Beyond the Point Of No Return (Dec. 2008)

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It's too late to stop climate change -- so what do we do now?

As the pace of global warming kicks into overdrive, the hollow optimism of climate activists, along with the desperate responses of some of the world's most prominent climate scientists, are preventing us from focusing on the survival requirements of the human enterprise.

The environmental establishment continues to peddle the notion that we can solve the climate problem.

We can't.

We have failed to meet nature's deadline. In the next few years, this world will experience progressively more ominous and destabilizing changes. These will happen either incrementally -- or in sudden, abrupt jumps.

Under either scenario, it seems inevitable that we will soon be confronted by water shortages, crop failures, increasing damages from extreme weather events, collapsing infrastructures, and, potentially, breakdowns in the democratic process itself.

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Start with the climate activists, who are telling us only a partial truth.

Virtually all of the national and grassroots climate groups are pushing hard to reduce carbon emissions. The most aggressive are working to change America's entire energy structure from one based on coal and oil to a new energy future based on non-carbon technologies --as they should.

A coalition of groups, including 350.org and 1Sky, has lobbied the new Administration to re-engage the US with the international climate negotiations. The Campus Climate Challenge is planning a new and more energetic clean energy campaign. Focus The Nation continues to exhort colleges and universities around the country to green their campuses. The large Washington-based environmental groups are pressing to improve climate and energy bills that are moving through Congress -- even though the bills are clearly inadequate to the challenge before us.

The truth is that, even assuming the wildest possible success of these initiatives -- that humanity decided tomorrow to replace its coal and oil burning energy sources with non-carbon sources – it would still be too late to avert major climate disruptions. Despite this reality, the activists are still focusing on the causes -- and not on the consequences –of the crisis.

All these initiatives address only one part of the coming reality. They recall the kind of frenzied scrambling that is characteristic of trauma victims -- a frantic focus on other issues, any other issues -- that allows people to avoid the central take-home message of the trauma: in this case, the overwhelming power of inflamed nature.

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Within the last two years, a number of leading scientists -- including Rajendra Pachauri, head of the Intergovernmental Panel on Climate Change (IPCC), British ecologist James Lovelock, and NASA scientist James Hansen -- have all declared that humanity is about to pass or already has passed a "tipping point" in terms of global warming. The IPCC, which reflects the findings of more than 2,000 scientists from over 100 countries, recently stated that it is "very unlikely" that we will avoid the coming era of "dangerous climate change."

In fact, we may already be witnessing the early stages of runaway climate change in the melting of the Arctic, the increase in storm intensity, the accelerating extinctions of species, the ominous, large-scale releases of methane and the prolonged nature of recurring droughts.

Moreover, some scientists now fear that the warming is taking on its own momentum -- driven by internal feedbacks that are independent of the human-generated carbon layer in the atmosphere.

Consider these examples:

* Despite growing public awareness of global warming, the world's carbon emissions are rising three times faster than they did in the 1990s. As a result, many scientists tell us that the official, government-sanctioned forecasts of coming changes are understating the threats facing the world.

* The International Energy Agency recently found that the costs of avoiding dangerous climate change may be three times higher than those estimated by the IPCC in2007.

*Scientists recently discovered a plume of methane rising from the perforated ocean seabed near Siberia into the atmosphere. Methane traps about 20 times more heat, molecule for molecule, than CO2. But because ocean-bed methane normally dissolves before it escapes into the air, the discovery has a number of scientists wondering whether it signals the beginnings of runaway climate change.

* A rise of 2 degree C. over pre-industrial temperatures is now virtually inevitable, according to the IPCC, as the atmospheric concentration of carbon dioxide is approaching the destabilizing level of 450 parts per million. That rise will bring drought, hunger, disease and flooding to millions of people around the world. In fact, a number of scientists believe that forecast is far too rosy. John Schellnhuber, director of the Potsdam Institute for Climate Impact Research in Germany, said recently that only a return to pre-industrial of CO2 --about 280 parts per million --would be enough to guarantee a safe future for the planet.

