

*State of the World 2013*

IS  
**SUSTAINABILITY**  
*Still Possible?*



**THE WORLDWATCH INSTITUTE**

## Is It Too Late?

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*Kim Stanley Robinson*

In a cartoon loved by children everywhere, there's a moment when Wile E. Coyote is chasing the Roadrunner so intently that he runs off a cliff without noticing he has left the ground. While he remains ignorant, gravity has no effect on him, although he does of course lose traction, and as his legs spin he looks out at us suspiciously. Our return gaze does not reassure him, and he gathers his courage and looks down. When he sees where he is, gravity immediately reasserts itself and he plunges faster than terminal velocity to the distant desert floor, where only a tiny puff of smoke or crack in the earth marks his impact. Oh dear; foiled again.

Being a cartoon character, Coyote is indestructible and will return to do it all over again in a different foolish way. But humans? A fall like that wouldn't end well.

So we ask this question about our present situation on Earth, Is it too late?, because we wonder: are we already in the air? Has humanity already overshot the carrying capacity of Earth so badly that we are doomed to a horrible crash after oil, or freshwater, or topsoil, or fish, or the ozone layer, or many other things—after one or all of them run out? So that no matter what we do in the meantime, it's a foregone conclusion that we're in for a fall?

No. In that sense, it is not yet too late. As demonstrated in this volume and in other analyses, including the wedge diagrams of Robert Socolow and others, if we were to do everything right, starting this year and continuing for the next several decades—did everything that has been proposed to decarbonize and to conserve, restore, protect, replace, and so on—then we could do it. It might involve so many actions that it would end up constituting the primary emphasis of civilization's efforts, but that is probably as it should be. The point is, it is physically possible. We could shift infrastructures, technological arrays, and social systems in ways that would make them so much cleaner than what exists now, especially in carbon terms, that global average temperatures would probably not rise by more than 2 degrees

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Celsius; extinctions would not soar, food shortages would not occur, and 7 billion or even 9 billion humans could share the planet with other living creatures in a healthy way, with all the humans living well.<sup>1</sup>

The measurements we can make of our physical situation in relation to the planet support this assertion, but they also make clear that we need to start most of the helpful actions pretty soon. Indeed, it would be best if we managed to do all of them as soon as possible.

Are we going to do everything right in the rest of the twenty-first century? No. Or, let's say it looks very unlikely. We just aren't that good, either as a species or as a civilization—it's hard to tell which. If we were good enough as a species, meaning smart enough as animals, then presumably we could make our civilization good enough by the sheer force of our wisdom. And maybe we will. But as we evolved, our brilliance grew with some startling holes in it, probably because we were adapting to live in small packs on a savannah. We were good at that, so good that we succeeded in spreading far beyond our original setting. Possibly as a species we have succeeded so well that we have overshot our evolved abilities. On the other hand, maybe it's just that accidents of power differentiation and accumulation have left us with a damaged ability to act in the general interest: not something in our nature, in other words, but in our history.

But either way, oh dear—at least one foot is off the cliff. Could be quite a fall. Must turn quickly in a new direction.

That's hard to do. We will do some things wrong, it is almost certain. As a result there will be human suffering, there will be suffering among the other creatures on Earth. There will be extinctions. It can hardly be denied without being unrealistic, or so it seems. We are going to do damage in the twenty-first century, possibly big damage. It might not involve a dramatic fall, it might just be our ordinary reality, doing bad things day after day.

So the question could be changed from *Is it too late?* to *How much damage will we let happen?* Then we could flip that revised question to its positive formulation: *How much will we save? How much of the biosphere will we save?* That's the real question.

When we ask that question, it reminds us: life is robust. Restorations can be made. Everything but extinctions can be made better. So there is reason for hope. We can think of our work as saving things that will come back stronger later. Even in the bad present, we can create inoculants and refugia for a better time.

Which does not justify any complacency. In the damage that will come first, before any better time, the poor will suffer much more than the rich, both because the rich will be better able to afford adaptations to the degrading environment and because many of the poor live in the parts of the world that will be most hammered by climate change. This human suffering

is both a moral and a practical issue for the richer part of the population, which has more power to act now: morally, no one is free in an unjust system, as Abraham Lincoln pointed out; practically, there is no firewall that will protect even the rich from the kind of damage we are creating, which ranges from endocrine disruptors to food crashes to infectious diseases to political violence, meaning terrorism and war. Nor is it difficult to imagine more than one of these impacts combining.

A working question for this project of saving as much as we can: how set are we in our path dependencies?

There is infrastructural path dependency: once we build a certain transport system or power generation system, we have set a technological path in concrete and steel and are dependent on it for its working lifetime. Changes to systems this big and physical take a lot of time and effort. Shortening the normal working lifetime of such a system is not business as usual, not the expected future that is path-dependent on budgets and debt schedules, but rather a rupture in all that, a social decision.

