How We Got Through: 2022 to 2100[1]

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[1] College essay for a political history course submitted June 2100 by Harry Strachan (5th)

Introduction

Coming to the end of the 21st Century, it is amazing that the human race has not only survived its civilization-threatening crises, but come through amazingly well.

We have not yet achieved an ideal society. But we have made significant progress. Technology has continued its exponential growth. We are successfully addressing the threats of climate change. Economic and political management has created unprecedented prosperity and peace for almost everyone.

Back in 2020s while the world was struggling with pandemics, wars, economic ups and downs, polls showed that 80% of the population was pessimistic about the future. They feared the human race would destroy its home planet, if not in wars, then by unstoppable climate change. Trends of income inequality, of violence within and between countries, serious migratory pressures, made peace and prosperity for everyone seem a naïve dream.

This is the story of how pessimists were wrong. It[s a story of how seeds in the various crises were preparing ground for a significant shift in the dominant mindset, which in turn, would make possible the reforms that changed the likely course of history.

My objective is to begin by contrasting the problems faced by my great, great grandfather, whose name I carry, with the situation in the world today. I then identify the key catalytic changes which in my opinion permitted the human race to avert the expected catastrophe. I close with two questions I´m still puzzling about.

2020 The Major Challenges

The opinion polls of 2020s didn´t just reflect the fears of most people, they reflected the data, whether describing the degradation of the biosphere, migratory pressures, economic inequality, or political polarization.

One well known study at the time identified the three major challenges facing the world as **planet sustainability, equitable prosperity, and effective governance.**.

In hindsight we know that the challenges were complex and there was good reason to feel they were intractable. Meeting them successfully not only required not-yet-invented technology but major changes in the international, economic, and culture thought politically impossible.

Technology was what made prosperity possible, but it was also the major cause of the population growth and CO2 emission endangering sustainability. In the 20th Century fossil fuel industrialization enabled average per capita to increase fourfold at the same time as the world population grew fourfold. But the CO2 emission and the exploding population, its sprawl and pollution, contributed to the mass extinctions that threatened the chain of life.

While technology created extraordinary prosperity, its benefits were unequally distributed both among countries and within countries. Studies of the economic inequality demonstrated that it was far greater than virtually everyone´s sense of fairness. For example, in the U.S. in 1980 CEOs average compensation was 50 times that of their workers. By 2020 it was nearly 350 times greater. Internationally persuading the poorer countries who aspired to the prosperity of the rich to voluntarily forego prosperity in order to protect the planet had no chance of success.

Politicians could blame the greedy wealthy, monopolies, globalization, corruption, and other factors for the increasing disparities, but sophisticated studies suggested the inequality was a byproduct of rapid technological advance under the economic and political systems which had made such progress possible.

The problem of ensuring that everyone contributed to the production of desired goods and services while at the same time benefiting from them was even more serious than most realized. By 2020 rapid advances in artificial intelligence and automation had already destroyed many jobs and were threatening many more.

Historically innovations that destroyed jobs, generally replaced them with more and better jobs. Workers reskilled quickly found these new jobs and, along with all the rest of society, reaped the benefits of the innovations.

For example, in the 1910s, most jobs in the horse and buggy sector were destroyed but the automobile revolution created many more higher paying jobs in automobile factories, gas stations, and repair shops for the grooms. Jobs, however, were not found for the 30 million horses whose number was reduced to 3 million.

By 2030 there was clear evidence that the economy was not replacing enough of the jobs lost to automation. The growth of computing capacity, sensors and software threatened jobs at all levels of human skill, from the lowest manual labor to the most highly skilled professions. When robots proved they could drive cars and beat the best human chess players, some experts began to predict that many humans in the post-AI world would be more likely to suffer the fate of the 1910 horses than the grooms.

The pessimism reflected in the polls appeared justified. The most thoughtful and educated of the population were the most fearful.

So what happened?

2100 Amazing Accomplishments

Let me begin with a sample of facts, evident to all of you, but facts which our great grandparents living in 2020 would have found almost impossible to believe.

The world´s **population** has leveled off at 8 billion. The consensus population models at the beginning of the century predicted a world of 10 billion by the year 2100 and many models predicted an even higher number. There are 2 billion less today, not because of the pandemics. These were responsible for no more than 100 million deaths. Nor is the reduced number due to genocides, wars, or heavy-handed suppression of birthrates. The slowing population growth rate was largely voluntary, probably reflecting the spread of prosperity, lower infant mortality, and empowering individual choices.

