Slouching Towards Utopia?: An Economic History of the Twentieth Century, 1870-2016

I. Grand Narrative

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1.1: The Long 20th Century in Human History

The Long 20th Century began around 1870 and ended in 2016.

Before 1870 humanity was poor, and life was typically nasty, brutish, and short. Before 1870, over and over again, technology lost its race with human fecundity, and greater numbers coupled with resource scarcity to produce a humanity where most people most of the time could not be confident that they and their families would have their 2000 calories, plus essential nutrients, plus a roof over their head in a year. Before 1870 those on the make overwhelmingly focused on how to take from others or keep what they had while maintaining order, rather on how to make more for everyone. It is true that between 1800 and 1870 technology and organization gained a step or two in their race with fecundity. But only a step. Any post-1870 slackening of the pace of technological or organizational progress, or any major redivision of society's dividends devoting less to the sinews or peace and more to the sinews of war, and "nasty, brutish, and short" would reassert itself.

But starting in 1870 all that changed. Science reached critical mass and gave birth to engineering. A liberal political order gave birth to a market economy. Engineering and the market produced an explosion of economic growth: these days one single year sees as much proportional technological and organizational

advance and change in the human economy as a typical fifty years did back before 1800.

The consequences have been enormous: Today less than 9% of humanity lives at or below the roughly $2-a-day living standard we think of as "extreme poverty", down from 70%—and even those 9% have access to public-health and mobile phone-communications technologies of vast worth and power. Today the rich economies of the world stand at levels of per-capita prosperity at least twenty (and possibly much more) times those of 1870 and at least twenty-five (and possibly much more) times those of 1800, with every expectation of further doublings in the centuries to come. Today the center-of-gravity of those economies unlucky and in the "Global South" is not at the $2-3 a day living standard of those economies in 1800 or 1870, but $15 a day (and more).

Tell any of those in previous centuries about the wealth, productivity, technology level, and sophisticated productive organizations of the world today, and they would say that with such power and wealth in our collective hands we must have built a utopia.

And yet the politics of 2016 and what that year brought—the stepping-back of the United States from its role of good-guy world leader and of Britain from its role as a key piece of Europe, the return to politics in North America and Europe of a movement that rejects democratic representative consensus normal politics in favor of allegiance to a leader whose principal qualification is a desire to strike at external enemies and at internal enemies who are not properly full members of the ethno-nationalist community, a movement that Madeleine Albright dares to call "fascist" (and who am I to tell her she is wrong?), the conspicuous failure over the previous decade of the stewards of the global economy to either maintain or to rapidly return to full employment—show us that we have no business being overly triumphant. Yes, over 1870-2016, technology and organization lapped fecundity. Yes, then the psychology of a newly richer humanity in which girls learned to read and acquired social power permanently scotched Malthusian forces from their role as the fetters of humanity. But material prosperity is grossly unevenly—criminally—distributed around the globe. And material wealth does not make people happy in a world where politicians and others prosper mightily from finding new ways to make and keep people unhappy.

To watch human history 1870-2016 is not to watch a smoothly galloping racehorse. Instead, it is to watch a rough beast, at best slouching towards Utopia—if we are traveling in the or even in a right direction.

The above eight paragraphs are a grand narrative: one big thing happened—the coming together of engineering-child-of-science and the market-economy-child-of-a-liberal-political-order—and that big thing's consequences then swamped everything else driving history, and the working-out of those consequences changed and is still changing the world. Thus the history of the Long 20th Century has a single principal axis, and that axis is *economic*. Its history is best viewed as primarily not one of political or military events and crises or of cultural efflorescences and diffusions. It is best viewed as one of extraordinary and progressive changes in how and what we do to produce and distribute the necessities, conveniences, and luxuries of life from the resources that nature has granted us.