* Scientists predict a steady rise in temperatures beginning in about two years -- with at least half the years between 2009 and 2019 surpassing the average global temperature in1998, to date, the hottest year on record.

* Given the unexpected speed with which Antarctica is melting, coupled with the increasing melt rates in the Arctic and Greenland, the rate of sea level rise has doubled -- with scientists now raising their prediction of ocean rise by century's end from about three feet to about six feet.

* Scientists recently concluded that the growing acidification of the world's oceans may face a "tipping point" in the next 20 years. As the oceans continue to absorb CO2, the drop in their pH levels will begin to dissolve the shells of ocean organisms and destroy other forms of sea life. Researchers had initially estimated that tipping point might occur around2060 -- but new findings shortened that horizon to another two decades, according to Australian scientists.

* Scientists discovered that a recent, unexplained surge of carbon dioxide levels in the atmosphere is due to more greenhouse gases escaping from trees, plants and soils --which have traditionally buffered the warming by absorbing the gases. In the lingo of climate scientists, carbon sinks are turning into carbon sources. Because the added warmth is making vegetation less able to absorb our carbon emissions, scientists expect the rate of warming to jump substantially in the coming years.

* The intensity of hurricanes around the world has doubled in the last decade. As Greg Holland of the National Center for Atmospheric Research explained, "If you take the last 10 years, we've had twice the number of category-5 hurricanes than any other [10-year period] on record."

* In Australia, a new, permanent state of drought in the country's breadbasket has cut crop yields by over 30 percent. The 1-in-1000 year drought exemplifies a little-noted impact of climate change. As the atmosphere warms, it tightens the vortex of the winds that swirl around the poles. One result is that the water that traditionally evaporated from the Southern Ocean and rained down over New South Wales is now being pulled back into Antarctica-- drying out the southeastern quadrant of Australia and contributing to the buildup of glaciers in the Antarctic -- the only area on the planet where glaciers are increasing.

As one prominent climate scientist said recently, "We are seeing impacts today that we did not expect to see until 2085."

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The panic among climate scientists is expressing itself in geo-engineering proposals that are half-baked, fantastically futuristic and, in some cases, reckless. Put forth by otherwise sober and respected scientists, the schemes are intended to basically allow us to continue burning coal and oil.

Nobel Laureate Paul Crutzen, for example, is proposing to spray aerosols into the upper atmosphere to reduce the amount of sunlight hitting earth. Tom M.L. Wigley, a highly esteemed climate scientist at the National Center for Atmospheric Research (NCAR), ran scenarios of stratospheric sulfate injection -- on the scale of the estimated 10 million tons of sulfur emitted when Mt. Pinatubo erupted in 1991 -- through supercomputer models of the climate, and reported that Crutzen's idea did, indeed, seem feasible. The scheme was highlighted in a recent op-ed article in The New York Times by Ken Caldeira, a climate researcher at the Carnegie Institution.

Unfortunately, the seeding of the atmosphere with sun-reflecting particles would trigger a global drought, according to a study by other researchers. "It is a Band-Aid fix that does not work," said study co-author Kevin Trenberth of NCAR. The eruption of Pinatubo was followed by a significant drop-off of rainfall over land and a record decrease in runoff and freshwater discharge into the ocean, according to a recent study by Trenberth and other scientists.

The noted British ecologist James Lovelock recently proposed the idea of installing deepwater pipes on the ocean floor to pump cold water to the surface to enhance the ocean's ability to absorb carbon dioxide. Others suggest dumping iron filings into the ocean to increase the growth of algae which, in turn, would absorb more carbon dioxide.

These proposals fail to seriously acknowledge the possibility of unanticipated impacts on ocean dynamics or marine ecosystems or atmospheric conditions. We have no idea what would result from efforts to geo-engineer our way around nature's roadblock.

At a recent conference, Lisa Speer of the Natural Resources Defense Council noted:"These types of proposals are multiplying around the world, and there is no structure in place to evaluate if any of them work. People are going after these gigantic projects without any thoughtful, rational process.”

What these scientists are offering us are technological expressions of their own supercharged sense of desperation.