That brings us to our social systems' path dependencies, which also exist, because deciding to change an infrastructure already built takes immense social effort. So the question becomes, how flexible are our social systems? It seems as if they could be more flexible than infrastructures, being more abstract and more sensitive to new desires on the part of people. Thus in our political lives we flex and change our laws all the time, and allocate government funds and enact laws that shape and direct private investment, and build new things; then flex again and tear those things out, and rebuild other things in their place. It happens all the time, it keeps happening. No one should object to using this normal process.

Is it "cruel optimism" to say we are flexible enough to change rapidly, or is it a realistic reading of our history and situation? Depends on what angle you take, but also on how flexible our social systems actually turn out to be, now, if we try to flex them. What if some of the most powerful elements in our decisionmaking process decide to do everything in their power to ignore new information and stick to the very infrastructure that is wrecking the biosphere? This is, of course, not a hypothetical question.

Governments are big collections of capital, among the biggest that exist, but they are still dwarfed by the totality of private capital, which is now heavily clumped into a small number of private organizations. So far, most big accumulations of private capital are saying no to the idea of rapid decarbonization, not consciously or out of malice but simply as a consequence of economic laws as they stand. If there is no financial profit to be had in decarbonization, and more generally if financial law dictates that we continue to damage the environment, this is not necessarily taken as a sign that the financial system has to change. Some people defend the current financial

system no matter its effect on our biophysical situation. So far, the people doing this have not been defeated politically, nor do they seem to be changing their minds. And they hold a lot of power.

That being so, we have to hope we really are in a polyarchy and that it continues to work for us. Can we prevail over destructive private interests when the common good of humanity and the biosphere are at stake? In the polyarchy we live in, this is not at all clear. It is an open question.

Polyarchy is a useful word for our current social system, because it accurately describes the form of our governance without specifying content or intent. It's a fairly simple and general term that says that human power over human affairs is distributed across a number of different organizations of different kinds, which compete with each other to decide or influence what we do. Thus there is political power in capital as well as in government, science, religion, civil society, and military force—and in people as the embodiments of these powers, as producers and consumers and as individuals both on their own and en masse. What we do as a civilization gets decided by all these power centers in a combined effort or struggle that has many outcomes. Polyarchy as a name for our system may be more accurate than more content-specific names such as democratic capitalism, social democracy, state socialism, and the like. None of the content-based names we usually use include science, even though if we were to examine how we live now on the planet, it would seem that science ought to weigh very heavily in any accurate description of what is powerful.<sup>2</sup>

We never hear the current global system described as scientific capitalism. Maybe this is because the phrase sounds a bit oxymoronic, these two power centers being vaguely understood to be at cross-purposes. In fact, modern history could be understood as a struggle between these conjoined twins for primary control of humanity's affairs. One view of their fight could portray capitalism as attempting to buy science's efforts and direct them to reinforce capitalist ownership, while science could be seen as attempting to reduce human suffering, repair damage, and dismantle injustice, all by its particular method of discovering and manipulating the world. In Raymond Williams' terminology of the residual and the emergent, which says that any given historical moment consists of residual elements and emergent elements engaged in a collaboration and a struggle, we could say that capitalism is the residual of the feudal system while science is what we named the emergent next system long before we recognized it as the post-capitalism it has been from its very beginning.<sup>3</sup>

This is admittedly a sock puppet rendering of three or four centuries of dense action. It is only defensible as a practice because we do need basic orientation; we sometimes need to see history not as an endless number of events but as History, with big shapes that make a simple but tellable story.

There are other ways of telling modern history, but this version, science versus capitalism, clarifies a lot that is otherwise confusing. The two powers have been so intertwined through their shared existence that it is hard to see how different they are; they need destranding, so to speak. So consider science as it has been: an emerging system of health and justice, a political force of immense power and potential for good, struggling from the very start to stay independent enough to operate by its own rules, which are both utopian and highly effective in the physical world. Then think of who owns what in capitalism, and how blind that older system is to the realities of our biosphere as our ultimate life support. Given the data of history, and of our own lives now, it seems that we should be supporting science in every way we can.

Our science tells us we have to change infrastructure faster than our current polyarchy plans to. Changing infrastructure is not in itself a bad thing; with cleaner new tech we lessen our impact, and installing the new tech gives a lot of people meaningful work. It is a major investment, however, and our current economic system is telling us that it is unaffordably expensive compared with using the dirty old infrastructure; changing out would be not profitable. Economics says this, and the current laws make its analysis accurate.

Both economics and laws can change. But changing economics is not so easy, because as currently constituted it supports the present distribution of power. When we say economics we actually mean capitalist economics, because the field takes for granted and helps to justify its object of study. So it is resistant to change because its owners and clients are resistant to change.

