

## CHAPTER 14

*The Elephant in the Room—  
Growth Doesn't Work*

This century is going to be a wild and exhilarating ride. The pace of change will be breathtaking and the twists and turns unpredictable. We will face the real and present danger of falling off the cliff and plunging to our demise. Assuming we make it as I think we will, the year 2100 will be met with a huge planetary sigh of relief: Phew, that was intense!

But in telling that whole story, we have a ways to go yet. It may seem like a fair bit to cope with—the economic crisis of the Great Disruption, followed by the one-degree war and the complete transformation of the global economy to zero net carbon, all happening in parallel to a global realignment of geopolitical power, accompanied by widespread military and social conflict from ecosystem breakdown. All that, however, is just act one.

Now we come to the most exciting and most significant part of our journey.

Despite achieving all of the above, we will still have one more obstacle to clear before we move to the next stage of humanity's development. We can be sure of this because of where we started, with the physical limits of the planet.

Exploring this is the subject for the remainder of the book, so before we do so, let's take a moment to remind ourselves of the story so far.

We started with the acceptance that, despite fifty-odd years of investigation, science, and talk about the limits to growth, little has changed. With the global economy now hitting the limits of both the planet's finite physical resources and its capacity to absorb our impact, this

economy is grinding to a halt. It is doing so messily and unevenly, but the effect will be the same. This will unleash a crisis that will be recognized in two successive phases.

The first phase of recognition will be the failure of growth, which will be a massive economic and political crisis because our global system is based on the assumption that economic growth is the foundational source of our society's prosperity and success. It is the way we are supposed to consistently and indefinitely improve the quality of life for all, including bringing the poor out of poverty. It is also how we are supposed to amass the resources and technology needed to address all our other social and environmental challenges. So the failure of growth will be correctly seen as the failure of the underpinning idea behind our progress. The cultural, political, and values consequences of this will be profound. Therefore we will resist acceptance for some time while we desperately try to restart growth.

The second phase will be the recognition that the end of growth is being caused by hitting the planet's physical limits. This, as we detailed earlier, will have consequences across the global system, including reinforcing the end-of-growth crisis by convincing people it is not a temporary problem. With widespread humanitarian, social, political, and physical impacts, there will then be enormous pressure on our global political, security, and economic system.

We then covered that once we woke up, the response of this system would be swift and dramatic. The established power elites will see climate change as the cause of the crisis and as a threat to their ongoing power and influence because it puts the whole model of progress into question. They will then act swiftly to address that problem, along the lines outlined in the one-degree war plan Jorgen Randers and I drew up. They will be successful in addressing climate change because, as we covered earlier, human ingenuity combined with a global warlike mobilization by governments will be able to achieve extraordinary things and do so remarkably quickly, even with the predicted late start.

Initially this will be seen as the solution to the failure of growth, because the extraordinary level of economic activity that will be required to achieve the elimination of net CO<sub>2</sub> emissions from the economy will create exciting new companies and industries and cause a realignment of national competitiveness. In the short term, this will appear to put growth



back on track. Indeed, on the surface it will have all the hallmarks of a breakthrough that proves the power of markets and economic growth.

This creative destruction on steroids will be a sight to see, and we all look forward to watching the failure of some old economy dinosaurs and the birth of tomorrow's giants in renewable energy and other climate-friendly solutions. We will see amazing breakthroughs in technology that significantly enhance our lives and show just how good we are when we get focused on fixing things. Our cities will be cleaner, our transport cheaper, and our agriculture transformed. These will be exciting developments and will bring great benefit to humanity, not least of all by averting global economic and social collapse.

This phase of transition, however, will inevitably be messy, with chaos and volatility at the social, economic, and political levels in various countries at various times.

Despite the challenges involved and the decades of what will effectively be a war mobilization, we will get through all this. We will then be very pleased that we dodged the climate bullet that threatened to bring us down. We will be able to celebrate our resilience and our ingenuity, the brilliance of the human mind, and the power of innovation and markets to drive rapid global change when government puts in place the rules to guide it.

However, it will not be enough.

This is because, as we covered in the first half of the book, the problem is not climate change. That is just a symptom. The problem is the delusion that we can have infinite quantitative economic growth, that we can keep having more and more stuff, on a finite planet. We cannot, and that is just a fact.

