

A Chronicle of the Age of Consequences

Chapter 9

The Imperative

I was in the Hall of Biodiversity when the thought hit me like a bullet.

I had saved this room for last, preferring to wander first through huge halls filled with gleaming minerals, reconstructions of woolly mammoths, and ferocious skeletons of fanged mammals and terrible lizards – all extinct, of course. I even ducked into a special exhibit on global warming before heading to the biodiversity hall-of-shame, preferring the exhibit’s attempt at an upbeat climate prognosis over what I expected to be a gloomy report from two floors below. This is one of the reasons why I’ve begun to avoid museums – there’s just so much dead-and-dying stuff one can take in the Age of Consequences.

Still, on a business trip to New York City in mid-November I found myself with some time on my hands, so I thought a visit to the American Museum of Natural History would be nice. Crossing my fingers as I climbed the stairs past the statue of Teddy Roosevelt, I paused in the rotunda to read some of the former president’s inspirational words, set in stone:

“The nation behaves well if it treats the natural resources as assets which it must turn over to the next generation increased; and not impaired in value.”

“Only those are fit to live who do not fear to die and none are fit to die who have shrunk from the joy of life and the duty of life.”

“Character, in the long run, is the decisive factor in the life of an individual and of nations alike.”

“A great democracy must be progressive or it will soon cease to be great or a democracy.”

These were interesting observations in light of current events, I thought. Then there was this quote from a president universally lauded as a great conservationist:

“Conservation means development as much as it does protection.”

I frowned. Wasn’t this a contradiction? Perhaps it wasn’t a century ago, but it certainly seems like one today. But then, I suppose, human beings are not widely known for the consistency of their thoughts, or actions, presidents included. In fact, our capacity to hold contradictory thoughts, even to the point of trying to reconcile them, seems to be one of the hallmarks of our evolution. If so, it explains a great deal of our behavior, I thought, as I headed deeper into the museum.

In any case, I wondered what ol’ Rough-and-Ready would have made of the 21st century.

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I drifted into the Hall of Biodiversity about an hour before closing time. I followed a large pod of distracted, black-clad teenagers into the space, which was split down its rectangular length by a wall. Staying with the students, I veered to the left. In the interstices between coats, sweaters, and heads bowed over ubiquitous cell phones, I glimpsed images of attractive landscapes and healthy animals – all imperiled, I just knew. I zoomed ahead of the slow-moving teenagers.

Completing a U-turn at the end of the wall, I entered the other half of the room, anticipating gloomy news. Instead, I was pleasantly surprised to discover a thoughtful, and somewhat hopeful, analysis of why biodiversity is in trouble around the planet and what is being done about it. To my right, as I walked, was a rather standard litany of trouble: pollution, overcrowding, habitat destruction, and other sins of industrialism. But when I twisted my head to the left, a hopeful solution resided on the opposite wall. For example, there was an educated discussion about careful stewardship of cattle as an antidote to overgrazing – not something I expected to read in the heart of New York City.

The most informative display, however, awaited me at the end of my short walk. On the right wall was a large map of the world, and above it was an electronic ticker. When I arrived, the ticker read: 5000 BCE (Before Common Era) and the map displayed a handful of lighted red dots. Each dot represented one million people, and they were clustered in the usual places, Egypt, Mesopotamia, China. As I watched, the ticker began to advance... 4500 BCE... 2500 BCE... 500 BCE... 500 CE... and on up to the present day.

You know what happened to the map.

New dots appeared, slowly at first, then more quickly, spreading all over the world. Then, around 1850, the map exploded. In a blinding blur, red dots swamped nearly all the empty places as the world's population soared exponentially. One billion people by 1900, more than two billion by 1950, six billion by 2000. It was like watching a popcorn machine go totally berserk – but with deep, and disturbing, implications.

The explosion stopped suddenly. Then the ticker reset itself and nearly all the red dots vanished. Poof! Just like that – the world was sane again. I stood there blinking for a moment.