Here is a case where science needs to emerge more fully as a form of political action, for the good of all. Science is a reiterative process that is always trying to improve its methods, and we do it better than we ever have before. Lessons have been learned from earlier mistakes, and the clarity that science can now bring, not only to the physical world but to human behaviors and desires, has made it more useful to us. This growing versatility and power is why many intellectual fields have, to one degree or another, been scientized, to their own great good: philosophy is now infused by brain science, sociology and anthropology and psychology are all collecting and analyzing big data like never before, and even history is now challenged by a newly proposed field called “cliodynamics,” which tries to use historical “big data” and statistical analysis to model classes of historical events in ways that would allow predictions to be made about current similar situations.<sup>4</sup>

Economics should be given a similar infusion of the scientific method, which would start to turn it into a wing of ecology and of science generally, as it will include behavioral economics, biophysical economics, and so on. At that point we could formulate our economic plans within the paradigm

of ecological thinking, with the biosphere regarded as the bio-infrastructure, with its estimated \$33 trillion a year of unpaid services, all finally accounted for in a way that properly values and preserves it. This is a crucial project for science and society.<sup>5</sup>

The growing view that economics as presently practiced is a very inaccurate and damaging pseudo-science has been expressed often since the crash of 2008, most clearly from the other human sciences. Anthropology, sociology, political science, psychology, history—these disciplines are not directly powerful parts of our polyarchy, but they do help to establish a window of acceptable discourse and to provide new ideas. Economics as a field, is still so protected by power that it can ignore such critiques from the other social sciences and humanities, and it does. But in the face of evidence of the damage being done by capitalist economics, pressure is rising for change. We clearly need a more realistic working economic system to measure our efforts, evaluate them, and in essence arrange to pay ourselves for what needs doing.

If scientizing economics allowed us to analyze and subsequently direct our activities in ways that helped us to live more sustainably in the only biosphere we have, then all civilization would become in effect a project composed of a collection of experiments in improved relations with the planet. What we then looked for, what we measured, what we said was happening, and how we dealt with it—all that would change.

New terms are appearing everywhere as people try to articulate this new understanding in different ways. New names are being proposed for new systems, older ideas are being reexamined. Some of these propose small improvements, others complete transformations. Given how fixed in place the global economic system looks, how set in law and backed by force, advocating big changes can look quite unrealistic. But different time scales need to be brought into play when we talk about the future. Sometimes it helps to imagine how different our system is going to be in a thousand years, just to see what exists now from a different angle, and perhaps figure out what actions in the present can best set us in the direction of a better state of affairs. Grant that the long arc of history will keep bending, that centuries from now things will be very different, and suddenly the present too looks a little more malleable, its little changes part of that long bend.

So it helps to stop sometimes and take the long view. In one future, quite possible and we hope even likely, we will be providing ourselves with energy, power, food, water, transport, and infrastructure using an extremely clean and renewable suite of technologies. Our population will have stabilized as a result of the full extension of justice to women and to everyone alive. We will be restoring landscapes and wildlife populations while still feeding ourselves.

All these accomplishments are possible; there is no physical or technical impediment to us creating such a rich and vibrant permaculture. Having seen the possibility, humanity can make this permaculture its project.

Now, with this long-term vision or goal kept in mind, there are all kinds of things being tried or proposed to make the first little bends in the system that will curve it in that good direction. There are too many emerging projects to list here, although it would be very good to have this list, in something like a new economics *State of the World*, perhaps. In a compilation of this kind we would surely learn more about Mondragón and Kerala, Ecuador and Cuba, Bhutan and Scandinavia. We would also find out about ideas like predistributed value, microtaxing financial transactions, treating necessities as public utilities, full employment, permaculture, hedging (both kinds) for environmental repair, gross national happiness, the 2000 Watt Society, carbon taxes as truing the cost, intrinsic shareholders, land tithing, living wages, steady state economics, degrowth economics, moral hazard, systemic predatory dumping, deponzification, Leyden contentment indexes, rewilding, assisted migration, mongrel ecologies, cooperatives, open source, earth work, earth credits, the land ethic. . . .

And so on. The list will keep growing, and all these ideas will be understood as parts of a bigger thing, a global effort we have already begun to work on. We can see our present danger, and we can also see our future potential: a stable human population of some 7–9 billion, living cleanly and well on a healthy biosphere, sharing Earth with the rest of the creatures who rely on it. This is not just a dream but a responsibility, a project. And things we can do now to start on this project are all around us, waiting to be taken up and lived.

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2013

# STATE OF THE WORLD

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Sustainability gets plenty of lip service, but the relentless worsening of key environmental trends reveals much of that attention to be “sustainababble.” From climate instability and species extinctions to approaching scarcities of freshwater, minerals, and energy, worrisome limits to human economic activity look more pressing each year—all while our political institutions seem impotent to address the challenge.

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