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Resilience and Civilization: Part II

RON DEMBO

Below is a conversation between Thomas Homer-Dixon and Ron Dembo. Dr. Dembo is a risk expert and founder and CEO of [Zerofootprint](#), a not-for-profit dedicated to reducing our ecological footprint. Dr. Homer-Dixon is Director of the [Trudeau Centre for Peace and Conflict Studies](#) and Professor in the Department of Political Science at the University of Toronto.

He is also the author of [The Ingenuity Gap](#), winner of the Governor-General's Award. His most recent book, [The Upside of Down: Catastrophe, Creativity, and the Renewal of Civilization](#) assesses the concatenated risks facing the planet's civilizations, and urges not a solution to this or that problem, but a whole new way of understanding the systems we've built. The challenges are not political or economic (or not fundamentally so); they are structural. And the only way to address them before it's too late, he urges, is to understand that the repertoire of solutions we usually turn to is not going to work.

[Part one](#) dealt primarily with Dr. Homer-Dixon's notion of resilience--the ability to withstand external shock that comes with reduced complexity--and how to achieve it.

Part two explores some of the specific threats that face our civilization, and pursues the idea that we should be preparing to respond not to singles threats, but to several that could amplify each other catastrophically. But just as we cannot foresee exactly how the problems of the future will manifest themselves, we also can't anticipate the new, creative forms our thinking and our politics will take.

Ron Dembo: Let me ask you another question. If it is imperative that we use less than we are now, and every day there are more of us, then one of the biggest issues has got to be population growth. In other words, we've got to use less, and divide it among more, and still improve the lot of the billions of people who survive on a dollar a day--which is essential to risk management. That means that the other few billion reduce their living standards a little. But giving something up is not an easy thing to do. What we're talking about is a revolution in the way we think of economies.

Thomas Homer-Dixon: Which is why I've spent a fair amount of my time on that growth imperative. We just can't imagine a world without economic growth. This is a recent cultural phenomenon. It's only within the last two or three generations that we've thought this way. Growth wasn't considered a sack-or-sink principal of political or economical discourse for a century.

RD: How do you undo it?

THD: Well, this is one reason I suggest open-source architecture. We need to begin a vigorous conversation very soon about what a sustainable economy is going to look like. Specifically: how, if we're going to have a steady economy at the global level, do we allow sufficient growth to accommodate the people who are utterly dependent on it on a local level? That implies contraction within rich countries. It's not an issue we're dealing with.

RD: What does this have to do with resilience?

THD: I would make this model of our civilization more resilient by making it less vulnerable to socially corrupt people, because as soon as you stop growing you're going to have a zero-sum competition between the rich and the poor.

RD: Maybe there's another way to. Do you think this is fundamentally inconsistent with current democracy?

THD: Well, this is why I'm suggesting other kinds of democratic process. I mean the open-source architecture is collaborative and volunteerist, whereas our contemporary political systems is fundamentally adversarial. I think the problem is--it's something I don't say in the book -- that the emergent phenomenon we have in the world today is that we have a collectivity that is acting stupider than its parts. It's what I would call a negative system. The markets *can* act smarter than the individual parts, but when we look for instance at our ecological behavior all we find is a hole. That doesn't reflect the awareness and intelligence of the individuals who realize that the collective behavior is stupid. Many of those individuals want to reduce our carbon output, many of us want to reduce our footprint, we care about our kids, we're pretty aware of these issues. People are constantly saying that we've got to do something. But collectively, get us all together, and we about as smart as protozoa--they don't clean up their environment either. I think the forms of democracy that we have right now don't move us from negative emergence to positive emergence. We need to create architectures in which the whole is more than the sum of its parts where people collectively are smarter than they are than as they are as individuals. The smart crowds phenomenon.

RD: The smart crowds concept doesn't always work. Let me give an example. If I took every student over there, and asked them how tall you are, their guesses would be all over the place, but the average would be dead on. But if I ask them to guess the height of someone they've never seen, no amount of averaging would help. That's one of the things I see in the book that I don't quite understand and would like to ask you about. I love the idea of this wonderful new kind of open-source democracy. But I have difficulty imagining a helpful debate on the topic of zero-growth economics among people who've never seen an economy that didn't grow.

THD: Perhaps, but I see enormous untapped potential among the people who aren't really engaged politically. I think powers have moved down the social hierarchy and responsibility hasn't, so one thing we need to do is get people taking on the responsibility that comes with the power they now have. We have a crisis within the legitimacy of our political system with people from 18-30 voting at about a 25% rate.

RD: That's because the issues they care about are not represented.