Grand narratives are out of style in history today. There have been too many of them over the past four centuries. They all say—or heavily imply—that one big thing happened, it is over (or about to be over), and that we clearly know what it means. But go down the road fifty years after anyone has written a Big History with a Grand Narrative, and we find that, no, they did not know what it meant; or we find that it was not the end but only the middle of the story; or we find that there were other, more important stories, burbling along that we should have paid more attention to—and that we would have paid more attention to, had we not been busy cramming everything and everyone into the Procrustean bed of the grand narrative.

Certainly that is a danger here. This book will appear ludicrously stupid if the next century sees a major thermonuclear war. This book will appear ludicrously short-sighted if uncertainty about the effects of global warming—no, I am not going to call it "climate change"—turns out to really be not-our-friend, and over the next two centuries we cook the planet in a serious way.

Nevertheless, we have to tell Grand Narratives if we are going to write history at all. We do use the conventions of narrative to shape the orders in which we put things in history because we are narrative thinkers: story-telling animals. We do choose as the central themes the things that we do because they are the overlapping set both of interest to us and that made a difference for how people's lives were and changed in the period covered. There are thus always lots of kinds of histories to write.

But it has been very rare for the *economic* to be the focus of the history of any single century. It has been more than rare—it has been unprecedented—for the

economic to be where, in any single century, the changes that made a difference (or *the* difference) that we care about happened. Humanity has had a lot of history: from the acquisition of language and the radiation from Africa up through the invention of writing to votes for women and nuclear weapons. In its raw form, history is one damned thing happening after another—and often many overlapping things happening at once. We take these damned things and put them in an order and using a framework that we find to be useful to us.

For example, if you are telling a story of the history of the sixteenth century, you are more likely than not to focus on one or more of three things:

1. Martin Luther and Jean Calvin's Protestant Reformation,
2. The Spanish conquest of the Americas, or
3. The rise of the Shāhān-e Gūrkānī—what we in English call, for some reason, the Moghul Empire—in the Indian subcontinent.

Perhaps you add a couple more: Sengoku Period Japan? The expansion of the Ottoman Empire under Sultans Selim the Grim, Suleiman the Lawgiver, and Selim the Sot? the coming of the slave trade to West Africa? Or perhaps something else?. Those are the axes of the history of the 1500s: religion, expansion, conquest, and culture. There would be some references to the economy. But those would be background. And that would be true of most centuries.

That is not true of 1870-1916.

I think this Grand Narrative I have chosen is the best and most important one to tell ab out the world of our parents, grandparents, great-grandparents, and great-great-grand parents.

Let me tell it very quickly, very compressed now—and then circle back around and tell it again at greater leisure:

1.2: The Story, Quickly

1.2.1: Desperate Poverty in the Agrarian Age

There was a lot of economic change across the millennia from the days before we first domesticated animals and seeds. And that change never stopped. The windmills, dikes, fields, crops, and animals of Holland in 1700 made the economy

of its countryside very different indeed from the thinly-farmed marshes of 700. The ships that docked at the Chinese port of Canton had much greater range and the commodities loaded on and off them had much greater value in 1700 than in 700. And both commerce and agriculture in 700 was far advanced in its technology beyond that of the first farmers of 8000 BC or so.

But that pre-industrial Agrarian-Age technological progress led to little visible change over one or even several lifetimes.

We can make heroic assumptions, and try to construct a single overall quantitative numerical index of the value of the human race's collective eknowledge of technology and organization in the broadest sense—the value of the ideas about how to manipulate nature, about what people find useful for life or entertaining or useful for status, and about how humans either as individuals or production teams or societies can productively organize to make and distribute. Set that index of the quantitive index of the global value of useful human knowledge equal to a value of 1 back 10000 years ago, at the end of the mesolithic period—the gatherer-hunter era—and the beginning of the neolithic—the Agrarian Age. Then by our current calendar's year 1 this value index stood at 3.5. By the year 1500 it stood at 4.7: given similar resources, because of more knowledge about how to use nature and organize humans, one worker in the year 1500 could produce things of the value it would have taken 4.7 typical workers of 8000 BC to produce.

