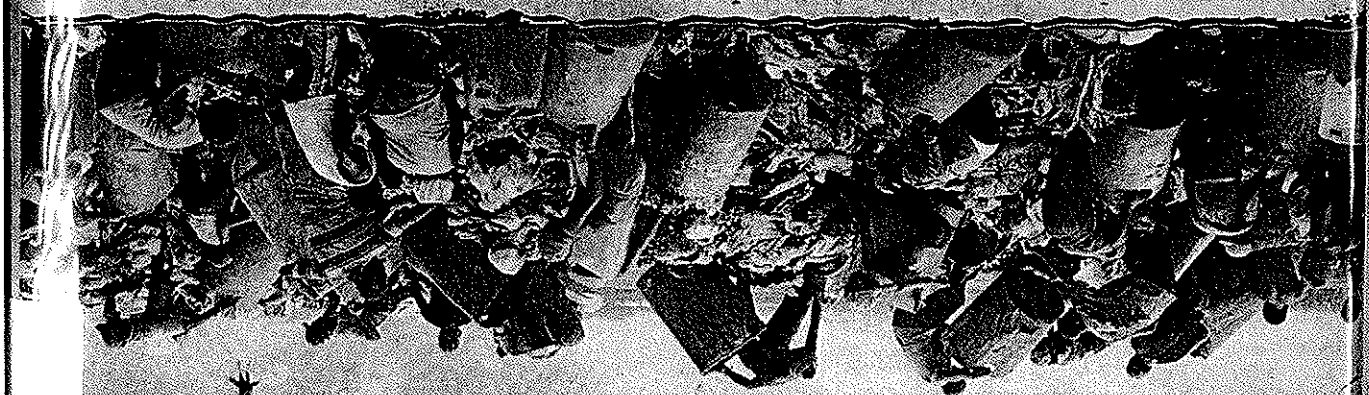
"A brilliant weather report from the near future of world politics."

—MIKE DAVIS, author of *Planet of Slums*

CHRISTIAN PARENTI

TROPIC OF CHAOS

CLIMATE CHANGE and the NEW GEOGRAPHY of VIOLENCE



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CHAPTER 1

Who Killed Ekaru Loruman?

> What are the roots that clutch, what branches grow
> Out of this stony rubbish? Son of man,
> You cannot say, or guess, for you know only
> A heap of broken images, where the sun beats,
> And the dead tree gives no shelter, the cricket no relief,
> And the dry stone no sound of water.
>
> —T. S. ELIOT, *The Waste Land*

EKARU LORUMAN lay beneath a flat-topped acacia tree, its latticework of branches casting a soft mesh of shade upon his body. He wore a silver earring and khaki shorts and lay on his side with his arm twisted awkwardly beneath him. The left side of Ekaru's forehead was gone, blown away by the exit of a bullet. His blood formed a greasy, black slick on the desert floor. His sandals, shawl, and gun had been stolen.

Ekaru had been a pastoralist from the Turkana tribe, who live in northwest Kenya, on the arid savannas of the Rift Valley. He had been killed the day before when a neighboring tribe, the Pokot, launched a massive cattle raid. Ekaru's corpse lay here on the ground, exposed to the elements with goats and sheep browsing nearby, because the Turkana do not bury people killed in raids. They believe doing so is bad luck, that it will only invite more attacks. So they leave their dead to decompose where

they fall. But these supernatural precautions will not hold the enemy at bay, for profound social and climatological forces drive them forth.

The group of Turkana I was visiting had been pushed south by severe drought and were now grazing their herds at the edge of their traditional range, very close to their enemies, the Pokot. In the pastoralist corridor of East Africa, a basic pattern is clear: during times of drought, water and grazing become scarce, the herds fall ill, and many cattle die. To replenish stocks, young men raid their neighbors. The onset of anthropogenic climate change means Kenya is seeing rising temperatures and more frequent drought. Yet, overall it is actually receiving greater amounts of precipitation. The problem is, the rain now arrives erratically, in sudden violent bursts, all at once rather than gradually over a season. This means eroding floods, followed by drought.[1] The clockwork rains, upon which Kenyan agriculture and society depends, are increasingly out of sync.

Climate War Forensics

Why did Ekaru Loruman die? What forces compelled his murder? Ekaru, who had been about thirty-five years old—age among the Turkana is usually just estimated—had three wives, eight children, and about fifty head of cattle. He had been an important and powerful man in his community: a warrior in his prime, old enough to have plenty of experience and wisdom but still young and strong enough to run and fight for days on little food or water. And now he was dead.