We can and will perform what today feels like economic miracles, like eliminating the coal, oil, and gas industries and replacing them with new ones. We can use our extraordinary ingenuity to find ways to transform agriculture, cities, and transport systems. We can do all this while keeping the global economy and society within some general sense of order.

We can do all that, but we can't change the laws of physics and biology. For as long as we have a society that defines progress through material wealth, we will just keep hitting the wall defined by those laws again and again until we wake up.

At this stage, we can't know which particular physical limit beyond

climate will force this issue. However, with nine billion people aspiring to a Western standard of material living, we can be sure the limits will be hit.

The *Planetary Boundaries* report released by the Stockholm Resilience Centre suggested there were nine boundaries we cannot cross and maintain a sustainable economy. They are climate change, stratospheric ozone, land use change, freshwater use, biological diversity, ocean acidification, nitrogen and phosphorous inputs to the biosphere and oceans, aerosol loading, and chemical pollution. Of course, such individual boundaries are useful to define the challenge and measure progress, but as the report points out, the system is all connected and crossing one boundary will increase the likelihood we will cross others. So it is likely we will face several of the boundaries at once.

While that list adequately defines the physical ecosystem limits, there are many other limits as well, including good old-fashioned resource limits. Where do we think we'll get the iron ore and other materials to build the cars we will need if all nine billion people achieve their aspiration by 2050 to live like Americans? Even if they all emit no CO<sub>2</sub>, building and maintaining six billion cars, ten times the current number globally, would still require an extraordinary amount of materials that can come only from nature.

Some would argue we will develop new, natural biomaterials to build our cars—plastics that come from plants. On what part of our already shrinking arable land supply, then further stressed by rapidly shifting climatic zones, do they think we will grow the food and graze the cattle to feed us the advanced diet nine billion people aspire to, if we have to *also* grow the trees and plants to make plastics for six billion cars and the rest of our products? Not to mention the land needed to grow the trees and plants we will need to make the paper and timber for nine billion people *and* grow the trees and crops we will need to absorb the already emitted CO<sub>2</sub> and also create the biofuels for our cars and planes (noting that the corn required to fill one twenty-five-gallon SUV tank can feed one person for a full year). Altogether, this makes a lot more land than we've got. When you look at the system as a whole, you realize many otherwise appealing solutions can't *all* happen.

The list can go on. Into the metals for electronics, the fish for our protein, the building materials to house nine billion people, the water



for our water-intensive manufacturing, agriculture, and lifestyles. And on and on. . . . We can replace coal with solar power, but we can't build houses, cars, and phones out of air.

Will there be extraordinary innovation and changes in materials and agriculture? Absolutely. There will be breakthroughs in technology that will take our breath away with their simplicity and brilliance. We will all wonder why we didn't do it much earlier. However, despite those breakthroughs, which I am very excited about, it is delusional to believe we can keep growing a materially based economy without hitting the physical limits of the planet. You can debate the precise timing, but not the basic principle. An infinite growth economy on a finite planet just doesn't add up. This is the way it is, and we have to accept that, along with its implications. As Senator Daniel Patrick Moynihan said: "Everyone is entitled to his own opinion, but not to his own facts."

So despite our herculean efforts on climate change, we will not have solved the underlying problem. The growth economy cannot and will not continue to grow.

So this is where we are in our story. The now emerging failure of growth means our current model of social and economic progress is now in the messy and painful process of dying.

The *only* choices we get to make are how and when we change, not whether. We *have* to redesign the economy, and with it much of our politics, personal expectations, and market, to fit in with the immovable physical reality of a finite planet. As one of the leading economists in this area, Professor Herman Daly, described it:

The closer the economy approaches the scale of the whole Earth the more it will have to conform to the physical behavior mode of the Earth. That behavior mode is a steady state—a system that permits qualitative development but not aggregate quantitative growth.<sup>1</sup>

While the end of growth is inevitable, there are many choices to make in how we respond. Choices about when we begin the process and what we change to. We need a steady-state economy, one that doesn't grow or rely on growth for its stability and functioning. Don't confuse steady state as in "still and not developing," though. We have to design an econ-

omy that is rich in progress and increasing prosperity, but not destructive in physical impact. This means we will replace it with a much deeper and thoughtful approach to human development, one that will improve the quality of life for all.