Energy is cheap and plentiful, most of it renewable or nuclear. Runaway climate change from carbon is being reversed. We´re on our way to restoring sustainability. Eighty percent of us live in dense urban areas. These large cities are less burdensome on nature, but also the most efficient way of serving people´s needs. Our urban areas are different from the huge cities at the start of the century. They have green parks, blue skies, clean air, virtually no traffic congestion, very low levels of contamination. They are healthy places to live.

Poverty has been largely eliminated by a minimal guaranteed income, robust safety nets, significant educational investment in human capacity and health, but mainly because a much higher percent of the population are both contributors to and beneficiaries of society´s goods and services.

Gross Domestic Product (GDP) has been renamed Gross Domestic Contribution (GDC). GDC´s definition has been expanded to include valued products and services not run through the money economy, like "mothering."

Even adjusting for measurement changes, the percent of the population "contributing" to GDC is now significantly higher than it was in the early part of the century and probably at any time in history. This reflects not only a social contract that encourages greater participation but one that insists that "rights to benefits" come with "responsibilities to

contribute." Virtually all of us today recognize that "a job is a blessing to be highly valued, work is a key component of the good life. .

Technology has turbo boosted labor productivity so that today the average family of four has an income of $600,000 per annuum in 2020 dollars. That average is 4 times the minimum guaranteed income, so there is plenty of monetary incentives for individuals to make valued contributions to society.

What Changed History: My Hypotheses

Causality is complex. Real world situations like those described for in 2020 emerge from a Darwinian evolutionary process often resistant to change. To understand significant changes in any stable system generally requires going back through a long chain of causality to root causes. What then were the key changes which led to the proximate causes of our current situation?

My hypotheses is that change began with a shift in the dominant mindset. Leaders supported by this new dominant mindset were able using existing institutions to make three major policy changes. These both led to and financed the many other changes whose results we experience.

Changing the Dominant Mindset

A **"mindset,"** is like a set of glasses which shapes the way one sees the world. It is the narrative of what is real. It shapes perceptions and reactions.   It is reflected in strategies and systems. It influences behaviors.

The "dominant mindset" is that mindset which the great majority of any country, culture, or religion share at that moment in history.

My research suggest that the 2020 dominant mindset was similar around the globe, reflected in every country across the political spectrum, , in all ethnic groups and in most religious institutions.   It often hid under flags of nationalism, race, capitalism, socialism, even meritocracy.

Movies and literature of the early 21st century, political campaigns, international rhetoric, writings about trade regimes and business practice, religious polemics, all reflected the "dominant mindset" of that period. Most humans of that era, assumed what

they saw through that mindset was "reality." They were largely unaware of the distortions caused by the glasses they were wearing.

Let me highlight three examples of the shift in mindset that was so critical.

From Win-lose to Win-win

The dominant mindset around 2020 viewed most human situations as "win-lose" conflicts.   Biological evolution was driven by "survival or the fittest," a process assumed to be "zero sum." Competition between individuals and groups in almost all contexts was a fact of life. Events, policies, legislation, inevitably produced "winners" and "losers". This made consensus on major changes difficult to achieve and implement.

Climate change and the pandemic made it clear we were mutually dependent. Humanity was in the same boat. The only way through was by working together. The challenges required collective solutions, be they the protection of the planet or national health. Win-lose problems had to be turned into win-win solutions.   The only way to peace, prosperity, and sustainability was if everyone benefited.

From Coercion to Persuasion

A second characteristic of the dominant mindset was how quickly almost everyone reached for a solution based on coercion or violence, no matter the conflict. Popular adventure movies were populated by "the good guys" (us) and "bad guys", (our adversaries). Resolution required the defeat of the "bad guys" generally by violence.

Human nature was assumed to be inherently selfish, self-interested, or self-deceived. Fear of punishment or greed were the effective ways of compelling acceptable behavior. Governments solved social problems by declaring "war" on them – drugs, poverty, trade, pandemics – even when the enemies were incapable of military surrender.

Polarization and blaming were rife. Most people still saw class conflict between the rich and the poor as inevitable. When something "wrong" happened, the first question was "Who is to blame? How do we make them pay?"   When countries weren´t in "hot" wars killing each other, they were in cold wars. At the start of the century it was the U.S. and its NATO allies against Russia, later the U.S. and Allies against China.

