

zero, times the value we assign to the Earth's existence, which is infinite. Infinity times any number, including a number nearly equal to but not quite equal to zero, is itself infinite. Since infinity is bigger than any finite number, cost–benefit analysis advises us not to turn the machine on.

Though Whiteside is critical of cost–benefit analysis, even a crude application of it commends a precautionary approach in this case. He applauds Europe's support for the precautionary principle, but the Large Hadron Collider was turned on at Europe's command. Cost–benefit analysis is not necessarily an enemy of precaution, nor is Europe necessarily its friend.

Was the decision to switch on the Collider wrong? Physicists connected with the European Organization for Nuclear Research (CERN) concluded that the experiments presented no danger and that there are no reasons for concern. But should technical experts make this decision for us, for humanity, for the world? Whiteside prefers that a matter such as this “be brought before the public at large for comment, debate, and in some cases, resolution” (p. 118). I agree. But, of course, the public might decide to throw caution to the wind.

If the Large Hadron Collider were not turned on, we would be no worse-off as compared with the preexisting situation. Ocean fertilization, however, may help us avoid some climate change. Alternatively, it may help us avoid doing something else to reduce atmospheric concentrations, such as increasing nuclear power generation or capturing and storing carbon dioxide underground—alternatives with their own legacies of long-term risks.

So, what would the precautionary principle have us do? Once again, a simplistic application of the principle would prohibit the experiment. Whiteside, however, understands that there can be risk–risk trade-offs. He says that “[i]f some strict precautionary measure might itself cause great harm (for example, banning a pesticide allows a disease to run rampant), there are strong reasons for trying to find a way to allow the activity to proceed” (p. 57). He also sees the value of research. “Precaution,” he says, “can mean setting up research programs whose purpose is to gather further information about the risk and test successive hypotheses about it” (p. 53). But how would he decide? Again, after reading his book, I do not know.

In May 2008, parties to the Convention on Biological Diversity urged “other Governments, *in accordance with the precautionary approach* [emphasis added], to ensure that ocean fertilization activities do not take place until there is an adequate scientific basis on which to justify such activities.” A scientific committee established by the Intergovernmental Oceanographic Commission to advise on ocean fertilization disagreed, saying that there were “good scientific reasons to do larger experiments.” So, who is right? Although the Convention's parties invoked the precautionary principle in recommending a prohibition,

the response by the scientific committee seems more in line with Whiteside's thinking.

We should not be surprised that proponents could disagree about what the precautionary principle implies. As Whiteside says, “there are many different versions of the precautionary principle” (p. 150). But therein, for me, lies the principle's greatest shortcoming. I have never opposed the precautionary principle, nor, after reading this book, am I inclined to campaign for it.

Response to Scott Barrett's review of *Precautionary Politics: Principle and Practice in Confronting Environmental Risk*

doi:10.1017/S1537592709090203

— Kerry H. Whiteside

As in his book, Scott Barrett seizes the reader's interest by describing a dramatic situation of choice. Who cannot be struck by the example of the Large Hadron Collider and the possibility of accidentally annihilating the Earth with it? What does precaution require here?

Barrett argues that cost–benefit analysis, which I criticize as environmentally incautious in cases of scientific uncertainty, would justify precaution in this case. And the Europeans, whose “precautionary” leanings I have applauded, are the ones building the Large Hadron Collider.

Two clarifications are in order. First, it is not just because someone sees a remote possibility of the ultimate catastrophe that we suspend all action. With a little imagination, anyone can conjure a disaster following from almost any action. Before taking a risk claim seriously, proponents of precaution ask questions such as the following: Is this risk a matter of concern to reputable scientists? More than a few? Is the theory that underpins this fear consistent with other theories that are more widely accepted? There is nothing nonprecautionary in the Europeans' decision to proceed with the Collider experiments if the answers to these preliminary questions were “no.”

Second, in *Precautionary Politics*, I warn against using this sort of example as a test of precautionary intuitions. Hans Jonas—one of the key thinkers in the intellectual genealogy of the precautionary principle—developed the “imperative of responsibility” for cases similar to Barrett's example. Jonas declared that “[n]ever must the existence of man . . . be made a stake in the hazards of action.” Imagining a risk that imperils the entire future existence of humanity gives the illusion that one can reasonably make absolute, a priori judgments about risk taking. “Might this action destroy the Earth? Then we must never do it.” Today's proponents of precaution do not assume that environmental risk situations are like this. Issues such as climate change mitigation and biodiversity preservation involve not physical annihilation but potentially adverse, long-term changes in large-scale bio-physical systems that

have heretofore reliably provided services (stable temperatures, recycling and purifying water, disease resistance that comes from genetic diversity, etc.) essential to the flourishing of human and nonhuman life. The scientific community itself is often divided when attempting to predict the evolution of these systems. Evidence is often patchy, theories of causal mechanisms divergent, and disciplinary protocols difficult to reconcile. In addition, questions of justice—questions of responsibility for the current situation, of the fairness of distributing risk differentially to various populations—inevitably arise. What principles and procedures should guide us in such situations?