This is an impressive change. And, indeed, from the standpoint of 8000 BC—possibly able to make felt but not to spin or weave, and probably not yet reliably able to turn barley porridge into beer—the technologies of the year 1500 on the level of Ming pottery or the Portuguese caravel or the wet-cultivation rice seedling do look impressive. But this growth took enormous spans of historical time for the invention, and the pace was slow: 0.02% per year for the entire span years from 1 to 1500. Still, it adds up. And greater knowledge about technology and human organization surely led life in 1500 to be much sweeter than it had been in the year 1, no? It turns out not: the human population growth at an average rate of 0.06% per year from 1 to 1500, and while the elite lived far better in 1500, typical human peasants and craftsmen lived little or no better than their predecessors. Resources became scarcer. Farm sizes became smaller. And the better technology just offset the smaller farm sizes and the less relatively abundant other resources.

Back then in the Agrarian Age we humans were desperately poor. We ate a much less balanced diet—we were perhaps three inches shorter at adulthood than people are today (or, indeed, were in the gatherer-hunter days, back before agriculture and

herding). Back then we spent a lot of time desperately hungry and anxious: getting 2000 calories a day plus essential nutrients next year, or perhaps even next week, was a real challenge.

We were a subsistence-level society. Population growth rate in the agrarian age averaged 1.5% per generation: 2.03 children per mother surviving to reproduce. And in order to reproduce and slowly grow the human population, a a typical woman (who was not in the 1/7 who died in childbirth or the additional ⅕ who died before her children were grown) spent perhaps 20 years eating for two: nine pregnancies, six live births, three children surviving to age five, and the life expectancy at birth of her children under and perhaps well under 30. We know that in a well-nourished non-subsistence population without artificial means of birth control that number is more like 3.5. That means that, because of poverty, parents saw about 3 out of 7 of their children who would otherwise have survived to reproduce die or otherwise fail to reproduce, in all the stages from a failure of the egg to release because of malnutrition up to the failure to be able to afford a spouse.

Keeping your children from dying is the first and highest goal of every parent. Humanity in the Agrarian Age could not do so. That is an index of how much pressure from material want humanity found itself under.

Yet over the millennia 1.5% population growth per generation added up: the human race expanded from perhaps 5 million people in 5000 BC to perhaps 1.2 billion in 1870.

There were 2.5 times as many people in 1500 as in the year 1: 500 million rather than 170 million. But nearly all that extra technological and organizational knowledge in the agrarian age went to compensate for the fewer natural resources *per capita* at our disposal. Thus the *economic* remained a slowly-changing background in front of which history—cultural, political, social—took place.

Change sped up after 1500. When our story began, in 1870, our heroic-assumptions index of the value of knowledge stood at 16. But there were then 1.3 billion people alive, and so farm sizes were only ⅖ as large as they had been in 1500. Human life was still overwhelmingly nasty, brutish, and short, with the bulk of the human population still in the extreme poverty—living on less than $2 a day—that the United Nations Millennium Development Project hoped to end. Such poverty still afflicts 9% of humanity.

1.2.2: The Explosion of Economic Wealth

But in the Long 20th Century that things became very different.

After 1870 came the explosion. Our 7.5 billion people today have a global value of knowledge index of 420. The value of knowledge about technology and organization grew at an average rate of 2.3% per year over the Long 20th Century. It is still growing. The Long 20th Century thus saw the material wealth of humankind explode beyond all previous imagining: we—at least those of us who belong to the upper middle class and live in the industrial core of the world economy—are now far richer than the writers of previous centuries' utopias could imagine.