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To be fair, the reality that faces us all is extremely difficult to deal with -- as much from an existential as from a scientific point of view.

Climate change won't kill all of us-- but it will dramatically reduce the human population through the warming-driven spread of infectious disease, the collapse of agriculture in traditionally fertile areas and the increasing scarcity of fresh drinking water. (Witness the 1-in-100-year drought in the southeastern US, which has been threatening drinking water supplies in Georgia and other states.)

Those problems will be dramatically intensified by a surge of environmental refugees whose crops are destroyed by weather extremes or whose freshwater sources have dried up or whose homelands are going under from rising sea levels.

In March, 2007, the U.S. Army War College sponsored a conference on the security implications of climate change. "Climate change is a national security issue," retired General. Gordon R. Sullivan, chairman of the Military Advisory Board and former Army chief of staff, said in releasing a report that grew out of the conference. "[C]limate instability will lead to instability in geopolitics and impact American military operations around the world."

One frequently overlooked potential casualty of accelerating climate change may be our tradition of democracy (corrupted as it already is). When governments have been confronted by breakdowns, they have frequently resorted to totalitarian measures to keep order in the face of chaos. It is not hard to imagine a state of emergency morphing into a much longer state of siege, especially since heat-trapping carbon dioxide stays in the atmosphere for about 100 years.

Add the escalating squeeze on our oil supplies, which could intensify our meanest instincts, and you have the ingredients for a long period of repression and conflict.

Ominously, this plays into the scenario, thoughtfully explored by Naomi Klein, that the community of multi-national corporations will seize on the coming catastrophes to elbow aside governments as agents of rescue and reconstruction---but only for communities that can afford to pay. This dark vision implies the increasing insulation of the world's wealthy minority from the rest of humanity -- buying protection for their fortressed communities from the Halliburtons, Bechtels and Blackwaters of the world while the majority of the poor are left to scramble for survival among the ruins.

The only antidote to that kind of future is a revitalization of government – an elevation of public mission above private interest and an end to the free-market fundamentalism that has blinded much of the American public with its mindless belief in the divine power of markets. In short, it requires a revival of a system of participatory democracy that reflects our collective values far more accurately than the corporate state into which we have slid.

Unfortunately, we seem to be living in an age of historical amnesia. One wonders whether our institutional memory still recalls the impulses that gave rise to our constitution -- or whether we have substituted a belief in efficiency, economic rationalization and profit maximization for our traditional pursuit of a finely calibrated balance between individual liberties and social justice.

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From a more personal viewpoint, an acknowledgement of the reality of escalating climate change plays havoc with one's sense of future. It is almost as though a lone ocean voyager were suddenly to lose sight of the North Star. It deprives one of an inner sense of navigation. To live without at least an open-ended sense of future (even if it's not an optimistic one) is to open one's self to a morass of conflicting impulses -- from the anticipated thrill of a reckless plunge into hedonism to a profoundly demoralizing sense of hopelessness and a feeling that a lifelong guiding sense of purpose has suddenly evaporated.

This slow-motion collapse of the planet leaves us with the bitterest kind of awakening. For parents of young children, it provokes the most intimate kind of despair. For people whose happiness derives from a fulfilling sense of achievement in their work, this realization feels like a sudden, violent mugging. For those who feel a debt to all those past generations who worked so hard to create this civilization we have enjoyed, it feels like the ultimate trashing of history and tradition. For anyone anywhere who truly absorbs this reality and all that it implies, this realization leads into the deepest center of grief.

There needs to be another kind of thinking that centers neither on the profoundly dishonest denial promoted by the coal and oil industries, nor the misleading optimism of the environmental movement, nor the fatalistic indifference of the majority of people who just don't want to know.

There needs to be a vision that accommodates both the truth of the coming cataclysm and the profoundly human need for a sense of future.

That vision needs to be framed by the truly global nature of the problem. It starts with the recognition that this historical era of nationalism has become a stubborn, increasingly toxic impediment to our collective future. We all need to begin to think of ourselves -- now -- as citizens of one profoundly distressed planet.

