice.[13] But you could also conclude, as I am inclined to do now, that there is something fundamentally wrong about our failure to overcome the obstacles we face. The world has not been cowed into dramatic action by the graphic nature of scenarios produced by the IPCC and other international scientific bodies. If anything, it has followed a slow, meandering response, with some progress and substantial setbacks.

Since Kyoto, thirty years ago, atmospheric concentrations of CO_2 have kept increasing. There has been no interruption, except for 2020, the year of the COVID pandemic, when the world briefly stood still. That year, I cofounded a space-tech company to measure the amount of carbon sequestered in

vegetation across the world. In our data, we could see the ecosystems of the planet respond to our interference, desperately trying to keep up. Woody vegetation absorbs roughly a third of everything we put into the atmosphere. But it hasn't been nearly enough. In 1997, the global average concentration of CO_2 was 364 parts per million, about 100 parts per million above what it had been before industrialization. By 2024, concentrations had monotonically reached over 422 parts per million.[14] They continue to rise as I write.

For years, we had engaged in scenario planning in the hopes of painting a sufficiently compelling picture of the future to convince everyone not to go there. Now we are hurtling towards the very future we had been so desperately trying to avoid. Scientific diagnosis has been precise but largely ineffective. We are disagreeing on what to do, on an ever more accurate fact base. Little doubt has been left about the consequences. Globally averaged temperatures, for example, have already exceeded a degree compared to the average of the twentieth century. In some regions, such as my own Mediterranean backyard, those changes have been even more pronounced.[15] Ecosystems and agriculture have begun to feel the difference; so have cities. Even the casual observer can tell something is off. Our material conditions are changing. It is no longer conceivable to tweak our economic system, simply shifting energy production or establishing a few protected areas, so that we can all keep on living as we did. An environment that exceeds our historical experience is knocking on our front door. We face new material conditions, possibly a new age, and our approach to environmental challenges no longer seems fit for purpose.

What *Is* the Problem?

When I was a kid, my parents gave me a book: *The Hedgehog Tree* (*L'albero del Riccio* in Italian) by Antonio Gramsci. The book is a collection of letters Gramsci wrote to his two young sons, Delio and Giuliano. It contains short stories, reprimands of a father imprisoned by the fascist regime and who wanted to hear more from his sons. In one of his letters, from 1931, Gramsci wrote of a folktale from Sardinia, "The Mouse and the Mountain."

The mouse drank milk that was meant for a baby. Having realized his mistake, he asked a goat for more milk, but the latter needed grass to produce it. The mouse then went to the field in search of grass, but the field was parched. Nothing could grow. So he headed to the fountain for water, but the war had destroyed it. Stones were needed to rebuild it, so he climbed up the mountain. But the mountain did not want to give the mouse its stones, for it was angry:

deforestation had left it barren and dead. The mouse implored the mountain to help, promising that the baby would grow up to replant the felled trees. Moved, the mountain released the stones with which to rebuild the fountain, water the fields, feed the goat, and, finally, give the baby its milk. The child grew up to become a strong man and, indeed, replanted the forest. Rainfall returned. Floods were contained. All was mended.

I distinctly remember reading this story as a child. Gramsci was adamant that his kids, even at that young age, should learn the value of a progressive "workplan." Like all Marxists, he believed in a direction to history propelled by economic forces and class struggle, moving towards proletarian revolution. He was anxious to know from his wife what they thought. We have no record of how Gramsci's sons reacted to their mother's reading of his letter to them, however. Delio, his eldest, would have been seven—one or two years younger than I was when I was given the book—and Giuliano five. But we know the story was rooted in experience: the landscape described in the fable bore the scars of economic processes Gramsci knew all too well.[16] His own Sardinia had been deforested for charcoal and for its sizable coal mines.