In 1870, the overwhelming bulk of humanity was still so malnourished as to be constantly hungry, so ill-clothed as to be (in climates not in near-equatorial lowlands at least) often cold, so ill-sheltered as to be frequently (in non-arid climates, at least) wet. Most members of humanity had good reason to fear that it might be difficult to get their 2000 calories a day next year, and many had good reason to fear that it might be difficult to get their 2000 calories a day next week. When it ended in 2016, those fears were gone for most of humanity—it was a scandal that they remained for a significant portion. When it ended in 2016, somewhere between the top quarter and the top three-quarters of the human were wealthier than previous eras' kings.

Thus the typical human family has been brought of the era in which its most urgent and important problem was to acquire for the next year—or the next week—enough food that they were not desperately hungry, enough shelter that they were not wet, and enough clothing (in climates far from the equator at least) that they were not cold.

From the technological-sociological angle, 1870-2016 was the century of the industrial research lab and the corporations and communities of engineering practice that supercharged economic growth, of cheap ocean and rail transport that destroyed distance as a cost and brought economies all over the world cheek-by-jowl, of submarine and land telegraph and later other communications links that allowed us to talk across the world in real time. That was what has powered the wave of discovery, invention, innovation, deployment, and then global economic integration that has boosted our global useful-economic-knowledge index from 16 to 420. And that boost and the—very ill-distributed—global wealth it created has ramified:

From the biological-social angle, that wealth creation process drove 1870-2016 to be *the* century in which it ceased to be the case that the typical woman spent twenty years eating for two—pregnant or breastfeeding. Today, it is more like four years. And it was the century in which we stopped watching more than half our babies die in miscarriages, stillbirths, and infant mortality—and stopped watching more than a tenth of mothers die in childbed.

From the international political-economic angle, that wealth creation process, and how that wealth was distributed, drove was two things. It made 1870-2016 the century in which the United States of America was a superpower, a hyperpower, a *hegemon.* And it made 1870-2016 the century in which there were three decisive decisions about how human political-social organizations would be ordered:

1. It was decided that there would primarily be nations rather than empires.
2. It was decided that there would be primarily economies of large oligopolistic firms ringmastering value chains rather than of either small atomistic perfect competition or direct state control.
3. And it was decided that political orders would be primarily legitimated, at least notionally, by elections with universal suffrage rather than the claims of plutocracy, tradition, "fitness", leadership charisma (usually in the service of the exaltation of a particular largely-fictitious *ethnos*), or knowledge of a secret key to historical destiny.

1.2.3: Was It Foreordained?

Yet as of 1870 such an explosion of wealth, and such an era as we have seen since was not foreseen, or not foreseen by many. Yes, the 1720-1800 18th and t70he 1800-18 19th centuries did see, for the first time, productive capability begin to outrun population growth and natural resource scarcity. Technology and organization were no longer falling behind fecundity. They even gained a length or two: by the last quarter of the nineteenth century, the average inhabitant of a leading economies—a Briton, a Belgian, a Dutchman, an American, a Canadian, or an Australian—had perhaps twice the material wealth and standard of living of the typical inhabitant of a pre-industrial economy.

Yet was that enough to be a true watershed? Back in the early 1870s John Stuart Mill, Britain's leading economist, moral philosopher, public intellectual, feminist activist (arrested for distributing birth control leaflets in the streets of London), and imperialist rulers of the empire, put the finishing touches on the final edition of *the*

book that people then looked to to learn economics: *Principles of Political Economy, with Some of Their Applications to Social Philosophy*. His book gave due attention and place to the 1730-1870 era of the British Industrial Revolution. But he looked out on what he saw around him, and saw the world still poor and miserable. "Hitherto", he wrote, looking at the world and at the Great Britain and Ireland of his day:

> it is questionable if all the mechanical inventions yet made have lightened the day's toil of any human being. They have enabled a greater population to live the same life of drudgery and imprisonment, and an increased number of manufacturers and others to make fortunes. They have increased the comforts of the middle classes...

