financial policies now seen by the South as being imposed by the North.

There already are many volumes on trade and its impact on poverty and aid policies. Few, however, transcend the compartmentalization of both academic disciplines and policymakers. *Trade, Aid and Security* does, and for this reason alone, it should be read by students and practitioners. The important issues it raises are a welcome contribution to the knowledge of the links connecting aid, trade, and conflict.

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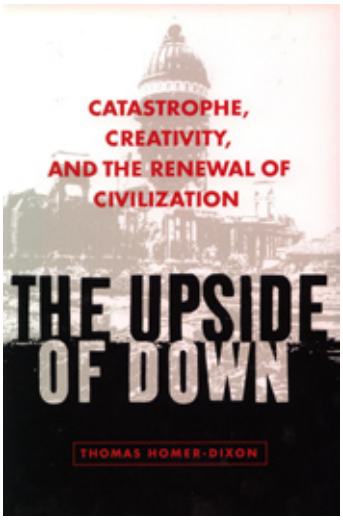
The Upside of Down: Catastrophe, Creativity, and the Renewal of Civilization



By Thomas Homer-Dixon
Washington, DC: Island Press, 2006. 448 pages.

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Richard A. Matthew is an associate professor of international and environmental politics in the Schools of Social Ecology and Social Science at the University of California at Irvine, and director of the Center for Unconventional Security Affairs (http://www.cusa.uci.edu). Recent books and co-edited volumes include *Reframing the Agenda: The Impact of NGO and Middle Power Cooperation in International Security Policy* (Praeger, 2003) and *Landmines and Human Security: International Relations and War's Hidden Legacy* (SUNY Press, 2004).

University of Toronto Professor Thomas Homer-Dixon writes provocative and influential books on issues of global importance, roaming effortlessly across scholarly disciplines and distilling insights from complex theoretical literatures. His arguments illuminate complicated global processes, describe the problems they generate and their likely trajectories, and identify responses that individuals, businesses, and policymakers should consider. His latest book, *The Upside of Down: Catastrophe, Creativity, and the Renewal of Civilization,* deserves a wide readership and should be the focus of animated discussions in classrooms, journals, and policy arenas around the world.

In his first study, *Environment, Scarcity, and Violence*, Homer-Dixon argued that societies were experiencing natural resource scarcities that, in turn, often triggered or amplified diffuse forms of violent conflict. In his second major work, *The Ingenuity Gap*, he built on his earlier research to argue that contemporary societies often fail to generate or deliver ingenuity where it is needed to solve serious social and environmental problems.

With *The Upside of Down*, he has moved confidently into the realm of grand theory. The book's major arguments—which can be classified into three sets—are concise, accessible, and supported by 100 pages of detailed notes that suggest mastery of an enormous and diverse literature. He integrates ideas in novel ways to generate compelling explanations, but he is also cautious, emphasizing areas of uncertainty and

pointing out possible alternative analyses.

The first set of arguments focuses on the converging human-generated processes that Homer-Dixon believes are creating the conditions for catastrophe. He identifies five of these "tectonic stresses":

- Energy stress, due to a general imperative for growth that is now at odds with the declining availability of cheap and easily accessible oil—humankind's major energy source;
- Economic stress, a complex problem that has much to do with income inequality (and has recently moved to the top of the agenda);
- Demographic stress, as populations grow rapidly in areas like the megacities of the developing world, which are hard-pressed to provide their residents with the means to survive and flourish;
- Environmental stress (the focus of Homer-Dixon's earlier work), which worsens as we continue to degrade forests, fisheries, and other natural resources; and
- Climate stress, the result of greenhouse gas emissions that alter the composition of the atmosphere in ways that have dramatic, alarming, and often unpredictable impacts across the planet.

Not only are these stresses interconnected in ways that augment their lethality, but their current and potential impact on humankind is further enhanced by technologies that deepen and expand connectivity, and that give small groups and individuals unprecedented power that can be exercised toward good or bad ends.

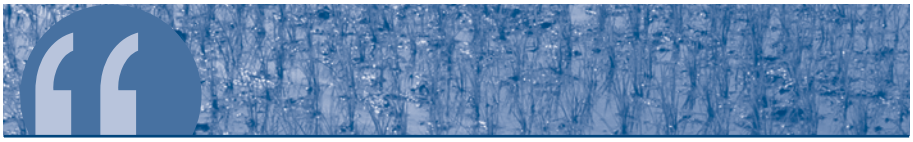
Anyone familiar with contemporary literature on global change will recognize these stresses, as they have all received considerable attention in recent years. But Homer-Dixon has an exceptional talent for pulling familiar ideas together in a lucid, sensible, and authoritative manner, building a worldview that is compelling and easy to grasp.