The nature of the choices we face has changed since Gramsci's time, but we are wrestling with the same fundamental challenge: society must mobilize beyond the individual to transform its environment and confront the profound consequences of its actions. The story of the mouse was a parable of modernity: a wrong that could be made right through planning, action, and revolutionary purpose to dominate our material conditions, to improve our lot.

Gramsci was a "philosopher of praxis." Praxis reflects the recognition that, to effect change, ideas and actions must be united by painstakingly, systematically shifting our beliefs.[17] The mouse had a plan for what to do. The man's reforesting did, too; no doubt, it represented full nationalization of the means of production. But the heart of the matter was not so much the plan as the motivation: *Why* did everyone want a role in this play? The things in which we believe order our reality to the point that we forget they are there. Hegemony, as Gramsci called it, is the ability to exercise power through consent—that is what ultimately shapes our social actions, that is what any political movement ultimately aims for.

You don't have to agree with Gramsci's politics to see the relevance of his insight. Since the 1980s, "green" politics has attempted to build power through consent, taking as its starting point a statement of environmental crisis, presented as a scientific synthesis of climate and other changes, and pursuing a

moral thesis of what appears to be the self-evidently right course of action. Science here has played a fundamental role as source of authority and the foundation of an effort towards hegemony. But the problem with that approach is that the environmental crisis is a political synthesis, not a scientific one. To be clear, climate change, biodiversity loss, pollution, and ecosystem degradation are indeed the products of our presence on the planet, measurable and scientifically described. Individually, all these statements tell a truth about the state of the planet. But integrating all of them to produce a single alarming picture is a narrative exercise. On those terms, it has weak explanatory power (at best, more of an observation than a theory) and limited predictive skill. Rather, it aims to establish a dominant narrative to steer civil society towards a policy response.

Despite its high aspirations, the environmental movement, with its focus on science as the principal source of authority, technocratic methods, and occasional anti-capitalist rhetoric, has failed to turn that political synthesis into the hegemonic narrative it clearly wanted. The consequences of this failure have become increasingly clear in contemporary environmental discussions: those wishing to stop any and all policy discussion in its tracks have only to speciously attack the underlying scientific motivation, the supposed singular foundation for action in that theory of change; those concerned with building momentum, instead, find themselves on the back foot, having to defend both the science as the principal source of purpose and the causal arguments that tie action to it.

You can detect this dynamic in environmental debates today. Many environmental activists divide the world between those who are right and those who have either misunderstood the trade-offs, are victims of lies, or simply have not thought hard enough about the issues. Some believe such Manichean morality ought to be enough to drive change. Almost all of them seem to believe the problem is one of communications, of getting people to understand the facts. They are engaged in a propaganda war, in the Edward Bernays or Vance Packard tradition.[18]

To be clear, I accept that there are malevolent actors out there, merchants of doubt who trade on climate denial or intentionally minimize the gravity of environmental issues.[19] Heaven knows, as a scientist, I have encountered them myself. But the belief that all would be well if only we could agree on the facts or get rid of the liars belies a simplistic political philosophy. The problem cannot be boiled down to a competition to manipulate the public into "feeling" its way towards a self-evident, inevitable consensus derived from scientific

facts. I don't believe my or anybody's strength of conviction will ever be enough to move those who do not share it.

Besides, as much as we'd like to claim otherwise, our environment is not just the sum of empirical observations. The environment is also what we see when we look out our window, a deeply personal experience with the power of our innermost feelings, often irreconcilable with those of neighbors who live right next to us. That we do not feel like we are living at the mercy of natural extremes is not a scientific statement, but it has the strength of evidence and the legitimacy of experience. The environment is where we build our future. These are facts that may not be quantified by science, yet it would be a catastrophic mistake to consider them less worthy of consideration because of that. They are as constraining as climate change: environmental action does not follow from a science-induced awakening, because our environment is not uniquely defined by science.