Even trade (the classic example of a win-win game in which both buyers and sellers benefit) was being characterized by many politicians as "war." After the first world war, trade wars created the great depression that impoverished the entire world and planted the seeds for the second world war. After the second world war, a new strategy (The

Marshal Plan and freer international trade was tried. It demonstrated the power of a win-win trade system to produce unprecedented prosperity. But by 2020, eighty years after WW2, it seemed as if the lessons of history had been forgotten and the deficiencies in the global trade system were to be solved by coercion.

Today we recognize that war and violence are prima facia evidence of failure. Problems are almost never solved this way. Real problems require understanding, negotiations and collaborative effort. "Good guy - bad guy" caricatures, blaming, and simplistic moral absolutes hinder this constructive process. A mindset of respect for the other and humility about one´s knowledge is far more adaptive. It promotes good listening, collaborative data analysis, experimentation and incrementalism.

From Absolute Truths to Useful Narratives

A third important change was the recognition that the "narrative" generated by a mindset should never be confused with "reality." "Your narratives, however useful, are never truly complete nor completely true!" is a saying we were raised on.

Narratives are necessary and important. Some narratives are scientific models capable of repeated confirmation. Others are historical narratives supported by greater or lesser factual evidence. Others are deep wisdom in the form of "religious myths truer than facts."

Science has demonstrated that even the most "probably true" of our "narratives" are only partial models. Today, therefore, we judge all narratives by whether they are "adaptive," "useful." We still use words like "true" and "false" because, as a general rule, narratives consistent with facts tend to be more useful than those that aren´t.

But even here we are pragmatic. We accept that some "adaptive distortions of reality," like gratitude and humor, make for a superior life. We have also learned to live with paradox. Narratives that are logically exclusive, can for practical purposes both be true. For example, science suggests we are 100% determined by genes and the environment. We accept this and it influences our social policies. But we have learned that "personal responsibility" which assumes some degree of "free will" is useful in regulating social behavior.

This has given us a healthy suspicion of simplistic ideologies, of fundamentalists, of "absolutes" as a guide for public policy.

The Process of Change Used Existing Institutions

While the "dominant mindset" blocking real solutions was everywhere present, interestingly, the more adaptive mindset which would replace it, could also be found around the world and in all groups. Its key insights could be found in the wisest elements of all cultures and buried in the theology of the major religions.

It appears, as best I can tell, that the mindset shift happened simultaneously around the globe. My hypothesis is that as each region of the world came to understand its challenges, realized that strategies based on the dominant mindset could never solve these, they began searching for a more adaptive mindset. Each discovered in their history, in their culture and in their religions, an alternative wiser mindset. Global communications reinforced the spread of these insights.

At some point along the way it also became obvious that leaders don´t create the dominant mindset, they reflect it. In fact, they often amplify it, many of the worst even exploiting it. Before a new mindset gets reflected in political action a majority of the people have to acquire it. In many of the reform movements there was a mantra "Change must start with us."

My hypothesis is also that political movements may well have emerged from social movements focused initially on the keys to a successful life in society that came to believe a more successful paradigm recognizes interdependence, collaboration, humility and win/win attitudes.

I came across a fascinating example in the United States of a process that may have been similar to what was happened elsewhere in the world.

An ingenious group of citizens, determined to break the political paralysis, stole Trump´s campaign slogan "Make America Great Again" and reframed it. They created a movement initially labeled "Lets Really Make America Great." It articulated objectives (like addressing the key challenges) which every American could share. As the movement gained worldwide momentum, the slogan was shortened and became "Make Us Great."

This movement argued that "Making Us Great," was not a return to some mythic and false past. It required moving into the future by solving the key problems threatening humanity.

Individuals joining the movement were encouraged to work in their own sphere of influence be it a church, neighborhood, workplace, or political party. The goal was for Republicans in the movement to recapture the Republican party, Democrats to recapture the Democratic Party, and Independents to find candidates that reflected their positions.

The process for persuading others varied, but often started with small discussion groups, often in homes, where people got to know each other, and discussed three questions.

1. What are the most important problems we must solve to "Make Us Great?"
2. Who are the allies we need to find a solution and implement it?
3. How together do we make this happen?"

Implicit in the second questions was the idea that "making the enemy your ally" was the only way to lasting change. Win-lose conflicts had to be changed into win-win alliances.

Implicit in the third question was humility and openness. Don´t assume you fully understand the problem, the root causes, the desires and fears of those who don´t agree with you? Study other efforts to solve the problem and how they have worked? Brainstorm creative alternatives. What initiatives are politically feasible? How best to get started?

The same process that changed the dominant mindset within a group helped create alliances between groups. People found that sharing their core values and objectives before getting into problem analysis and proposed solutions created a bridge of understanding and mutual support.