The second elegant set of arguments places these contemporary stressors and multipliers in a more general theory of social breakdown and renewal, amply illustrated with discussions of the collapse of the Roman Empire, the genesis of the 1906 San Francisco fire, and many other examples. Homer-Dixon asks the reader to think of societies in terms of their energy requirements. Initially, easy access to cheap energy (such as oil fields) can enable rapid growth. But if, over time, the society remains committed to growth, it inevitably will have to draw energy from further afield and at a much higher cost. As the Energy Return on Investment (EROI) deteriorates, the society will discover that it is overextended, dependent, and vulnerable to breakdown.

Homer-Dixon then introduces ecologist C.S. Holling's (2002) "panarchy" theory, which describes the life cycle of an ecosystem in terms of growth, collapse, regeneration, and a new phase of growth. Complex systems from forests to human societies do not develop to some optimal size and then maintain themselves, argues Holling; instead, they grow too large and become rigid and vulnerable to external shocks. When the day of reckoning arrives, they disintegrate, creating the opportunity for a renaissance.

Homer-Dixon applies this cycle to the present day, arguing that human societies, which have internalized the particularly aggressive imperative of growth known as capitalism, are doing whatever they can to maintain a high rate of economic growth. Unfortunately, they are doing this in the context of the multipliers and stressors—including the looming end of cheap oil—discussed earlier, a situation he regards as grave and untenable.

Finally, Homer-Dixon argues that the political realm is ignoring the tensions between a culture of economic growth and a world of growing stresses. When societies experience a catastrophic problem, whether it is 9/11 or Hurricane Katrina, governments do not propose policies that tackle deeper causes of vulnerability. Short time frames, special interests, and cognitive commitments are powerful constraints on political innovation, and so political elites spend billions of tax dollars trying desperately to maintain the status quo. In short, we are in dire straits.



21st century societies are poised to break down, and the breakdowns may be shockingly fast, painful, and interconnected—"synchronous failures."

The third set of arguments in *The Upside of Down* examines what we can and should do today. While Homer-Dixon has included some caveats about predicting the future, the thrust of his first two arguments is that 21st century societies are poised to break down, and the breakdowns may be shockingly fast, painful, and interconnected—"synchronous failures." We can take steps that might mitigate some of these breakdowns; we can position ourselves to weather them; and we can take advantage of the opportunities to build new institutions and values that emerge after breakdowns occur. But avoiding them altogether is not a scenario Homer-Dixon explores.

Nonetheless, *The Upside of Down* ends on a positive note. The key words for the closing set of arguments, especially "catagenesis" and "prospective mind," suggest that we need to be ready to rebuild. We already have been given opportunities to rebuild—for example, after 9/11 and after Katrina—and we have largely failed. Now we need to take advantage of each opportunity that presents itself because the breakdowns are likely to increase in frequency and scale, and it is becoming very clear that it is futile to try to preserve the status quo.

The arguments at the end of the book are not as rich in details as those in the earlier sections, and I think many readers would welcome an expanded set of conclusions. However, the broad contours are quite clear: We need to understand what is going on, pull our heads out of the sand, and cultivate—as individuals and communities—the capacity to navigate a world that contains much uncertainty. We can do this by being open to new ideas, by innovating in every area of human activity, by experimenting with new practices and institutions, and by avoiding the appeals of extremists who promise easy solutions—(e.g., let the market solve it)—to very complicated problems. We need also to oppose the knee-jerk responses of governments—which are so profoundly compromised by special interests—to deny deep problems, and to over-invest in maintaining systems and processes that are at odds with the set of stresses reshaping the global environment. And we need to interrogate the growth of capitalism and ask ourselves whether the benefits still warrant the costs of this value system.

The Upside of Down is not a perfect book; it does not discuss the burgeoning networks of social entrepreneurs who are tackling global challenges from the roots up by drawing people from all sectors of society into vibrant transnational communities committed to creating social value. I think Homer-Dixon may be right: Leviathan is, in large measure, the beached artifact of modern politics. In its day, the modern state achieved much, but even the world's only superpower now finds itself unable to revise a health care system that is wildly inefficient or reform a tax code than no one understands, let alone apply its vast resources to a challenge like climate change. And yet, even in the United States, the very heartland of capitalism and big government, there is a dynamic world growing outside the Beltway, and it is the site of new values, clever experiments, endless innovations, and a refreshing commitment to redefining the good life. Even though *The Upside of Down* is not perfect, it is very good; it will garner well-deserved awards and stimulate much-needed debate.

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