My eyes drifted down to a spot on the wall below the map where I saw these words: “The invention of agriculture has caused the human population to soar from 5 million to 6 billion in just 10,000 years. This growth, along with an increase in resource consumption, underlies the great transformation of the world’s ecosystems and today’s extinction crisis.”

That's when the bullet struck.

I spun on my heel and charged into the adjacent Hall of North American Forests. Dodging knots of people, I barreled on into the Hall of New York State Environment and then into the Grand Gallery, which is a lovely, airy open space. I didn't hesitate. I saw my target dead ahead: the Hall of Human Origins. I knew exactly where I was going – to the reconstruction of a life-size Neandertal skeleton I had seen earlier in the day (they're not called *Neanderthals* anymore, by

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the way.)

Like many visitors (judging from the big crowds), I was drawn to the hominid hall by a variety of curiosities, including the perpetually vexing question: Who are we? Also, where did we come from? How did we get here? And where are we heading? I found some answers too, thanks to an apparently recent, major renovation to the room (now called the Spitzer Hall of Human Origins), which enabled museum curators to install information from the latest scientific discoveries. This included results from important, new DNA studies on our specific branch of the hominid tree: the genus *Homo sapiens*.

And what I learned was hair-raising.

First, I was reminded that *Homo sapiens* are the only surviving member of the hominid family left on the planet. Just two million years ago there were eleven hominid species, including the large “Australopith” group, of ‘Lucy’ and Laetoli footsteps fame. This branch went extinct about 1.4 million years ago, just as the *Homo* branch started growing.

Second, I learned that *Homo sapiens* are distinct genetically from the other *Homo* species, including our cousins *Homo neanderthalensis*. This was news. When I was in grade school, the prevailing theory, as I recall, said we were descendents of Neandertals – their direct heirs, in a sense. Not so. Now there is conclusive DNA evidence that we were contemporaries, both likely descended from a common ancestor called *Homo heidelbergensis*, but separate and distinct genetically. We also had important skills that Neandertals lacked, despite our similarly-sized brains, including better tool-making abilities, the gift of language, an artistic impulse, and the cognitive capacity to visualize, and therefore manipulate, the world symbolically (in other words, we were capable of complex, abstract thought).

None of this was good news for our cousins.

Third, I learned that as a species we came into existence *only* 150,000 years ago, give or take ten thousand years or so (the exact date of our origination is impossible to determine because the fossil record is so sparse). This is in contrast to other hominid species which had been around for much longer. Researchers know the location of our ancestral home too: the original hominid stomping-ground of east Africa. They also know we became restless quickly. By 115,000 years ago, *Homo sapiens* had expanded into South Africa. Then, around 100,000 years ago, we expanded out of Africa, extending first to the Middle East, then into Asia. This was followed by the colonization of what is today Australia, approximately 60,000 years ago. Eventually, we colonized North America as well, via the Bering land bridge, coming across approximately 25,000 years ago.

As for Europe, the paleontological record indicates that *Homo sapiens* appeared around 50,000 years ago, during a lull in the Ice Age. Labeled as Cro-Magnon by researchers, these ancestors came into contact with our cousins, the Neandertals, around 35,000 years ago – with big consequences.

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That's why I headed back to the Neandertal display – to reread the text. Here's what it said: After 500,000 years of existence, *Homo neanderthalensis* went extinct only 7000 years after contact with my ancestors. Just like that.

Was this a coincidence? Not likely. Although there's some dispute among academics about the exact sequence of events, there is little doubt that we had a big hand – possibly a *huge* hand – in the Neandertal's demise. After all, the same fate befell every other hominid species on the planet. Meet *Homo sapiens*, go extinct.