Denser populations, more and richer plutocrats, a larger middle class—those were the fruits Mill saw of the 1720-1870 Industrial Revolution. Humans in 1870 were still under the harrow of Malthus. Whatever possibilities for a better world had existed in the womb of better technology over 1720-1870 had been stillborn.

One word in Mill's paragraph stands out to me: *imprisonment.*

The world Mill saw as of 1871 was not just a world of drudgery—a world in which humans had to work long and tiring hours at crafts and tasks that came nowhere near to being sufficiently interesting to engage the full brainpower of an East African Plains Ape. The world Mill saw was not just a world in which most people were close to the edge of being desperately hungry, and were justifiably anxious about where their 2000 calories a day were going to come from next year—or net week. The world Mill saw was not just a world of low literacy—where most could only access the collective human store of knowledge, ideas, and entertainments partially and slowly. The world Mill saw was a world in which humanity was *imprisoned:* not free, in a dungeon, chained and fettered. And Mill saw only one way out: if the government were to take control of human fecundity and require child licenses, prohibiting those who could not properly support and educate their children from reproducing, only then—or was he thinking "if"?—would mechanical inventions wreak the "great changes in human destiny, which it is in their nature and in their futurity to accomplish".

There were others who were more optimistic: Karl Marx and Friedrich Engels had in 1848 already seen science and technology as Promethean forces that would allow humanity to overthrow its (mythical) old gods and give humanity itself the power of a god. Science, technology, and the profit-seeking entrepreneurial

business class that deployed it had:

> during its rule of scarce one hundred years, has created more massive and more colossal productive forces than have all preceding generations together. Subjection of Nature's forces to man, machinery, application of chemistry to industry and agriculture, steam-navigation, railways, electric telegraphs, clearing of whole continents for cultivation, canalisation of rivers, whole populations conjured out of the ground—what earlier century had even a presentiment that such productive forces slumbered in the lap of social labour?…

Engels had snarked that in their overlooking of the power of science, technology, and engineering mere economists (like Mill) had demonstrated that they were simply the paid hacks of the rich:

> Land, capital and labour are for him the conditions of wealth, and he requires nothing else. Science is no concern of his.What does it matter to him that he has received its gifts through Berthollet, Davy, Liebig, Watt, Cartwright, etc.–gifts which have benefited him and his production immeasurably? He does not know how to calculate such things; the advances of science go beyond his figures. But in a rational order… the mental element certainly belongs among the elements of production and will find its place, too...

And Marx's few and thin descriptions of life after the socialist revolution he foresaw as inevitable and then the drive to a "higher phase of communist society" deliberately echo descriptions of how people who have attained the Kingdom of Heaven behave: each will contribute "according to his ability" (Acts of the Apostles: 11:29) and each will draw on the common, abundant store "according to his needs" (Acts of the Apostles 4:35).

There were others who were much more pessimistic. In 1865 then 30-year old British economist William Stanley Jevons made his reputation by prophesying doom for the British economy: it needed to start, immediately, cutting back on industrial production in order to economize on scarce and increasingly valuable coal.

1.2.4: The World Economy Today

Flash forward to the end of the Long 20th Century: November 8, 2016. The world was inconceivably, remarkably different from that John Stuart Mill had seen at its start. The technologies developed and diffused across the globe from 1870 to 2016 had not merely "enabled a greater population to live the same life of drudgery and

imprisonment". In 1870 the daily wages of an unskilled male worker in London, the city then at the forefront of world economic growth and development, would buy him and his family about 5,000 calories worth of bread each. That was progress: in 1800 the daily wages would have bought him and his family perhaps 4000 calories, and in 1600 some 3000 calories.

Today the daily wages of an unskilled male worker in London would buy him 2,400,000 wheat calories: nearly 500 times as much.