The broadly accepted belief that conviction in scientific facts is the central problem impeding action may well be one of the greatest failures of mainstream environmental movements. It has focused debates on science and *policies*—technical recipes to be implemented—based on the misplaced belief that the self-evident strength of scientific diagnosis will eventually prevail. Meanwhile, the *politics* of synthesis, the construction of institutions that help us pursue a shared civic good, remains largely unexamined. It is a naïve view of what is, in fact, a political negotiation. The facts are not the issue. The purpose of a healthy political system isn't to create consensus to implement plans based on shared facts; it is to negotiate conflict to reach a viable, practical synthesis *despite* passionate disagreements. Not to overcome them. *That* is the problem.

Let me say this as plainly as I can, then: it is fiction to believe that science has created a road map for life together on the planet.[20] Science does not deliver a coherent theory of human society. This is not because what science says is untrue, but because, as Hume noted almost three centuries ago, the scientifically diagnosed state of nature simply does not tell us what we *ought* to do.[21] The authority of science cannot deliver a way forward, for science does not ask the question that matters most: what do we *want* our future to be? And no one has a monopoly on the answer to that question.

Authoritarianism is on the rise. Social media enables people's passions to be manipulated for consensus, fooling them into believing they are exercising their political voice, all the while distracting them in a flow of entertainment they do not control. Once-stable institutions are now succumbing to the exercise of unmitigated power. The very structure of the industrial economy is shifting

under the pressure of automation and artificial intelligence. The multilateralism we have known since the end of World War II may well be dissolving, leaving us only hope that a space for dialogue rather than outright conflict will take its place. These are the first-order problems that define our reality today. In this darkening atmosphere, the road to environmental action appears to be narrowing and lengthening by the day. Some even argue that environmental concerns are a distraction, an unwelcome limit on more important pursuits.

They are wrong, of course. Not because environmental issues are self-evidently more important than others, but because our relationship to our environment is constitutive of our life together. Indeed, my contention to you in this book will be this: our collective interest in the environment is the glue that can and should hold us together, balancing the instability we are experiencing with the groundedness of home. The environment can be the starting point for mending our civic compact. To fulfill this potential, however, concern for the environment cannot remain a party-political issue described as an ideological battleground. It needs new language.

A Different Story

A few years ago, I was visiting China's Three Gorges Dam, the largest in the world. For better or worse, this piece of infrastructure is an iconic part of the twenty-first century's response to social demands for water security.[22] Construction had begun in the mid-1990s, and the dam had become fully operational by 2012. It is enormous: over two kilometers of barrage on the third-largest river on the planet, the Yangtze. Its construction relocated 1.2 million people to make room for the 600-kilometer-long impoundment and for installed hydropower capacity of over twenty gigawatts, a quarter of what a country like Italy needs. Its environmental costs had also been significant. China lost many charismatic river species: the Chinese paddlefish and the baiji (a river dolphin). It turned the flooding, lively, monsoonal river into a canal.

I remember speaking to one of the dam's engineers as we stood on top of the dam, overlooking the vast lake on one side and the much lower river on the other. I asked how he felt about the impacts. Did he regret the loss of ecosystems and landmarks? He replied that it was all a matter of perspective. The river had always changed, he said. Over thirty million years ago, it didn't even flow into the East China Sea. In comparison, the dam was a mild intervention in a radical geologic history. It was a glib remark. Three Gorges Dam is a famous project, inseparable from the development of China into an economic

powerhouse. He had probably been asked those same questions many times before. You could tell the company was trying to defend its investment: an introductory video in the visitors' center showed happy relocated people living comfortable, industrious lives, having been sent to work in textile factories—communism "Chinese style," as Deng Xiaoping might have said.

The engineer's answer struck me, nonetheless. In a sense, he was right. We are now an environmental force of planetary scale, comparable to geology. While I was talking about responsibility—about things *we* value, morality, and choices, about our history—he replied with natural history. He had translated the geologic timeline of the river into our story. Historian Dipesh Chakrabarty has noted this unusual convergence of history and natural history that has taken over the world of late.[23] The engineer was proving his point.