THD: They don't think the system does anything for them. And there are better ways to do things. Let's put it this way. If somebody had said we're going to create an encyclopedia and it's going to have 4 million entries and it's going to be an entirely collaborative exercise-- people will leave their egos at the doors. Anybody can change any entry any time they want anywhere in the world and we're going to run this thing for six years and then we're going to bring in the journal Nature and have their specialists examine the science entries; they will determine if they are as good as the Encyclopedia Britannica's. Ten years ago we would have said, that's impossible, human beings just aren't like that. Now we know we would have been wrong. I think this is one of the most interesting new forms of social ingenuity and social institutions that we've seen in the last century. I think it's a fundamental issue, because we didn't see it coming any more than we anticipated terrorists were going to fly airplanes into skyscrapers.

RD: I'm speaking about something different from all of those. I think you're right, that if you had asked me when I was a graduate student if, for example, everyone will have six computers in 2007, we would have sat there debating around a table like this, taking up different sides of a well-defined question. This is a very different thing. This is like you and me trying to come up with scenarios from Mars. We've never been there and we can barely even imagine what it looks like.

THD: I think it's an important problem. The idea that simply cannot see around the next corner into the future through the wall of fog is basic to the argument for resilience.

RD: Here's how you do it. This is just throwing out an idea. If you can allow people to experience a world without economic growth and live it, simulate it, then they start to develop a sensitivity toward what life would be like in that world. For all of this to work you need to be able to live that world.

THD: They need to see it in a virtual way. So part of the project could involve modeling exercises. One thing I do suggest in the book is to try it out in the community level. There are some experiments you can run with components of the idea to see what happens.

RD: Let's get back to another story. I'm sitting here, and it's a lovely day, with a great author, I'm warm, I'm in good clothes having a conversation. And you are telling me the world is going to go to hell. Am I even equipped to deal with this problem? It seems to me that my understanding will never be on the same scale as the problem, as long as I am comfortable.

THD: I think it's a big issue, and what I try to do in the book is attempt in my own little way to shake people out of their groove a bit. But I don't know how successful I am. There have been smart people who have just not gotten it. They have caricatured it, they've pigeon-holed it, and have not accepted the underlying premise that the future is likely to be very different from the present.

RD: We just don't seem to fully believe that we are in this kind of crisis. The government does not fully believe it, our captains of industry do not fully believe it. I spoke to a hundred risk managers of the top insurance companies in the world. They're responsible for generating scenarios, packaging them, running software and seeing what the upside/downside is, and measuring risk. I asked them, how many of you have the global warming scenario in your matrix? Only one. There is a big difference between us discussing this and really doing something about it in our daily lives. This is the whole thing about what Zerofootprint is doing: how do we get individuals to do the little things that add up? How do you motivate that?

THD: This is one reason I spent a fair amount of time in the book talking about denial. We see it again and again, a very natural resistance that people all have to changing their ideas because all the bits of information and belief all kind of lock together. You can't just change one bit of it, you have to change everything together. And that's not easy. Our instinct is to deny the things that seem to contradict our assumptions, to just keep adapting our view of the world until it becomes unworkably complex and comes crashing down.

RD: I'm sure denial plays a role, but I'm not sure denial is the issue. I think fundamentally it's the way we solve problems, the way we have been wired. We are now encountering something we have never encountered before and have little capacity to understand with our primitive brains. I fundamentally believe now this is World War 3 and this is just too far from anything man has ever fought. Our brains worked fine in Neolithic times, when if we saw immediate danger, we knew what to do. But now you're telling me that driving my car, the most natural thing in world, makes a difference to the planet. It's hard for me to imagine that. And it's even harder to imagine that if

I leave my car at home it's making a difference, even if I understand the science behind global warming. I don't see that as denial--we're not denying that as the case. I just can't really see how doing this or that will make any difference.

THD: What you're doing with Zerofootprint is that you're trying to empower people.

RD: We're trying to solve this problem, trying to find a solution.

THD: I spent some time at the end of the book saying we can do things locally and they add up. In my talks all the time now I set up a process to reduce the carbon footprint of my tour, and all the information is available if you want to start adopting this to your own life. I say that all the time.

RD: We just did the WorldChanging book launch. We offset Ed Burtynsky's travel now and we announced it there. First of all it was a surprise to people how low the carbon cost was. Then you really have to tell them: that's just a small part of the footprint. But it's a very good thing because it's the start of the cultural shift we need.