Such an amplification of material wealth has carried with it not just quantitative changes in what we consume but quantitative changes in how we live. Who today could find their way around a kitchen of a century ago? Before the coming of the electric current and the automatic washing machine, doing the laundry was not an annoying but minor chore but was instead a major part of the household's—or rather the household's women's—week. Today few among us are gatherers, or hunters, or farmers. Hunting, gathering, farming, herding, spinning and weaving, cleaning, digging, smelting metal and shaping wood, assembling structures by hand—those are now the occupations of a small and dwindling proportion of humans. And where we do have farmers, herdsmen, manufacturing workers, construction workers, and miners, they are overwhelmingly controllers of machines and increasingly programmers of robots. They are no longer people who make or shape things—*facture*—with their hands—*manu*.

What do modern people do instead? Increasingly, we push forward the corpus of technological and scientific knowledge. We educate each other. We doctor and nurse each other. We care for our young and the old. We entertain each other. We provide other services for each other to take advantage of the benefits of specialization. And we engage in complicated symbolic interactions that have the emergent effect of distributing status and power and coordinating the 7.4-billion person division of labor of today's economy. We have crossed a great divide between what we used to do in all previous human history, and what we do now.

We today are not just better at making the goods of a century ago. We today also have the new and powerful technological capability to make an enormously expanded range of goods and services: from streaming entertainment services—the audio and videocassettes, CDs, and DVDs which wowed us less than one generation ago are now obsolete—and antibiotics to airplane flights and plastic bottles. We today would feel—we would be—enormously impoverished if by some mischance our money incomes and the prices of commodities remained the same, but if we were at the same time forbidden to use any commodity not produced in

1870. This expansion in the range of what we can produce is an enormous additional multiplier of material well-being. The magnitude of the growth in material wealth has been so great as to make it nearly impossible to think about measuring.

1.2.5: The "Limit of Human Felicity"

Perhaps the third best selling novel in the United States in the entire 19th Century was *Looking Backward, 2000-1887*, by Edward Bellamy. Bellamy was a populist and—although he rejected the name—a socialist: he dreamed of a utopia created by government ownership of industry, the elimination of destructive competition, and the altruistic mobilization of human energies in a way analogous to his vision of the North's collective effort to end slavery in the Civil War. Technological and organizational abundance would then generate a society of abundance, without want and the societal problems poverty—or even a lack of abundance—generated. He therefore decided to write what he called his "literary fantasy, a fairy tale of social felicity" as a "hanging in mid-air, far out of reach of the sordid and material world of the present… cloud-palace for an ideal humanity". Therefore he has his narrator-protagonist thrown forward in time from 1887 to 2000 by an unconvincing plot device, and there he marvels at a well-working rich society.

In *Looking Backward* the narrator-protagonist thrown forward in time to 2000hears the question, "Would you like to hear some music?"

He expects his hostess to play the piano—a social accomplishment of upper-class women around 1900. To listen to music on demand then, you had to have—in your house or nearby—an instrument, and someone trained to play it. It would have cost the average worker some 2400 hours, roughly a year at a 50-hour workweek, to earn the money to buy a high-quality piano. Then there would be the expense and the time committed to piano lessons.

Today? To listen to music-on-demand in your home—or, indeed not in your home but wherever you happen to be? The labor-time value of a Steinway piano may have only halved when measured in average worker-hours. But if what you value is not the piano itself but the capability of listening to music at home, the cost has fallen from 2400 average worker-hours a century ago to… what? What share of the cost of buying and operating our smartphones do we allocate to granting us the capability of listening to music on demand? 1/5? That gets us down from 2400 average worker-hours to 2.

So when we calculate the increase in material wealth, do we count the halving of the labor-time price of the commodity which is the Steinway piano? Or do we count the 1200-fold decrease in the real labor-time price of the capability of listening to piano (and all other kinds of) music? I think it is clear that we do the second.