Most people think of the environment as an object of scientific inquiry, a thing quite different from our own history. The environment is something we make decisions about, not a part of our history. It is just the place in which it happens. Our life, on the other hand, is about introspection, a continuous performance of free will, a story of actions taken by people who think and want. The world around us is physical. It does not want or think. It is determined by laws described by science. Sure, it is an agent, but not one endowed with free will, lest we end up in some pantheistic fantasy. These two realms exist on different intellectual planes.

But we have now become a planetary force. The scale at which our will manifests is the same as that of planetary events we suffer. The separation of history and natural history may no longer be appropriate. If so—if it is true that the lives of humans are inseparable from the evolution of their planetary environment—then choices about the environment are choices about us. And all choices about what we do are really choices about the environment. Describing our environmental problems through technologies and solutions to fix a material problem is losing the forest for the trees. The forest, here, is that our choices are not about things; they are choices about thoughts, motivation, and ideas. The state of the environment is not just another issue; it is our history. We don't have a plan for our story, as Gramsci wished to suggest to his children, any more than we have a plan for our history. In fact, I suspect most of us really do not want such a plan.

Much environmental work on the ground is engulfed in morality, in judgments about absolute good or bad. Performative indignation dominates its actions. But there is a fundamental inconsistency between this kind of moralizing and a commitment to humanistic principles. The latter begins with this

simple statement: free people must be able to make choices we do not agree with, including mistakes. We cannot be in favor of nondomination only if everyone behaves as we wish them to. The trouble with much of the environmental movement I have known for the last three decades is that it has forgotten that people's liberty must be at the heart of its action. The fundamental pursuit of our history is the ability to author one's own life in a community.

You might retort that there are instances in which facts about the world supersede any individual consideration, or in which the extraordinary nature of the problem we face must subordinate all other considerations to the authority of empirical observation. You might believe that apocalyptic renditions elicit the right impression, even if they are narrative in nature, that there is an irreconcilable tension between the urgency of our environmental predicament and the idea that we should put human freedom at the heart of our efforts. I disagree. The environmental challenges we face are too serious—their solutions too consequential—to entrust our destiny to a consensus that is dependent on the single authority of science or the emotional and graphic nature of apocalyptic renditions, no matter how true their authors believe them to be.[24]

Nature may well be described in scientific language—by definition, it is the object of all natural sciences, from physics to ecology—but its defense is often framed as an unquestioned moral imperative. It seems that ethics, not politics—much as Aldo Leopold believed—are the source of norms when it comes to our relation to nature, a stance that ends up dominating environmental rhetoric. Let me give you an example: in its popularization, if not in its scholarly intent, the florid industry of "planetary boundaries" promotes the idea of absolute guardrails within which humanity ought to stay to enjoy a "safe operating environment."[25] Such boundaries appear to have the authority of science. The public does not have access to the details of those calculations, nor the instruments to understand their limitations. Nonetheless, planetary boundaries acquire normative standing. This sets up an unhealthy dynamic in which science is invoked not for the findings it presents—in this case, a diagnostic summary of the state of the planet on several incommensurable dimensions—but for the actions it promotes.

The 2021 movie *Don't Look Up* parodied this situation, portraying climate change as a meteor headed for Earth and scientists as oracles, condemned to telling the truth while no one listened. The problem is that, in the face of an apocalypse, we risk retreating to the otherworldly. Centuries ago, the Mediterranean suffered an event as close to an apocalypse as can be imagined. In the aftermath of the fall of Rome, the Christian world believed John's Biblical

prophecies had come to pass: Babylon had fallen. In its wake, Saint Augustine proposed that the only political community that ought to concern Christians was the second Jerusalem of Revelations.[26] Indeed, his *De Civitate Dei*, the "City of God," was the ideal community, much like Plato's *Politeia* eight centuries before, a society focused on mores and virtues, not on liberty. We are still hearing the echoes of this retreat from the real *cives* into the numinous. In the extreme, eschatology does not lead to action; it leads to penitence.