It wasn't just our fellow humans either – a very great variety of animal species died out after contact with the ever resourceful, ever expanding *Homo sapiens*. In Australia, for example, 90% of the marsupial species larger than a small dog were hunted to extinction after our arrival. A similar fate awaited the flightless birds of New Zealand centuries later. Ditto with the megafauna of North America (whose skeletons populated the halls of the floors above my head), including mammoths, mastodons, and saber-toothed tigers. While climate change probably played a role in their fate, indisputably so did hunting by an exotic and aggressive species – us. After millions of years of evolution, the megafauna of North America were extinct within a few thousand years of our arrival.

Just like that.

And as I learned back in the Hall of Biodiversity, extinctions continue to this day. In fact, the rate of extinction is rising rapidly, with over 15,000 plant and animal species now at risk of extermination, largely as a consequence of human activity.

As I stood in front of the reconstructed skeleton of my big-browed cousin, thinking about all this, I suddenly felt like apologizing. Although he was a composite of six separate individuals (no complete Neandertal individual has been discovered yet), he had the wholeness of a real person, though mute, chinless and extinct. “Sorry about that,” I wanted to say. “We knew not what we were doing.”

That wasn't quite true, of course. We knew exactly what we were doing. What *Homo sapiens* do is domination, and, by extension, extinction – and we do it really well. This was the bullet that struck me in the Hall of Biodiversity: *it's who we are*.

Every exhibit on every floor of the museum practically shouted the same message: *we are a dominating and dominant species, destined from the start to bend the world to our will whatever the consequences, even if it means extinction*.

It felt like an imperative or a prime directive – an irresistible obligation to rule, command, conquer, and dominate. It was our destiny to become a successful and selfish species – not unlike like most other species, I suppose, only with an exceptional skill set. I'm not saying things were preordained. I doubt that our ancestors, for example, deliberately plotted our cousins' extirpation – but it happened nonetheless; and to our benefit.

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It was the imperative at work.

I departed the museum shortly before closing time and headed outside into cold light of a late afternoon day in Manhattan. After a chilly walk through Central Park, curiosity got the better of me and I headed for the nearest book store. Once inside, I found a book titled *'The Seven Daughters of Eve'* by Dr. Bryan Sykes, a research geneticist at Cambridge University in England. His specialty is mitochondrial DNA, which can be used to trace human genetics back, well, to the origin of the species.

I took the book back to my hotel room, where I read this confirmation:

The Neandertals were “completely replaced in Europe, and throughout their range, by the technologically and artistically superior new species *Homo sapiens*, represented in Europe by Cro-Magnons. What happened in Europe, as far as we can tell from the genetics, also happened throughout the world, with *Homo sapiens* becoming first the dominant then the only human species, completely eliminating earlier forms.”

He describes what happened next: “...the enslavement of wild animals and plants for food production was the catalyst that enabled *Homo sapiens* to overrun and dominate the earth.”

Welcome to the Age of Consequences.

I closed the book after a while, worn out from so much education, and turned on the television. I did so with trepidation, however. It had been another bad week for American capitalism. Two days earlier, the Dow sank 445 points to 7552 – an eleven-and-a-half year low and 52% off the high-water mark, set in October, 2007. I located one of the cable business channels and settled in for the latest update.

“There is nowhere to run and hide,” said one pundit, the CEO of an investment firm. “This is one for the ages,” said another talking head, “it has broken all the rules.”

Suddenly, I felt like I was back in the Hall of Biodiversity again.

A week or so earlier, Steven Pearlstein wrote this in a *Washington Post* commentary: “The past twenty years have provided ample evidence that uncontrolled flows of private capital have created massive booms and busts that have overwhelmed the financial system and destabilized the global economy. The booms have misallocated capital, widened the gulf between rich and poor, and eroded the norms of behavior that had contributed to social and political harmony.”

“There is no denying that American-style capitalism has been undermined by its own success,” he continued. “It rewards manipulation over innovation and speculation over genuine value creation...And now, through the marvels of global financial markets, they have spread their toxic culture and products to economies across the globe.”

That sounded like the imperative at work.