Bellamy's narrator-protagonist answers "yes" to the question "would you like to hear some music?" But his hostess does not then sit down at the pianoforte to amuse him and exhibit her ladylike domestic accomplishments. Instead, Bellamy's narrator-protagonist is stupefied to find his hostess "merely touched one or two screws," and immediately the room was "filled with music; filled, not flooded, for, by some means, the volume of melody had been perfectly graduated to the size of the apartment. 'Grand!' I cried. 'Bach must be at the keys of that organ; but where is the organ?'"

He learns that his host has dialed up, on her telephone landline, a live local orchestra playing in the city, and she has put it on the speakerphone. In Bellamy's utopia, you see, you can dial up a local orchestra and listen to it play live.

Moreover, you have a choice: you can dial up one of four orchestras currently playing.

Bellamy's narrator's reaction?

> If we [in the nineteenth century] could have devised an arrangement for providing everybody with music in their homes, perfect in quality, unlimited in quantity, suited to every mood, and beginning and ceasing at will, we should have considered the limit of human felicity already attained...

Think of that: *the limit of human felicity.*

To Edward Bellamy—a self-described utopian visionary, a late-nineteenth century minister's son from western Massachusetts—a landline that could dial up any of four currently-playing orchestras is "the limit of human felicity..." What if Edward Bellamy's narrator-protagonist could see our recorded and streaming entertainment industries today? Would his heart stop?

Yet we today do not think we have attained *the limit of human felicity.* Indeed, when we think about what is marvelous and wealthy of our civilization, we do not think of our ability to cheaply listen to high-fidelity go-anywhere listen-to-anything music as a remarkable or even a notable part of our economy.

There is a broader lesson. Many technological inventions of the past century have transformed experiences that were rare and valued luxuries—available only to a rich few at great expense at relatively rare performances of the symphony or the opera—into features of modern life that we take so much for granted that they would not make the top twenty or even the top 100 in an ordered list of what we think our wealth consists of us. If Edward Bellamy could see us, he might see us like we would see a civilization in which everyone had courtside Golden State Warriors tickets on the refrigerator door for anyone wandering by to use, or a basement filled with boxes upon boxes of gem-quality diamonds or *premier cru* wines or designer dresses or Tesla Roadsters, all largely ignored because no one could find a use for them or thought of them as in any way very interesting.

If you asked Edward Bellamy—or any other nineteenth-century or earlier sketcher of utopias—whether we here today have the knowledge of technology and of productive organization needed to provide at least the material abundance needed to build a utopia, they would all say "of course". And they would in turn ask of us why we do not recognize that those of us in the middle and upper classes of the industrial economies have, in material well-being at least, reached or gone well beyond what they would have regarded as *the limit of human felicity*.

And yet. We today—even the richest of us—rarely see ourselves as so extraordinarily lucky and fortunate and happy.

Today, at least at the bleeding edge of the urban North Atlantic and East Asia today, few focus on making more of necessities *because for the first time in human history there is more than enough*. There are enough calories that it is not necessary that anybody need be hungry. There is nough shelter that it is not necessary that anybody need be wet. There is enough clothing that it is not necessary that anybody need be cold. And enough stuff to aid daily life that nobody need feel under the pressure of lack of something necessary. We are no longer in anything that we could call "the realm of necessity". So we humans ought to be in "the realm of freedom", should we not?

1.3: Shadows

1.3.1: Only on the Escalator to Modernity

And yet. There are still 700 million people in the world living on less than $2 a day, which puts them with roughly half the material standard of living of the

typical propertyless male laborer and his family in Britain in 1700. A great many people in what is a very rich world do not see many of the fruits of our cornucopia. They have not yet reached "modernity".

And yet. Things are rapidly getting better in terms of the material wealth of most of the world's non-rich. Those among the world's population who live in countries that had been left behind are now, as Lawrence Summers noted and predicted a generation ago, "solidly on the escalator to modernity".