You might see the assonance with our contemporary world. In 2019, author Margaret Atwood described environmental activist Greta Thunberg as the "Joan of Arc of environmentalism," adding, "I think she needs a big white horse."[27] One might wonder about the analogy between a teenager, as Thunberg was back then, legitimately protesting government inaction on climate change and a fifteenth-century Catholic martyr burnt at the stake, but it is a symptom of the social force this form of Manichean environmentalism has become for some. We might not describe nature as divine in everyday discourse. But many behave as if a universal architecture that governs all imposes boundaries we cannot—*should not*—escape, no matter the rules, no matter the consequences. The more divine this reality is, the less *res publica* it becomes.

The Earth's environment matters. Many young people train their political conscience on the road to define their home and their future. The environment is at the heart of both. Businesses know they will be judged by the quality of their impacts on everybody's lives, and they behave, or are made to behave, accordingly. The environment is central to that, too. Politicians see the deep well of energy that comes from our relationship to nature, both real and imagined. Some make it the heart of their agenda. Many include it to some degree. All of them harness it for consensus, whether for or against action. But morality is not going to guide us through the complexity of the environmental challenges we face.

What we need is something else: a method, a way of governing choices together. And that method, I would argue, is the crux of the matter. The story of our environment is a story of choices, and the most important question we need to answer is not what are the right choices, but what choices are the most legitimate. What we need, in other words, are functioning political institutions.

The Republic

So we come to our central question: to quote Chernyshevsky, "What is to be done?"[28] Of course, there are consequences to our actions on this planet. Some of them are dangerous. Some, indeed, are existential. But the rules we

give ourselves to govern our lives are also crucial to a life worth living. They are also existential, as the consequences of authoritarianism remind us with increasingly alarming frequency. Managing the balance between them is our republican quest. It is the search for a political philosophy that incorporates our relationship to the environment, a quest for the principles that support our life together in a place. Too often, that search ends with tired critiques of capitalism as the ultimate source of nature's destruction or with naïve libertarian positions that oppose any regulation. Moralism is abundant. Accessible political thought is not.

The central challenge of the human condition has always been—and will continue to be—domination by some over others. Indeed, the problem is not that climate change or biodiversity loss might supersede in urgency our commitment to human dignity and autonomy. Rather, it is that difficult conditions favor domination, making it easier for those who can wield power to oppress those who suffer the brunt of change. Our commitment to self-determination, to the basic human requirement of authoring one's own life, must guide our response to environmental change, for only then can we legitimately confront it.

A commitment to liberty is not a feature of a few states as we all confront environmental change. Rather, environmental change is a complex and increasingly dangerous perturbation that jeopardizes the pursuit of freedom in a collective society, everywhere. The gravity of our predicament is worthy of revolutionary thought, but revolution in the sense that Hannah Arendt would have described, as the search for a space of liberty. Our political relationship with the environment—not our scientific understanding of it or our own morality about it—is foundational to a free human society.

The central argument of this book is that the republican form of our political institutions is the solution we are looking for, and that it needs to be augmented, to be an environmental republic. An environmental republic, not a "green" republic. This is a crucial distinction: I am not asking what political institutions will help us implement the self-evident course of action that descends from a scientific assessment of the state of the world.[29] Rather, I seek political institutions that will help communities assimilate scientific knowledge in a way that produces legitimate, enduring choices, an expression of popular sovereignty that preserves a commitment to liberty while addressing the collective problems we face.

Republican freedom is not about doing whatever you want. It is about not being dominated. The central challenge we must solve is how to incorporate the functioning of the environment in the procedures of self-government.

Besides, what is the alternative? You might believe that philosopher-kings and enlightened despots can have the public interest at heart. But in the end, all they seek, inevitably, is power, the "iron cage" that becomes their sole purpose.[30] The managerial state's primary objective is self-preservation above all else. Always.