The "Make Us Great" strategy took time but worked. By the 2030s members of this movement elected a significant minority in both the Republican and Democratic Party. Once in power they became the swing vote for legislation that solved problems.

They were able to reform the electoral process that broke the duopoly power of the two dominant parties. They created open primaries and a preference voting system for the general election which facilitated a strengthening of the center.

A version of the same strategy that gained power in the U.S. worked in other countries, even in communist China. Dictators must also reflect the dominant mindset. In a

surprisingly short two decades, governments reflecting this new mindset and sharing the same list of key problems had taken control of the advanced economies.

Three Catalytic Reforms

Reflecting the more adaptive mindset, leaders in the governments of North America, Europe and China, using the U.N. and International Treaties reached agreement on three major changes that in hindsight have facilitated all the other changes that were needed and which facilitated the improvement of all governmental, educational, health, trade, peace-keeping systems.

Taxing Externalities

The first was the imposition of a Carbon Tax to make sure all goods and services included in their prices their full costs. To the price of fossil fuels, for example, was add the full cost of removing excessive CO_2 from the atmosphere which greatly accelerated the switch to renewable energies. By international treaty, the developed countries enlisted the markets to incent the supply of cheap energy, create innovations to remove CO_2 and dis-incent pollution.

This strategy was extended to many other problems. The cost of recycling and waste disposal was added to the cost of bottles and plastic bags. If certain foods created unhealthy obesity, the cost of the health problems they created were added to them. The "war" on drugs, which had failed miserably, was ended by legalization. Added to the price of now legal drugs was the cost of rehabilitation services and research into mechanisms for blocking addiction.

These "taxes" to make prices reflect true cost also became a major source of revenue for governments and financed many of the programs to clean up and protect the environment and address social problems.

A carrot and stick strategy ensured that all nations joined this effort. Countries that initially refused to tax for externalities found that tariffs equivalent to those taxes were slapped on their exports. They decided they´d prefer to collect the taxes for themselves than have them paid to other governments.

Rapid advances in digital technology permitted monitoring external costs more precisely. Also calculating the cost effectiveness of innovations to remove damage. This freely available data was used to set uniform taxes and tariffs. It was also made available to

players in each industry so they could figure out how to minimize damage. The taxes on fossil fuels, automobiles, airplanes, construction, agriculture and many other industries changed behavior in a much shorter time period than expected.

Intellectual Property

A second major International Treaty reformed intellectual property laws. Patent laws had always been identified a source of monopoly profits, a major contributor to the great inequalities of income and wealth. Because these patents also stimulated needed innovation, an ingenious solution was devised to protect innovation but not foment excessive inequalities.

Scientific progress was recognized as coming from the sum of human knowledge built up through the ages and generally from all over the world. If human knowledge belongs to anyone, it belongs to the entire human race. It is part of our collective inheritance.

Therefore, royalties on intellectual property were deemed appropriate but only a minor part belonged to the innovators. Most belonged to the entire human race. Patent and copyright laws were extended to 75 years. A portion of the benefit in the first 25 years still goes to the innovators as in the past. However, the majority and virtually all during the last 50 years goes to all of us via the royalty collected by government on our behalf. It is used for two major purposes: funding future innovation; funding the guaranteed minimum income within countries and across borders.

The Minimum Guaranteed Income and the New Social Contract

The third major change was the introduction of a minimum income, described as a dividend from our ancestor´s investments which benefits all of us. We in turn invest for our descendant´s benefits.

Behind the guaranteed minimum income is the fascinating story of how the AI threat to jobs led to a new Social Contract enshrined in the United Nations Declaration of Human Rights and Responsibilities.

By 2030 it was clear that economists had underestimated the impact of AI on job destruction and human ability to retool fast enough to keep up with exponential growth of technology. The free economic market would not solve the problem of unemployment. The impersonal market was transactional. It only valued humans in terms of what they could produce to sell.

Humans were suddenly faced with the question, "What happens to me, if my market value drops to zero, because there is nothing I can do better than a machine? Work is important for much more than the paycheck. Work gives us identity and community. Studies confirmed that people with jobs were happier, healthier, and more realized than those without them, even if material needs were met by social safety nets. "Work" was not a negative but a critical component of the good life.

The social contract thus became a personal issue. If I wanted society to value me, to participate in an economy that gives me meaningful work, be a citizen of a government whose objective is my wellbeing, irrespective of my transactional value, I needed to make sure you are treated the same way. Our value as human beings could not be based on IQ, on race, talents or education.