We could say tradition killed Ekaru, the age-old tradition of "stock theft," cattle raiding among the Nilotic tribes of East Africa. Or we could say he was murdered by a specific man, a Pokot from the Karasuk. Or that Ekaru was killed by the drought. When the drought gets bad, the raiding picks up.

Or perhaps Ekaru was killed by forces yet larger, forces transcending the specifics of this regional drought, this raid, this geography, and the Nilotic cattle cultures. To my mind, while walking through the desert among the Turkana warriors scanning the Karasuk hills for the Pokot war

party, it seemed clear that Ekaru's death was caused by the most colossal set of events in human history: the catastrophic convergence of poverty, violence, and climate change. This book is an attempt to understand the death of Ekaru Loruman, and so many others like him, through the lens of this catastrophic convergence.

The Facts

The scientific consensus about the status of the climate takes institutional form in the Intergovernmental Panel on Climate Change (IPCC). The IPCC does not conduct independent research but is, instead, a government- and UN-supported international clearinghouse. It collects and summarizes all published scientific literature on climatology and related issues in biology, hydrology, oceanography, forests, glaciology, and other disciplines so that governments may respond to climate issues based on fully vetted research.

The IPCC has been attacked by climate-change denialists as alarmist and wrong because of several minor errors in its 2007 Fourth Assessment Report. Addressing these did not, however, change the report's overall conclusions. In fact, because the IPCC operates on the basis of consensus, its conclusions are quite conservative, and its reports lag years behind the latest scientific developments. The IPCC represents the lowest common denominator of fully accepted conclusions from the scientific mainstream.

The IPCC has concluded that civilization's dependence on burning fossil fuels has boosted atmospheric concentrations of carbon dioxide (CO_2) from around 280 parts per million (ppm) before the Industrial Revolution to 390 ppm today. Analyses of ancient ice cores show 390 ppm to be the highest atmospheric concentration of CO_2 during the last 10,000 years.[2]

Atmospheric CO_2 functions like the glass in a greenhouse, allowing the sun's heat in but preventing much of it from radiating back out to space. We need atmospheric CO_2—without it, Earth would be an ice-cold, lifeless rock. However, over the last 150 years we have been loading the sky with far too much CO_2, and the planet is heating up.

As the Pew Center on Global Climate Change explains, "The Earth's average surface temperature has increased by 1.4°F (0.8°C) since the early years of the 20th century. The 11 warmest years on record (since 1850) have all occurred in the past 13 years. The five warmest years to date are 2005, 1998, 2002, 2003, 2007."[3]

Less than 1°C warmer over a hundred years may not sound like much, but scientists believe it is enough to begin disrupting the climate system's equilibrium. The negative-feedback loops that keep Earth's climate stable are increasingly giving way to destabilizing positive-feedback loops, in which departures from the norm build on themselves instead of diminishing over time. The Greenland and Antarctic ice sheets—which reflect large amounts of solar radiation back into space and regulate the flow of ocean currents—are melting at rates much faster than climate scientists had predicted even a few years ago. The loss of reflective ice means more solar radiation is absorbed, and the world heats faster. Polar ice is melting rapidly, disgorging billions of gallons of fresh water, which alters the chemistry and currents of the oceans and, adding volume, threatens to raise sea levels by up to a meter over this century.[4]

The Social Challenge

Climate change is happening faster than initially predicted, and its impacts are already upon us in the form of more extreme weather events, desertification, ocean acidification, melting glaciers, and incrementally rising sea levels. The scientists who construct the computer models that analyze climate data believe that even if we stop dumping greenhouse gases into the atmosphere, CO_2 levels are already so high that we are locked into a significant increase in global temperatures. Disruptive climate change is a certainty even if we make the economic shift away from fossil fuels.

Incipient climate change is already starting to express itself in the realm of politics. Extreme weather events and off-kilter weather patterns are causing more humanitarian crises and fueling civil wars. The United Nations has estimated that all but one of its emergency appeals for humanitarian aid in 2007 were climate related. Already climate change adversely

affects 300 million people per year, killing 300,000 of them. By 2030—as floods, droughts, forest fires, and new diseases grow worse—as many as 500,000 people per year could be killed by climate change, and the economic cost of these disruptions could reach $600 billion annually.[5]

Rising sea levels will be one of the greatest stresses. In 2007, the IPCC projected that sea levels could rise by an average of 7 to 23 inches during this century. These numbers were soon amended, and scientists now believe sea levels will rise by an average of 5 feet over the next 90 years.[6] Such sea-level rises will lead to massive dislocations. One recent study from Columbia University's Center for International Earth Science Information Network projects that 700 million climate refugees will be on the move by 2050.[7]

Perhaps the modern era's first climate refugees were the five hundred thousand Bangladeshis left homeless when half of Bhola Island flooded in 2005. In Bangladesh 22 million people will be forced from their homes by 2050 because of climate change. India is already building a militarized border fence along its 2,500-mile frontier with Bangladesh, and the student activists of India's Hindu Right are pushing vigorously for the mass deportation of (Muslim) Bangladeshi immigrants.[8]

Meanwhile, twenty-two Pacific Island nations, home to 7 million people, are planning for relocation as rising seas threaten them with national annihilation. What will happen when China's cities begin to flood? When the eastern seaboard of the United States starts to flood, how will people and institutions respond?