Finding republican institutions that work is what we are after. But it requires entertaining a fundamental question: Who exactly is "we"? A few years ago, I wrote a book titled *Water: A Biography*. I argued that we live in a dialectic relationship with water, a ubiquitous feature of our environment. Every time we transform our surroundings to meet our contingent needs, we sow the seeds of future challenges. We build levees to protect us from floods, for example, but the security of those defenses pushes us to build our homes in their shadow, ensuring a catastrophic loss will follow when—not if—the river eventually overtops them. This dynamic has played out over centuries. In that book, I argued that the republic was the emergent institutional framework within which this type of dialectic could be governed.

However, at the time something was missing. I was writing about collective political institutions, yet in that book I never once used the word "we."[31] It was a deliberate choice. The use of "we" in prose is a common rhetorical device. It evokes familiarity, a sense of academic camaraderie, a collusion between the imagined population of readers and the author. "*We* understand each other," it suggests. But I wasn't sure who "we" was when narrowly discussing water issues. Once you realize this question matters, you can't stop asking it. Even now. I've already used the word "we" over eighty times. By the time you will have finished reading this book, you will have read it well over 600 times. At its core, this book is about answering the who-is-we question.

The central challenge of the republican project—central to democracy, in fact—is that for it to work, a people needs to define a sense of "we," of who they are, and how they make choices together. All too often, we define ourselves in opposition to others. From Athens in Classical Greece to the United States today, many political projects construct a "we" by defining a "them," often an enemy: slaves, migrants. History is full of people who unwittingly helped define a nation by not being part of it. Today, in Europe and the United States, migration has become a prominent political problem precisely because it puts pressure on the central question of who "we" is. The construction of a political identity is often pursued at the expense of the excluded.

The promise of environmental civism is to define a collective purpose, to define the "we" in facing up to the environment in a place, regardless of where "we" come from or who "we" are. It is not exclusionary, but it does require being

deliberate. The environmental republic is ultimately about replacing the enemy, the other, the excluded, with a process of enrolling our environment as the unifying civic principle that grounds *how we ought to govern ourselves*. The emphasis is on us and on governing, not on the facts of the world. It is about expressing our voice, creating institutions, and having a collective purpose.

I am not naïve: environmental problems do not just unite us; often they divide us, distributing unevenly their impacts. But if we could debate the kind of political system we need to mutualize those impacts, we would waste far less time discussing whether climate change is real or not—it is, of course—or arguing for action or inaction on the brittle grounds of shallow morality. It might even help us overcome the acute divisions that are fracturing national communities and international relations.

At this point you might retort that the argument for a republic seems too abstract for our contemporary public discourse. I refuse to accept this. In 1948, in my own country of Italy, a largely illiterate population voted in a nationwide referendum to choose a republic over the existing monarchical government. That population had far less access to education and information than their children and grandchildren have today, yet they debated a profound constitutional choice. Everyone knew that choice was consequential, even if they had never read Nicolas de Condorcet or John Stuart Mill. Politicians, trade unions, intellectuals, local associations found a way of articulating the choice with words that all could dominate. That experience holds an important lesson: if an issue matters, we must find words that allow everyone to debate it, so that we can author our life together.

All the solutions we seek to our environmental problems—all the policies and regulations that we wish to pursue to save nature, protect biodiversity, mitigate climate change, protect ourselves from floods, build a sustainable future—are implemented on the same planet, in the same places, by the same people. But this does not mean that they are only global in their implementation. While I have no doubt that international dialogue and cooperation is a crucial part of the answer, I believe that the crux of the challenge is to construct stable, legitimate political institutions that govern territories in which those trade-offs can be worked through. Of course, we must be able to deploy our sources of social power—the nomenclature that historian Micheal Mann chose for our collective ideological, military, economic, and political resources—to determine what happens to us on a scale commensurate to the problems we face on a changing planet.[32] But we need to be able to do so legitimately, as an expression of our own sovereignty over our collective life.