That our income and wealth across the globe is so unevenly distributed is a scandal and a reproach. Of the 7.4 billion people alive in the world today, at least 15% still live lives that, save for public health and antibiotics and their likely access to the village smartphone, are hard to distinguish from the lives of our pre-industrial ancestors.

Only 5% of today's world population lives in countries where income per capita is greater than $40,000 per year; only 10% lives in countries where income per capita is greater than $20,000 per year. We can see what the post-agrarian age pattern of human life is. That future is already here on the globe—it is just not evenly distributed. Some of us have reached the top. But the bulk of the world's population is only on the escalator to modernity. The patterns are set. The top of the escalator is visible—although it is not clear which top we shall reach: many possible tops are immanent in the patterns. The climb will be hard. That is what much of the history of the twenty-first and twenty-second centuries is likely to be about. And thermonuclear war or vastly greater-than-expected ecological catastrophe could still break things.

1.3.2: Tragedy

Moreover, much of the century's history is heartbreakingly tragic. Especially tragic is the Second Thirty Years' War in Europe from 1914-1945. Of much of the 20th Century we can say, as Russian poet Osip Mandelstam did, "the century's wolf-hound grips my back/Though my blood is not wolf's blood".

And our current problems are mighty. Yes, forms of religious strife and terror that we thought we had left behind several centuries ago are back. Yes, failures of economic policy that land countries in depression that we thought we had learned how to resolve decades ago are back. Yes, nuclear weapons and global warming pose dangers of a magnitude that humanity has never before confronted.

1.3.3: Material Wealth, Political Progress, and Human Happiness

Now this 1870-2016 Long 20th Century's history ends, if not bitterly and horrifyingly by the standards of typical human history, bracingly. That the economic problem of securing enough food, shelter, and clothing next year or even next week is no longer our principal problem has not made us happy. Neo-fascism is making a challenge to the cosmopolitan liberal democratic order in a way that few envisioned two decades ago, in the days when it seemed that both fascist nationalism nor autocratic communism had, in Francis Fukuyama's view, abandoned their "ideological pretensions of representing different and higher forms of human society".

The explosion of material wealth and liberty we have seen in the twentieth century has not solved our human problems. Modern North Atlantic liberal democracy is not the end of history. Nevertheless, a naive individual of a century or two ago would wonder at the events, patterns, and problems that brought the twentieth century to its end. The world at the end of the twentieth century has enough wealth to give everyone on the globe what they would regard as a rich upper-middle class style of life. Why does such a rich and powerful world still have problems? It is not at all clear what our destination is, that we will recognize our destination when we arrive at it, or that many of us will like it when we get there.

Nevertheless, here and now the world is much richer and much freer than it has been at any time in the past. That transformation is a very big deal. For the first time in human history, we see a world in which the bulk of the human race has enough food and enough food security that we do not fear being desperately hungry, enough clothing that we are not numbingly cold, enough shelter that we are not frequently soaked, can expect to see our children grow to adulthood, and have access, at least partial access, to what the anthology intelligence that is the human race thinks and knows.

When people millennia hence in universities (if we then have anything we now would recognize as universities) write on examinations (if we then have anything we now would recognize as examinations) their answers to questions about what was important in the Long 20th Century, they will in all likelihood focus on this explosion in humanity's collective wealth. They will see the changes in the economy, and their consequences for other areas of life, as the biggest deal. They will write that as of 1870 chance and contingency had opened a door for humanity to move to a new and very different civilization from the agrarian-age one of

relatively-rich but flea-ridden lords and poor and flea-ridden peasants. And that over 1870 to 2016 humanity walked through that open door. They will write that the history was principally *economic.* They write that the history of the Long 20th Century was in many ways *glorious*. But they will not use metaphors for smooth, rapid, and beautiful progress. They will not use words like "sprint" or "gallop". They will use words like "slouch" and "shamble".

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Notes and Outtakes: **<https://www.icloud.com/pages/00L0dBAs6ZUPQV6NIvqnDxW7w>**