This is the topic for the remaining chapters: to put forward some ideas about what choices we need to make, at the personal, corporate, national, and global levels.

While this change is inevitable and ultimately positive, there will still be a great deal of angst. Remember how people attacked *The Limits to Growth* in 1972. Leaving behind growth is going to be challenging for many people, and they will defend the old approach. This requires us to be clear on what we have to leave behind. What do we have to lose? How well has the growth economy been working for us?

The basic premise of growth, the promise made by its advocates, is that we will all be better off if the economy grows. Yes, the rich get richer, but the poor get richer as well. So as long as we're all becoming better off, the system is working and we're all happy; that's the claim. The marketing of this model of organizing society has been extraordinarily successful. All around the world, regardless of political system, people have aspired with few exceptions to apply some form of the Western model of market economy to their lives in the belief they would be better off. So has it delivered?

Let's look at the answer from two perspectives, the global capacity of the system—is the economy strong and able to keep delivering?—and the personal human level—is it making our lives better?

At the system capacity, the answer is certainly, on balance, no. What we have achieved is what Professor Herman Daly called "uneconomic growth." In economist-speak this means "the quantitative expansion of the economic subsystem increases environmental and social costs faster than production benefits, making us poorer not richer, at least in high-consumption countries."

In other words, while we appear to be getting richer because we have more stuff, we are spending all sorts of hidden capital to get that stuff, so our actual real net wealth is going down, not up. This is like maxing out your credit cards and buying holidays, new clothes, and TVs. You feel rich for a month, then the credit card bill comes in and you can't pay it, so you have to sell your house to do so. Numerous economic analyses,



such as the *Millennium Ecosystem Assessment*, show that the net wealth (total capital stock) of the human economy is degrading faster than we are creating new wealth. So while the amount of money in the system increases and the measures of economic activity rise in volume, value is in fact being destroyed, not created. That means economic growth is failing to deliver greater wealth—it is in fact uneconomic.

Of course, it doesn't feel like that on the ground. In the West, we've never had it so good with regard to our material lifestyle. And if you're one of the hundreds of millions of people in China, India, and elsewhere who have come out of grinding poverty over recent decades and are now living better lives, it also feels great. All that, however, is just like the lifestyle funded by credit cards. It does feel good . . . until the bill comes in and you lose your house. My argument is that this is the decade when the bill arrives, and if we're not careful, we'll lose the big house.

So how about at the personal level? In the West, we have had spectacular success in growing our economies since the middle of the last century. As we discussed in chapter 1, we have lives our grandparents would look at in awe. The life of the average middle-class family in the West would seem to them like the lives of emperors and kings of yesterday. So despite being uneconomic at the macro level, it *has* delivered at the personal level. But is it still doing so?

Surprisingly, the answer is also no.

For readers who want the theory, Professor Herman Daly argues the point as follows:

The logic of the SSE (steady-state economy) is reinforced by the recent finding of economists and psychologists that the correlation between absolute income and happiness extends only up to some threshold of "sufficiency," and beyond that point only relative income influences self-evaluated happiness. This result seems to hold both for cross-section data (comparing rich to poor countries at a given date), and for time series (comparing a single country before and after significant growth in income).<sup>2</sup>

What that means is we get richer, but once out of poverty, we don't get any happier. We can observe what Daly argues in our personal lives.

Sure, on the surface we love our gadgets, our houses, our cars, and our holidays. We certainly wouldn't give them up lightly if we were asked to. But we also know that the fleeting satisfaction these things bring doesn't last. That's why we keep buying more of them. Every study into relative life satisfaction and happiness suggests we don't gain any significant advance in collective quality of life through further economic growth after our basic needs have been met. The data is consistent across cultures, countries, and time.

The only source of gain is that when one person does better than a peer, that person feels better. So getting more money and stuff than whomever you compare yourself to does bring a level of satisfaction because it increases your self-worth. But the net gain for society remains at zero, with all of us just switching places around inside the system in a pointless game. All this happens while the planetary credit card gets maxed out.