Books about the environment often feel the need to tell people "what they can do"—the wretched calls to action that close countless reports—instead of giving readers words to express what they think. Maybe it will be a gift of this age to return ideas that matter to words that everybody can speak. I for one have intended to write a book that does not tell people what they should do. This is not a road map or an instruction manual. You will find no detailed catalog of recommended actions. I simply want to offer ideas, a method. It is all you will get from me. But I think it is enough.

The Book

Despite the subject, this is not a book for academic political philosophers. I write for those who wonder where the environment fits in their life, whatever their politics may be. I write for the decision maker who wrestles with difficult trade-offs in an ever more complicated world of conflict and urgent demands. I write for students who want to make a difference but do not know how. Above all, I write to put words to paper in the hopes of sparking someone else's imagination to engage with issues differently, escaping the confines to which the environment is relegated: unproductive, litigious debates among minorities.

That said, I recognize that my arguments exist within an intellectual tradition to which I owe a great deal, the product of a community of people who think hard about ideas, so that we might use them freely while standing on solid ground. I also recognize that some of my readers may wish to locate my arguments in that tradition. For those of you who are interested, I have written a short note to do just that after this introductory chapter.

Beyond this introduction, both the argument and the book are divided into two parts. The first establishes the terms of the problem. We begin in chapter 1 with the story of Barbados, the latest country to become a republic. It gives us the opportunity to define what the republic is: a political system that relies on citizens being able to express their voice, on institutions that intermediate that voice into collective action, and on a purpose that represents the synthesis of both. The environment is, of course, the stage on which this republican play is set. But in the twenty-first century, the environment is also an actor, a powerful agent that shapes our life, and the small island state of Barbados has dramatized its republican transition in the change we are all experiencing.

Voice, institutions, and purpose are the three-part framework that organizes chapters 2–4. Each component is introduced through a specific environmental problem and its scientific diagnosis. We often forget that while science provides

answers, the source of its authority always comes from who is asking the questions. Chapter 2 examines voice, using our relationship to the ocean as its case study. Earth's largest ecosystem covers over two-thirds of the planet and is also mostly where we are not. Science played its most celebrated role in helping the navies of the world to exercise their power in difficult material conditions. The chapter captures a fundamental tension between the primacy of human sovereignty and the overwhelming agency of a global common that transcends the geography of any individual political community. One uncomfortable insight emerges: coercive power may well be an inevitable component of any international environmental agenda in confronting change on a planetary scale.

Chapter 3 deals with institutions. It examines the atmosphere, the unbounded global common through which the climate system knocks at our door. Our scientific knowledge, rooted in the concerns of the Cold War, underpinned international negotiations over emissions after the fall of the Soviet Union. For decades, we have framed the problem of the atmosphere as one of stabilizing greenhouse-gas concentrations before our material conditions change. We failed. Now we need institutions capable of confronting an industrial transition—arguably the largest in human history—while the atmosphere changes around us.

Chapter 4 examines purpose. We start with nature, another global common whose state is diagnosed by scientific methods. In truth, it is not entirely obvious what we mean by "nature." We speak of it as our biological reality, but it is a far more nuanced idea whose origin is rooted in concern not for ecological science alone but for the territorial consequences of social transformation. This is not a narrow constructivist point. If we are going to set up an environmental republic, it must be able to define its purpose to produce a legitimate, broadly accepted idea of what we are trying to achieve. "Conserving nature" is unlikely to be it.

The second part of the book turns to the construction of the *Environmental Republic*. Chapter 5 is, once again, about voice and describes how human societies have always solved the problem of expressing collective voice when it matters *where* we are. Those experiences suggest how we can achieve the same effect within contemporary representative systems. We need a civic compact that balances private and public interests while ensuring that voices in geography are represented in terms of their relation to fundamental environmental processes.