The Catastrophic Convergence

Climate change arrives in a world primed for crisis. The current and impending dislocations of climate change intersect with the already-existing crises of poverty and violence. I call this collision of political, economic, and environmental disasters *the catastrophic convergence.* By catastrophic convergence, I do not merely mean that several disasters happen simultaneously, one problem atop another. Rather, I argue that problems compound and amplify each other, one expressing itself through another.

Societies, like people, deal with new challenges in ways that are conditioned by the traumas of their past. Thus, damaged societies, like damaged people, often respond to new crises in ways that are irrational, shortsighted, and self-destructive. In the case of climate change, the prior traumas that set the stage for bad adaptation, the destructive social response, are Cold War–era militarism and the economic pathologies of neoliberal capitalism. Over the last forty years, both these forces have distorted the state's relationship to society—removing and undermining the state's collectivist, regulatory, and redistributive functions, while overdeveloping its repressive and military capacities. This, I argue, inhibits society's ability to avoid violent dislocations as climate change kicks in.

In this book I examine the prehistories of the climate disaster in order to explain how the world came to be such a mess and, thus, so prone to respond to climate change in ways that exacerbate the social fallout of the new extreme weather. In much of the world, it seems that the only solidarity forthcoming in response to climate change is an exclusionary tribalism, and the only state policy available is police repression. This is not "natural" and inevitable but rather the result of a history—particularly the history of the Global North's use and abuse of the Global South—that has destroyed the institutions and social practices that would allow a different, more productive response.

The Cold War sowed instability throughout the Third World; its myriad proxy wars left a legacy of armed groups, cheap weapons, smuggling networks, and corrupted officialdoms in developing countries. Neoliberal economic policies—radical privatization and economic deregulation enforced by the International Monetary Fund and World Bank—have pushed many economies in the Third World—or, if you prefer, the Global South—into permanent crisis and extreme inequality. In these societies, the state has often been reduced to a hollow shell, devoid of the institutional capacity it needs to guide economic development or address social crises.

Sometimes these forces have worked together simultaneously; at other times they have been quite distinct. For example, Somalia was destroyed by Cold War military interventions. It became a classic proxy battleground.

Though it underwent some limited economic liberalization, its use as a pawn on the chessboard of global political struggle caused its collapse. The same holds true for Afghanistan, which was, and still is, a failed state. It never underwent structural adjustment but was a proxy battleground. On the other hand, Mexico, the north of which is now experiencing a profound violent crisis, was not a frontline state during the Cold War, but it was subject to radical economic liberalization.

Climate change now joins these crises, acting as an accelerant. The Pentagon calls it a "threat multiplier." All across the planet, extreme weather and water scarcity now inflame and escalate existing social conflicts. Columbia University's Earth Institute and the International Crisis Group, combining databases on civil wars and water availability, found that "when rainfall is significantly below normal, the risk of a low-level conflict escalating to a full-scale civil war approximately doubles the following year."[9] The project cites the example of Nepal, where the Maoist insurgency was most severe after droughts and almost nonexistent in areas with normal rainfall. In some cases, when the rains were late or light, or came all at once, or at the wrong time, "semiretired" armed groups often reemerged to start fighting again.

Between the Tropic of Capricorn and the Tropic of Cancer lies what I call the *Tropic of Chaos,* a belt of economically and politically battered postcolonial states girding the planet's mid-latitudes. In this band, around the tropics, climate change is beginning to hit hard. The societies in this belt are also heavily dependent on agriculture and fishing, thus very vulnerable to shifts in weather patterns. This region was also on the front lines of the Cold War and of neoliberal economic restructuring. As a result, in this belt we find clustered most of the failed and semifailed states of the developing world.

According to a Swedish government study, "There are 46 countries—home to 2.7 billion people—in which the effects of climate change interacting with economic, social, and political problems will create a high risk of violent conflict."[10] The study's list covers that same terrain—those mid-latitudes that are now being most affected by the onset of anthropogenic climate change.