Surely we can do better than that.

One of the arguments most used in favor of continued economic growth is something along the lines of, "Yes, but the poor of the world aspire to our standard of living and they're entitled to it. How dare you apply your middle-class Western concern for the planet to deny them that right?"

My initial reaction when I heard this was irritation, because the argument is usually made by right-leaning, free market businesspeople or commentators. My experience is that these people have rarely showed any great concern for the poor previously. In fact they usually blame the poor for their poverty, arguing it's their lack of personal effort to succeed in a free market world. Of course now that concern for the poor serves their self-interest of defending growth, they've changed their view. It reminds me of a quote favored by my late father-in-law, Max Grosvenor: "Hell hath no fury like a vested interest masquerading as a moral principle."<sup>3</sup>

That aside, though, my more considered response is to go back to the core argument as to what's wrong with our current economic system. Quantitative economic growth is, let's be clear, very effective at improving the quality of life and life satisfaction of the poor. Countless studies have shown that, using a measure of purchasing power parity, going from an income per annum of \$0 per capita up to around \$10,000 to \$15,000



per capita delivers a dramatic and sustained improvement in quality of life. This means it works up to a family income of around \$60,000, then any further average improvement stops.

So I am not arguing that quantitative economic growth doesn't work for the poor; it most certainly does. The problem is that the system that currently delivers this assumes, and in fact depends on, the rich getting richer in order for the poor to be less poor. The math of economic growth means the rich getting richer also increases inequity—this is both the logical result and the evidence of the past forty years. This means the system design requires increasing inequity for the poor to be less poor.

So morality aside, what's wrong with inequity and the rich getting richer? The problem is the research now shows that increasing inequity within nations *degrades* the quality of life for *all* its citizens, including the rich ones. We'll return to this later. So the net result of all this is that using economic growth to address poverty means the rich getting richer with the resulting inequity ultimately degrading the quality of life of all in that society. Okay, so the rich don't get any happier, but the poor do; so can't the rich suffer a little for the poor's benefit?

This leads me to my second considered argument as to why alleviating poverty is not an argument for economic growth. If economic growth is uneconomic—that is, it destroys our capital base, thus destroying wealth—then it is not generating net wealth for anyone, including the poor. Yes, for a short time, a fleeting moment in the history of humanity, some of the poor will see an improvement in their quality of life. This will work until the whole economic system collapses once the capital stock is depleted (the point we are now approaching rapidly), after which everyone will become poor. That will certainly deal with the problem of inequity, but it doesn't seem like an intelligent way to run a society.

If you find yourself in an argument with someone on this issue and the logic offered here isn't working, try this fact from the New Economics Foundation. For every \$100 of economic growth between 1990 and 2001, only \$0.60 went toward poverty reduction for those on less than \$1 a day. So the vested interests are defending their \$99.40 of gain on the grounds of the \$0.60 going to the poor.<sup>4</sup> Sounds like heartfelt concern indeed!

So as an approach for dealing with poverty, our current model of economic growth is certainly not going to work. We will return later to what will.

Of course, all the data is just reinforcing what common sense and instinct are telling us anyway. I have conversations with people all around the world who aren't experts but are questioning the current model at a personal and observational level. They look at their own lives, and despite being told their increased material wealth over recent decades has made them and their society better off, they aren't sure their quality of life has improved. They are working hard yet find themselves deeper in debt. They look around and see communities that are less connected and less safe. They see their children growing up in a world that is fearful and uncertain of its future. They read the science about the emerging crisis in the global ecosystem, and they are starting to wonder whether we are on the right track. Some are downshifting their lifestyles and finding that less money, more time, and less stuff are actually making them feel better and their lives happier.

Of course, here I am focusing on the big picture of humanity's progress—how are we going and where do we need to go next. I am certainly not simply dismissing the past fifty years of human progress, and I recognize the many significant gains made in medicine, technology, and our understanding of how the global ecosystem operates. My key argument is a simple one. Whatever its past successes, the system is no longer delivering the outcomes we designed it for, and if we don't respond to the signals around us, we face serious risk that those advances we have made in the past fifty years will be squandered and we will take a great leap backward.

So it is time for a change, pure and simple.