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Science Alone Won't Save the Earth. People Have to Do That.

We need to start talking about what kind of planet we want to live on.

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This planet is in crisis. The safe limits within which human societies can be sustained, the earth's "planetary boundaries," are being exceeded, a path leading inevitably toward collapse. The experts have spoken. Only if humanity heeds the science, reverses course and lives within earth's natural limits can disaster be avoided.

Or maybe you believe the opposite: that human ingenuity can continue to overcome those limits, that there is no need for environmental concern.

Both miss the point. In the age of humans, the Anthropocene, there is no safety in natural limits. Or in overcoming them. For those reasons, we should put the idea of limits off limits.

The question is not whether two degrees of warming is riskier than 1.5 degrees (of course it is), or whether we are using, as some claim, more than one earth's worth of resources per year (of course not), or how many extinctions per year are sustainable without a collapse of human societies (why allow any at all?). The real question is how we better negotiate among ourselves, across all our many diverse peoples and cultures, so that we can navigate together toward the better futures we wish for, in our different ways.

On a planet of nearly eight billion people with billions more on the way, natural limits simply don't mean much. Nor are there solutions in limits. The harshest reality of the Anthropocene is that every human action or nonaction generates a labyrinth of consequences, both social and environmental, local and global, some surprising, some predictable, that affect different people very differently.

The problem is, what works for me will very likely not work for you. So by focusing on environmental limits instead of on the social strategies that enable better environmental and social outcomes, we fail to engage the only force of nature that can help us: human aspirations for a better future.

There is no way to avoid the environmental consequences of industrial societies operating at planetary scale. We've covered and transformed the planet with the agriculture, settlements and infrastructure that

sustain us. In doing so, we've also increasingly impoverished this planet of wild species and wild spaces, and the carbon emissions that power modern lives are causing the earth to warm faster than at any time since [the fall of the dinosaurs](#).

We need to adjust our expectations. The new normal is not about staying within earth's natural limits. We passed those long ago. It's about winners and losers, and about navigating trade-offs and surprises. The human age will be no Eden or dystopia, but an everlasting struggle among different people seeking different futures. Who, for instance, will suffer from a hotter and less biodiverse planet, who will benefit and who will pay to avoid it entirely? And why haven't we, the people, acted to solve the greatest environmental challenges of our time — global climate change, habitat loss and widespread extinctions?

One thing is for sure. A better future won't be realized through unquestioning faith in the safety of scientifically defined environmental limits or in unlimited technological capacities to avoid environmental consequences. When there is no single optimal solution, no amount of rational debate, or even computational intelligence, can find one. Science does not, cannot and should not have all the answers — not for earth's limits, nor for human futures. A future governed solely by rationality and scientific evidence offers no safe space in these times.

The problem is not us; it is that there is no "us." Just as one future will never be best for all people, no single way of thinking, believing or acting will ever be enough to forge our better futures together on this one planet. Decisions informed by scientific evidence will, of course, create better outcomes for people and the planet. But no amount of scientific evidence, enlightened rational thought or innovative technology can resolve entirely the social and environmental trade-offs necessary to meet the aspirations of a wonderfully diverse humanity — at least not without creating even greater problems in the future.

For this reason and others, putting expert scientific narratives at the center of decision making, like “nonnegotiable environmental limits,” rather than focusing on opportunities for collective betterment, has led only to increasing divisions over which experts to trust. If we are to continue improving the human world, while retaining the nature we love, it will be necessary to get beyond polemics and expertise, scientific or otherwise. In the end, it is people, and their institutions — not science — that will decide the future.

No one wants a hotter, more polluted and less biodiverse planet, though most people want the modern lifestyles made possible by cheap energy, abundant food and industrial productivity. Even now there are no technological limits to supplying these lifestyles to eight billion, or even to 11 billion, people, with far less harm than we’re currently causing to the one planet all of us must live on. To do so is merely costly. Extremely costly, because rebuilding energy systems to make them carbon neutral, ensuring that land, water and other resources are used sustainably, adapting to climate change and cleaning up pollution don’t come cheap. But there is one hard limit. No better future will be possible if those most able to bear the costs — those who’ve benefited the most, the wealthy and the vested interests of this world — don’t step up to pay for it.

The greatest challenge of our time is not how to live within the limits of the natural world, or how to overcome such limits. It isn’t about optimizing our planet to better serve humanity or the rest of nature. To engage productively with the world we are creating, we must focus on strategies for working more effectively together across all of our diverse and unequal social worlds. If we truly intend to make this work, we need to leave behind treasured but outmoded beliefs in a stable balance of nature, unlimited human ingenuity and nonnegotiable environmental limits defined only by experts.

The Anthropocene is not the end of our world. It's just the beginning. Collectively, we have the potential to create a much better planet than the one we are creating now. So let’s start talking about the better future we want, and less about the future we don’t. It’s about articulating values, and about sharing, fairly, the only planet we have

with one another and the rest of life on earth. The planet we make will reflect the people we are.

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