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Still, extinction is *not* inevitable. After all, over the millennia human societies created cultural checks to this prime directive, including ethics, morals, laws, norms and customs. They were cultural side boards, in a sense, to our impulses. They were created to keep the imperative from running amok – a development that was also in our self-interest. The very idea of progress depends on order and organization; without these self-imposed restrictions, anarchy and chaos would rule.

But these side boards, it seems to me, have weathered badly during the past sixty years – exemplified by the financial crisis currently engulfing the nation. The ethical-moral dike we built over the decades to hold back a rising sea of industrial greed has sprung so many holes recently that its collapse seems imminent. It wasn't simply the lack of regulation or oversight on the part of our government that caused all the trouble, as some analysts have suggested, but near-complete failure of our ethics. The imperative became unrestrained, with serious consequences, as we are discovering. This time we weren't merely picking on our big-browed Neandertal cousins – this time we turned the imperative on ourselves.

This explains, partly, how we arrived at The Age of Consequences. We let our sideboards deteriorate and fall apart. We let the imperative loose.

Is it too late? Are we trying to close the barn door after the Four Horses have escaped? I don't think so. After all, humans have been down this road before – many times, in fact, as societies rose and fell and rose again. The difference this time, of course, is the scale of the consequences.

I turned off the television, took the elevator down to the lobby, and went for a walk up Broadway Avenue. "It's more complicated than that," I thought to myself, leaning my shoulder into a bitter wind. Talk of imperatives, ethics, morals, greed, impulses, and so forth doesn't even begin to touch the complexity of our situation. The Age of Consequences is both the product of a pattern of human behavior over millennia and a set of circumstances peculiar and unique to the past century or so. Our current dilemma is part fate, part accident, and a lot of something in between.

Weary, I stepped into the warmth and comfort of a small diner. I slipped into a booth and ordered a cup of coffee to warm my old desert bones. Across the aisle and above my head, a television glowed. On the screen was our newly elected president, Barack Obama, speaking silently to a group of people. He radiated optimism, I thought as I watched. His youthful smile was broad, his face energized with determination, his eyes sparkled with intelligence. His whole demeanor, in fact, shone with a serene self-confidence.

It is an amazing moment in American history, I thought to myself. In a few weeks, almost literally one hundred years to the day after Teddy Roosevelt stepped down as the 26th president of the United States, Barack Obama, a forty-seven year-old African-American community organizer, will become the forty-fourth Executive of this great nation. This was good. I voted for him enthusiastically, and I did so for many reasons, not the least of which was his age – only eleven months separates our birthdays. We're generational compatriots. But after the day's events in the museum, I realized there was another reason to feel optimistic about his election: he can lead us in a new direction. We can do things differently, if we want. We can turn the ship of state. That's our prerogative as well.

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Nothing is set in stone, except words.

Speaking of words, I recalled what Obama said during his acceptance speech on Election night, and I crossed my fingers again:

“If there is anyone out there who still doubts that America is a place where all things are possible, who still wonders if the dream of our founders is alive in our time, who still questions the power of our democracy, tonight is your answer.”

“It’s the answer that led those who’ve been told for so long by so many to be cynical and fearful and doubtful about what we can achieve to put their hands on the arc of history and bend it once more toward the hope of a better day.”

“For even as we celebrate tonight, we know the challenges that tomorrow will bring are the greatest in our lifetimes – two wars, a planet in peril, the worst financial crisis in a century.”

“The road ahead will be long. Our climb will be steep. We may not get there in one year or even in one term. But, America, I have never been more hopeful than I am tonight that we will get there.”

“Tonight we proved once more that the true strength of our nation comes not from the might of our arms or the scale of our wealth, but from the enduring power of our ideals: democracy, liberty, opportunity and unyielding hope. That’s the true genius of America: that America can change. Our union can be perfected. What we’ve already achieved gives us hope for what we can must achieve tomorrow.”

“This is our chance to answer that call. This is our moment.”