I think that understanding involves a recognition that a clean environment is about far more than endangered species, toxic substances and the "dead zones" that keep spreading off our shorelines. A clean environment is a basic human right. And without it, all the other human rights for which we have worked so hard will end up as grotesque caricatures of some of our deepest aspirations.

Fortuitously, the timing of the climate crisis does coincide with other worldwide trends. Like it or not, the economy is becoming globalized. The globalization of communications now makes it possible for anyone to communicate with anyone

else anywhere else in the world. And, since it is no respecter of national boundaries, the global climate makes us one.

At the same time, the coming changes clearly suggest that, to the extent possible, we should be eating locally and regionally grown food -- to minimize the CO2 generated by factory farming and long-distance food transport. We should also be preparing to take our energy from a decentralized system using whichever non-carbon energy technologies are best suited to their natural surroundings -- solar in sunny areas, offshore wave and tidal power in coastal areas, wind farms in the world's wind corridors and geothermal almost everywhere. (It may even be feasible to maintain a low-level coal-fired grid, of about 15 percent of current capacity, as a back-up for days the wind doesn't blow or the sun doesn't shine.) But it's critical to stop thinking in terms of centralized energy systems and to begin thinking in terms of localized, decentralized technologies.

At the level of social organization, the coming changes imply the need to conduct something like 80 percent of our governance at the local grassroots level through some sort of consensual democratic process -- with the remaining 20 percent conducted by representatives at the global level.

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For some years, I have been promoting a policy bundle of three specific strategies as one model for jump-starting a global transition to clean energy. Those policies, which are spelled out in my book Boiling Point and on my website (www.heatisonline.org) , include:

* Redirecting more than $250 billion in subsidies in industrial countries away from coal and oil and putting them behind carbon-free technologies;

* Creating a fund of about $300billion a year for a decade, to transfer clean energy to poor countries; and

* Adopting within the Kyoto framework a mandatory progressive fossil fuel efficiency standard that would go up by five percent a year until the 80 percent global reduction is attained.

The initial impulse behind these strategies was to craft a policy bundle to stabilize the climate -- and at the same time create millions of jobs, especially in developing countries. Initially, I, along with the other people who helped formulate them, envisioned these solutions as a way to undermine the economic desperation that gives rise to so much anti-US sentiment. They would, we hoped, turn impoverished and dependent countries into trading partners. They would raise living standards abroad without compromising ours. They would jump the renewable energy industry into a central driving engine of growth for the global economy and, ultimately, yield afar more equitable, more secure and more prosperous world.

Unfortunately, given all the apathy, indifference and antagonism to taking real action, nature has now relegated that earlier vision to the rear-view mirror.

But this kind of global public works plan, if initiated in the near-term, could still provide a platform to bring the people of the world together around a common global project that transcends traditional alliances and national antagonisms --even in today's profoundly fractured, degraded and combative world. Along the way, it could also provide decentralized stand-alone energy sources for disconnected social communities in a post-crash world.

The key to our survival as a civil species during an era of profound natural upheaval lies in an enhanced sense of community. If we maintain the fiction that we can thrive as isolated individuals, we will find ourselves at the same emotional dead-end as the current crop of survivalists: an existence marked by defensiveness, mistrust, suspicion and fear.

As nature washes away our resources, overwhelms our infrastructures and splinters our political alignments, our survival will depend increasingly on our willingness to join together as a global community. As the former Argentine climate negotiator, Raul Estrada-Oyuela, said: "We are all adrift in the same boat -- and there's no way half the boat is going to sink."

To keep ourselves afloat, we need to change the economic and political structures that determine how we behave. In this case, we need to elevate the ethic of cooperation over the deeply ingrained reflex of competition. We need to elevate our biological similarities over our geographical differences. We need, in the face of this oncoming onslaught, to reorganize our social structures to reflect our most humane collective aspirations.

There is no body of expertise – no authoritative answers -- for this one. We are crossing a threshold into uncharted territory. And since there is no precedent to guide us, we are left with only our own hearts to consult, whatever courage we can muster, our instinctive dedication to a human future -- and the intellectual integrity to look reality in the eye.