Precautionary Politics argues that applying the precautionary principle is not just a matter of policymakers invoking a decision rule, like a judge implementing mandatory sentencing laws. The basic principle of precaution is that where uncertainties are substantial and potentially adverse environmental impacts serious, caution is necessary. Precaution in practice, however, is complicated. In the GMO (genetically modified organisms) case, European authorities convoked multiple scientific committees and extended their disciplinary membership in novel directions; insisted on refined experimental protocols; organized new types of public consultations; developed new rules to enable better monitoring of long-term impact; and worked cooperatively to modify procedures for handling disputed evidence. Precaution is anything but a matter of absolute, a priori judgments (including my own). Rather, it inspires a new type of politics invented in response to humanity's unprecedented environmental predicament and the uncertainties surrounding it.

Cultural Contestation in Ethnic Conflict. By Marc Howard Ross. Cambridge: Cambridge University Press, 2007. 384p. \$91.00 cloth, \$34.99 paper.
doi:10.1017/S1537592709090215

— John T. Sidel, *London School of Economics*

Amid the steady stream of quantitative and game-theoretical studies of conflict published in recent years, Marc Howard Ross's *Cultural Contestation in Ethnic Conflict* comes as a welcome reminder of the ineffably human dimensions of conflict and violence around the world. His panoramic account of ethnic conflict goes beyond the establishment of statistical correlations and the modeling of "iterated games" to trace the complex processes by which conflicts emerge, escalate, and unravel, as well as the role of culture and identity in these processes. Making sense of ethnic conflict, Ross shows, requires an understanding of *meaning*—of how symbols, rituals, places, and events evoke emotions, inspire narratives, and inform identities in diverse settings around the world. The research agenda he pursues and promotes is thus in no small measure ethnographic and interpretivist, focusing on the (inter)subjective (self-)understandings of par-

ticipants in ethnic conflicts, rather than the ostensibly objective conditions under which conflicts unfold.

The book's major theoretical contribution lies in Ross's discussion of what he calls "psychocultural dramas"—"conflicts between groups over competing, and apparently irresolvable, claims that engage the central elements of each group's historical experience and their identity and invoke suspicions and fears of the opponent" (p. 25). Such dramas are "polarizing events about non-negotiable cultural claims, threats, and/or rights that become important because of their connections to group narratives and core metaphors central to a group's identity—precisely the kinds of events in which cultural expressions play a leading role" (pp. 25–26). Psychocultural dramas "produce reactions which (a) are emotionally powerful; (b) clearly differentiate the parties in conflict; and (c) contain key elements of the larger conflict in which they are embedded. As psychocultural dramas unfold, their powerful emotional meanings link events across time and space, increasing in-group solidarity and out-group hostility" (p. 80). Borrowing from the eminent anthropologist Victor Turner, Ross suggests that psychocultural dramas follow a clear plot structure: "*breach* of social relations or norms, mounting *crisis*, *redressive* action, and *reintegration* or *recognition of schism*" (p. 80). He notes, however, that the conclusions to these dramas vary considerably, and he voices hope that these contingent dramas can be crafted, through more inclusive rituals and symbols, to promote conflict management, reconciliation, and the bridging of differences.

Ross introduces and elaborates these arguments clearly and carefully in the book's first three chapters, spelling out precisely what descriptive and explanatory claims he is—and is not—making, and how they resonate with existing scholarship in the disciplines of anthropology, sociology, and political science. Across seven subsequent chapters, he examines case studies covering a wide range of cultural focal points and geographical contexts for a broad spectrum of ethnic tensions and conflicts: *rituals* (i.e., parades) in Northern Ireland, *language* in Québec and Catalonia, sacred *public space* in Jerusalem since 1967, gendered *bodily practices and modes of expression* (i.e., the headscarf issue) in France, *monuments, museums, and memorials* in South Africa, and *symbols* (i.e., the Confederate flag) in the American South. Covering diverse modes of cultural expression in various kinds of conflicts across several continents, this book stands as a landmark study of the role of culture in ethnic conflict.

What, then, of the book's weaknesses and limitations? Political scientists working in the mainstream, positivist tradition may dismiss Ross's arguments as lacking in causal power, failing to provide a clear, coherent, or compelling explanation for highly divergent outcomes across a set of cases for which little can be "held constant" and even less can be "scientifically" claimed. But Ross anticipates this kind of critique from the outset, and the abundant evidence