Western military planners, if not political leaders, recognize the dangers in the convergence of political disorder and climate change. Instead of worrying about conventional wars over food and water, they see an emerging geography of climatologically driven civil war, refugee flows, pogroms, and social breakdown. In response, they envision a project of open-ended counterinsurgency on a global scale.[11]

Mitigation and Adaptation

The watchwords of the climate discussion are *mitigation* and *adaptation*—that is, we must mitigate the causes of climate change while adapting to its effects. Mitigation means drastically cutting our production of CO_2 and other greenhouse gases, like methane and chlorofluorocarbons, that prevent the sun's heat from radiating back out to space. Mitigation means moving toward clean energy sources, such as wind, solar, geothermal, and tidal kinetic power. It means closing coal-fired power plants, weaning our economy off oil, building a smart electrical grid, and making massive investments in carbon-capture and -sequestration technologies.

Adaptation, on the other hand, means preparing to live with the effects of climatic changes, some of which are already underway and some of which are inevitable—in the pipeline. Adaptation is both a technical and a political challenge.

Technical adaptation means transforming our relationship to nature as nature transforms: learning to live with the damage we have wrought by building seawalls around vulnerable coastal cities, giving land back to mangroves and everglades so they can act to break tidal surges during giant storms, opening wildlife migration corridors so species can move north as the climate warms, and developing sustainable forms of agriculture that can function on an industrial scale even as weather patterns gyrate wildly.

Political adaptation, on the other hand, means transforming humanity's relationship to itself, transforming social relations among people. Successful political adaptation to climate change will mean developing new ways of containing, avoiding, and deescalating the violence that climate change

fuels. That will require economic redistribution and development. It will also require a new diplomacy of peace building.

However, another type of political adaptation is already under way, one that might be called the *politics of the armed lifeboat*: responding to climate change by arming, excluding, forgetting, repressing, policing, and killing. One can imagine a green authoritarianism emerging in rich countries, while the climate crisis pushes the Third World into chaos. Already, as climate change fuels violence in the form of crime, repression, civil unrest, war, and even state collapse in the Global South, the North is responding with a new authoritarianism. The Pentagon and its European allies are actively planning a militarized adaptation, which emphasizes the long-term, open-ended containment of failed or failing states—counterinsurgency forever.

This sort of "climate fascism," a politics based on exclusion, segregation, and repression, is horrific and bound to fail. There must be another path. The struggling states of the Global South cannot collapse without eventually taking wealthy economies down with them. If climate change is allowed to destroy whole economies and nations, no amount of walls, guns, barbed wire, armed aerial drones, or permanently deployed mercenaries will be able to save one half of the planet from the other.

The Argument

The chapters that follow tour the Tropic of Chaos, that violent and impoverished swath of terrain around the mid-latitudes of the planet. And in exploring places, I explore history and use a historical analysis. If at first glance you expected a book about the future, in fact you are holding a book of history. From understanding the past, we can better analyze both the present and the dangerous future ahead. I begin by laying out how the security forces of the Global North are moving toward an embrace of militarized adaptation. I then look at the history of counterinsurgency both as one of the historical streams leading into the catastrophic convergence and as a central feature of militarized adaptation.

Next I return to the question of who killed Ekaru Loruman in a series of chapters on the history and politics of climate change in East Africa.

The story then moves to Central Asia to explore the climatic elements of the Afghanistan war and the Pakistan-India conflict. While in the region, we take a side trip to Kyrgyzstan, because it is an extreme case of climatically driven social breakdown. Moving east, we visit Andhra Pradesh to explore the links between neoliberalism, climate change, and the spread of Maoist guerillas in eastern India. Jumping across the Pacific, we resume the story in Brazil, where I link climate change in the *Nordeste* to extreme violence in Rio de Janeiro's favelas. In that section, Cold War–era repression and neoliberalism are seen working in concert. Then we move north to the border between Mexico and the United States, delving more deeply into the legacy of neoliberal capitalism, which—far more than Cold War violence—is the main root of instability in Mexico. We return to the United States and look at how border militarization and xenophobia are increasingly shaped by the meltdown in northern Mexico.

Finally, I consider what is to be done. I argue that the best way to address the effects of climate change is to tackle the political and economic crises that have rendered us so vulnerable to climate-induced chaos in the first place. But ultimately, mitigation remains the most important strategy. The physical impacts of climate change—rising sea levels, desertification, freak storms, and flooding—are certainly frightening, but so are the emerging social and political aspects of adaptation, which too often take destructive and repressive forms. We must change that.

Ultimately, the most important thing is mitigation: we must decarbonize our economy.