Chapter 6 tackles institutions and their role in providing the geographical scaffolding of the environmental republic. All too often, environmental

arguments are reduced to those of electoral democracy, to winning the hearts and minds on environmental issues. But the problems we face are more persistent than what can be captured in an electoral cycle alone. The chapter introduces the reformist building blocks needed to govern our piece of the planet, including the role of property rights and of the state in transforming the landscape.

Chapter 7 deals with purpose and proposes a counterintuitive idea for many environmentalists: that the pursuit of freedom through development is the only purpose we should organize around—that human development is the only purpose that matters, because it is the only route to political legitimacy. In the words of W. Arthur Lewis, "the advantage of economic growth is not that wealth increases happiness, but that it increases human choice."[33]

In the end, this is an argument to place human liberty at the heart of human action. Of course, you might argue that a developmental purpose risks unleashing the same forces that have caused the environmental problems of the twentieth century. But it is in the procedural nature of voice and institutions that we mitigate the effects of a purpose devoted to human liberty and fulfillment. Voice, institutions, and purpose must be pursued as an integrated answer. To see this, chapter 8 illustrates the nature of this integration by discussing Europe.

Europe is unfinished business. As I write, its leadership is trying to respond to the shifting context created by an isolationist United States, an increasingly competitive China, conflict on its borders, rising populism within it, and more. Its future appears to hang in the balance as events stress the robustness of its architecture. Europe may not be your "we," but it is mine, so I feel compelled to consider how all these ideas would apply there. It is arguably the largest, most complex, unfinished republican project in the world. It has also given itself an environmental orientation. The Ventotene Manifesto, the founding document of the European Union, shows us how much of the environmental republic was already hidden in the folds of its founding. I believe the ideas of this book push Europe towards federal integration, to establish one of the largest environmental republics on Earth. An epilogue closes the book.

This moment in human political history is a revolutionary one. We have spent the last several decades locked in a managerial, international negotiation about our relationship to the planet. We must now realize that the biggest unanswered questions are not scientific or managerial but political. They test our resolve in standing by liberty and our commitment to nondomination, against the rise of authoritarianism. They challenge our conception of

environmental problems as exclusively defined by science. I have no illusion that this is the definitive or the most authoritative contribution to republicanism as applied to environmental challenges. But having spent years working on environmental problems, I am now convinced that the biggest obstacle to progress is the absence of a broadly accepted theory for how to incorporate the environment in our political life.

I want to arm people with words that can help them debate the construction of the political institutions we need. Deciding what to do with our environment is the search for how to exercise collective power in governing our home, a profound political problem that has shaped institutions for centuries. Environmental change on a planetary scale forces us to define who "we" are and what we, as political communities and individual citizens, should do—a balancing act that citizens and the state hold on their territory, a republican journey.

At a time when resignation has eroded conviction, and the passionate intensity of some has revealed our bellicose underbelly, we must focus on the fundamental questions defining the human condition: the pursuit of individual freedom and collective self-determination as material conditions change. The environment is a constitutive part of that civic compact. It has agency over our life and imposes constraints on our social structure, no matter how technologically advanced we are. For we live here and have bodies that roam the world.

I hope for environmental discussions that are not about what we believe to be true about the world, but that concentrate on what we believe to be right about our life together. Our connection to the environment—appropriately constitutionalized and defined—can become a powerful source of cohesion. We must figure out how to find a common voice, mobilize it through legitimate institutions, and direct it purposefully. We must talk about the nature of the rules that govern our life together. We must all be at this *rendezvous of victory* that Césaire told us about at the start of this chapter. The environmental republic, I am convinced, will be waiting for us.

An era is most definitely coming to an end. Changing material conditions are becoming a first-order perturbation on the smooth running of societies across the world. Floods, droughts, ever more frequent fires, accelerating coastal erosion—it is happening. Debating who is good or bad is a waste of precious time. My hope for this book is that it provokes debate of a different nature. Hegel told us that *the owl of Minerva spreads its wings only with the coming of dusk*.[34] Dusk is coming. Let us all hope he was right.

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