THD: I just want to say though until we try those architectures in an open-source system, architectures that might explicitly encourage imagination of new worlds, until we try it I don't think we can conclude decisively that this is an insurmountable problem. We're not using the Internet effectively right now--the time when the species faces the greatest challenges in its history. I think you're right, it's not only World War 3, it's a world war that we have never conceived of before. You happen to have in place the technological infrastructure that at least *offers* the possibility of wide democracy and a new kind of democracy and problem-solving process. Instead we use it to indulge our narcissism. We need to try to make it a good platform for complex large-scale problem solving.

RD: Let's get back to an earlier point--that we don't take the looming crises seriously.

THD: That's why I say we won't have anything until we have a crisis. Human beings are often at their best in a time of crisis. What we have to hope is that the crisis, when it occurs--the breakdowns, when they occur--is severe enough to create the motive and the opportunity for action, but not so severe that they deprive us of response capability.

RD: Kind of the like the brown-out we had.

THD: I sometimes say this in the book and to my audiences what we need is a category 5 storm to hit Washington D.C. I think that the climate change issue might be taken a fair amount more seriously at that point.

RD: I have a question. Can you draw two plausible scenarios, one of which is a deep collapse and the other of which is a shock that sets the stage for what you call catagenesis, or renewal from crisis. What would a deep collapse look like?

THD: Deep collapse--I start a scenario in the book that could be a tipping point for the world. You could have nations going to war over oil or energy in a number of places in the world. I think that the kind of disintegration of the global system that I talk about in Chapter 10, which is titled *disintegration*, that might lead to some sort of energy collapse. It's difficult to imagine that kind of thing happening without some of these major terrorist attacks and any of these financial centers.

RD: What's equally difficult to mention is a collapse that would wipe out the human race.

THD: I don't think that's what I mean by deep collapse. Remember, when I talk about collapse, I distinguish collapse from breakdown. Collapse is a radical simplification of the system--people moving out of the cities, probably large-scale mortality. But simplification in technology, institutions, energy and material flows, social relations, that's what we talk about when we speak of the collapse of the Western Roman empire. Things may get uncomfortable, but the human species is going to be around for as long as I can see.

RD: I actually can imagine us getting to a point where we destroy the world.

THD: There are other scenarios. One would be a disease scenario because there are just so many of us. We're like this massive fertile Petri dish for breeding pathogens. The other is sudden shift in the climate to a radically different stable state. Of the two I think a latter is more possible. But the thing is, even in our scenarios of model causes, we're saying it's going to be disease, it's going to be climate. What I try to emphasize in my book is that if I'm right, we shouldn't be talking about isolated causes and effects. There are too many things happening, so the flipping of the climate might be a component of several things that go on simultaneously.

RD: The more I hear of this and talk to people, the more I realize that we need proper model scenario-generation. The kind of scenario you want to generate would not be monocausal.

THD: One of the things we need to do as part of this problem-solving, open-source architecture is generate scenarios. Lots and lots of scenarios. And then do a factor analysis to cluster them into sets that are plausible or implausible.

RD: I think there's an extraordinarily interesting scientific research project to be had around simulation.

THD: This is where we come face to face with that growth imperative, because it's very hard to imagine the kind of deep restructuring of the global economy without some kind of shock, so any kind of ideal outcome is probably going to involve some pretty serious trauma in the intermediate period.

RD: Can you actually quantify it?

THD: I can begin to imagine what it will look like when the dust settles. Three to four billion people, much more decentralized in their habitats, decentralized production of goods and services, loosely coupled systems, less movement-- this can add up to a very high quality of life. Long-distance travel will be much more difficult. We would be able to maintain communication with, say, Australia, but very few people would actually get there. The communication may be very good, may be very virtual. But movement will be reduced.

RD: Carbon trading can help bring this about without catastrophe. When you charge people a million dollars for a ton of carbon, you might not fly as much.

THD: In general the point at the end of the book is that the highly adaptive systems tend to be decentralized in a problem-solving process as well as in their production of goods and services.

RD: It's quite a challenge to reduce the population from 9 billion to 5 billion.

THD: We will peak at 8.5 or 9 billion, but it will quite likely start declining rapidly after that. The thing is, people want to have fewer kids today, and even in other countries there is a lot of population momentum, but you're already seen a decline in world population growth. The question is how much of the world's ecology and resources will be left after the population peaks.

RD: One last question. What is it about the subject that motivates you personally?

THD: I think we should be doing better than this. It goes back to my first work on the arms race between the United States and the Soviet Union. It's the same kind of disconnect: individuals who seem to be pretty smart, collectively act against their own self-interest. It is psychotic behavior, and I have to believe that we can do better than this. I'm embarrassed for my species, embarrassed to be a human being. And the other thing of course is that I look at my son, I look at how happy our children are, and it reminds us that we should be able to do better than this for our children. So those are the two things.

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