Designing a new Social Contract that ensured that the economy and government served humans was widely discussed. It was agreed upon in the United Nations Declaration of Human Rights and Responsibilities.

This document affirmed that each person was an asset to society. Each person has something to contribute that enriches us all. All of us benefit if we enable everyone to realize their full potential to make their contribution. We enrich ourselves when we create meaningful work opportunities for everyone from the most talented to the least.

Diversity of talents, capacities, backgrounds, position in the life cycle from child to old age mean that each of us can´t always contribute equally. But if we are to be equals in society, we do have an obligation to make the contribution we can. Obviously the more each contributes, the bigger the pie for all of us.

The social contract gave dignity and autonomy to every person.   We agreed that this extended to the choice of education and career, control over the allocation of personal resources and certain basic human rights.

This social contract justified "the basic minimum income." It includes components for food, shelter, health and education. It justified an especially heavy investment in the education of each individual to help them realize their full potential,

Today the basic minimum income continues throughout life. People are encouraged to spend wisely their basic minimum and any additional income they earn, but are also allowed to suffer consequences from bad decisions.

Everyone pays taxes, including those living only on the basic minimum income. Many taxes for public services are in the form of user fees. We want everyone to be aware of

the cost of public services, have an incentive to use them wisely, and a stake in their being delivered effectively and efficiently.

Knowing that the key driver to prosperity is increased productivity, we use private sector competition, technology, information and management concepts like the experience curve to make sure goods and services are produced more efficiently and of higher quality, especially in those sectors where government resources play a significant role.

This message of autonomy, of agency, of responsibility we build into our educational system. It is communicated to us from an early age. I remember hearing for the first time in grade school and then again at my last graduation, the following message:

You are unique, were born with unique gifts, not better or worse than those of others, but unique. You occupy a unique place in the world and are living in a unique moment of history. That gives you the opportunity to make a unique contribution to the world and others. The challenge of your entire life is going to be to discover your unique gifts, understand the challenges and opportunities of your place and time in history, and make your unique contribution.

Society will invest hugely in you to help you do this. We expect you will also invest in the rest of us. It is up to you to find that contribution and make it. Doing so successfully will be the key to how happy and fulfilled your life turns out to be.

This view of each human has turned out to very adaptive. It has unlocked in the great majority of people, creativity, energy and care for others. While we have more leisure than our ancestors, the great majority of us have found a work that makes a contribution to all and provides personal rewards for us personally.

People whose unique gifts and contributions had not been historically in the market economy, such as painting or writing or singing, have been permitted to develop their talents because the basic minimum income supported life comfortably. They are encouraged to put their contributions out in the marketplace for others to enjoy. For many the market´s feedback helps them become better. It also generates additional income.

Society has made sure that contributions in highly valued sectors receive good extra remuneration, sectors like education or health care or public service. Many jobs remained in the private sector and we have discovered that humans and robots working together are more effective than either humans or robots alone.

The non-profit sector expanded and created many new jobs. The charitable deduction to income and inheritance taxes has encouraged people to funnel resources into this sector during their lifetime, and to contribute from their personal time alongside it.

Closing Observations

What have I learned from my study of how we got through?.

Two things.

First, the up and down history of the 20th century (the prosperity but the tragic two world wars and great depression) has made me aware that each generation sooner or later faces big challenges.

My generation still has significant challenges. Damage from earlier climate change has created serious holes in the web of life whose ripple effects are not yet fully known. Conflicts within and between countries emerge regularly arise that still require solution. A space probe sent out 30 years ago discovered advanced intelligent life in a part of the galaxy about 100 light years away. Mysteriously the probe recently ceased communications, raising all sorts of speculation.

Positive solutions are not guaranteed but optimism is warranted if the challenges are faced collectively and with intelligent good will.

Second, the study has made me much more aware of the critical role of "mindsets", my own and that of others. In the process I have become aware that evolution has programed us strongly to see dualities and many situations as win-lose or zero sum. I have also become aware that throughout history it take education and a thoughtful process of life´s feedback to see the distortions in our mindset glasses. We can find wiser mindset glasses with which to see the world in our cultures and religions, mindsets that stress our interconnectedness, that often suggest a third alternative to a win-win solution.

One challenge therefore for each new generation is to find the most adaptive mindset glasses. The dominant mindset achieved by our grandparents in the period after 2020, I believe, is still the most adaptive for us.

Cultivating it within myself, working to ensure that it remains the dominant mindset, I recognize, will be my own and my children´s challenge.