EARTH OUR COUNTRY

Let's Make Earth Great Again

Free Edition - Special 2020 US Election

Alain F. Andreoli

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With love and pride,

To my children Marc, Pierre and Anne,

To their future children, grand and great-grand children,

May they continue to carry the torch,

And make Earth their country.

"When the winds of change are blowing, some people build walls and others build windmills."

Chinese proverb

"And those who were seen dancing were thought to be insane by those who could not hear the music."

Friedrich Nietzsche

"Every great and deep difficulty bears in itself its own solution. It forces us to change our thinking in order to find it."

Niels Bohr

"We are challenged to develop a world perspective. No individual can live alone, no nation can live alone, and anyone who feels he can live alone is sleeping through a revolution. The world in which we live is geographically one. The challenge that we face today is to make it one in terms of brotherhood."

"Now it is true that the geographical oneness of this age has come into being to a large extend through modern man's scientific ingenuity. Modern man through his scientific genius has been able to dwarf distance and place time in chains. And our jet planes have compressed into minutes distances that once took weeks and even months. All of this tells us that our world is a neighborhood."

"Through our scientific and technological genius, we have made of this world a neighborhood, and yet we have not had the ethical commitment to make of it a brotherhood. But somehow, and in some way, we have got to do this. We must all learn to live together as brothers or we will all perish together as fools. We are tied together in the single garment of destiny, caught in an inescapable network of mutuality. And whatever affects one directly affects all indirectly…."

Martin Luther King

The National Cathedral, Washington, D.C., March 31 1968

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Genesis

Having crossed international borders thousands of times in my life, frontiers begin to blur. After all these years traveling and meeting people everywhere, I started to ask myself if countries are here to stay, or if they are just a temporary construction inherited from the past.

As our world gets smaller, are borders still making sense? Do they impede the evolution and progress of Humanity as the challenges that we now face have reached a global scale?

Recently, two developments have profoundly transformed the state of the world:

1. Economic globalization – resulting in national political and cultural resistance,
2. The harassment of our resources – resulting in the disruption of our climate.

Economic globalization has an omnipresent impact on our daily life. Almost everything we consume comes from somewhere else. Despite this new dimension, we have not yet developed the institutional backdrop that allows globalization to benefit all humans, in a cohesive and sustainable way. *Full-globalization does not exist.*

The economic version of globalization that has impacted us first remains isolated from its human and social layers. *Semi-globalization* – economic only - has developed in disconnect from a broad global project for the society as a whole.

As it stands right now, the world has already lost its balance between the economy and the society's fabric. The former is global and the latter still local. There is no mechanism to ensure that they work hand-in-hand in harmony toward a balanced development.

The result is the destabilization of our fragile ecosystem and the return to the forgotten evils of the past. Religious extremism, racism, despotism, nationalism, the risk of European disintegration, endemic economic turmoil and an explosive Middle-East are back on the agenda.

A simple virus spreads around the world, accelerated by global travel and exchanges, with massive disruption to our overall model. No global response can even emerge. We "react" locally.

Our society is not globalized at all. We are ignoring the simplest evidence: it's a single planet that we all cohabit. Still, our politicians are all local or national.

We have learned to take control of Earth more than any species before us. Unfortunately, just at the blessed moment of mankind's dominance, Earth starts to passively rebel. Her first symptom is climate warming. Her most fragile mechanism – the atmosphere - deregulates. We won the race

of evolution over all other living beings. Yet, we have to learn how to cohabit in Peace with a sustainable ecosystem.

The fate of climate change is in our hands. From a space seemingly infinite for the first hominids, our planet has become the unique island of our civilization. We have entered an all new game. Reaching an absolute success, mankind condemns itself to reinvent the rules of its future.

After the great victory of Humanity comes the danger of a collapse. Will the risk materialize in 2020, in ten years, in fifty or hundred years? Our children or grandchildren will tell. It is anybody's best guess as it's hard to predict how the planet and our species can ultimately adapt.

The great news is that there is hope, because most of us have now acknowledged the threat. We know that we are dramatically impacting our environment. The conundrum of our era is exciting and can be managed as long as we share the problem and open up to innovative solutions. We can elevate ourselves, from unconscious dominators of our planet to its caring architects.

We have evolved from animals to humans. Will we be able to become the responsible and sustainable stewards of our planet? Or will our combative genes – egoistic, opportunistic and shortsighted – drive us to self-destruction and reveal that we are our own worst enemy; slowly cutting the branch on which we all sit? Are we wise enough to survive as a species and to deserve the durable status of masters of Earth?

These are the central questions of this book. *How should we react to the global limitation of our resources in a growth-centric model?* This is a fundamental interrogation. *Earth Our Country* comes with solutions. We will address a holistic view of our shared future. We will offer ideas and responses for a wise and systemic solution to the next phase of Humanity's development.

I wrote the first version of this manifesto ten years ago and published it three years later. In the meantime, we have continued to make the case of Humanity more difficult. The perspective of the US presidential election convinced me to re-write "Earth our Country", while confined against the pandemic, between April and June 2020 – an unplanned but somewhat ideal setup…

Reconnecting the same dots ten years later, I realized that there is still no acknowledgement of the root cause of our ecologic challenge. Worse, we have been moving backward.

Climate change, a symptom of our endemic problem, has won some acceptance. But the inner root cause of the ecologic Wall ahead of us – our lack of global governance – is still not recognized.

The new president will have an exceptional opportunity to turn the tide and to address our lack of global political leadership. Our problem is now harder than it was ten years ago. Aggressive national isolationism – including in the US under the current administration – now clearly challenges the fragile world order of the last three decades.

The next US election is pivotal for the whole world, more than any election before. We sit at the crossroads of our future: full-globalization or return to nationalism. We need Joe Biden, with

any help he can get from Barack Obama's international recognition, to re-launch a global project for the free-world. This election will decide our world's directional shift for the decades to come.

We are the generation that can initiate the metamorphosis from historic nations to global cooperation and solidarity. The recognition of our universality is the next Darwinian step of our evolution.

Mankind faces its most compelling challenge to date. It's the time to "think big" and to turn the page of History. Nationalist boundaries of the past do not work any longer. A new world is waiting for us.

Together, we can invent the next step for Humanity. Unconsciously, we already are the first generation of *Homo sapiens Universalis*.

Earth our Country.

Chapter One:

From the Big Bang to a Big Crunch

Many of us fear a collision with an ecologic Wall and predict an apocalypse for the second half of our century. After the Big Bang of mankind over the last millennia, they see a *Big Crunch* coming. They predict the destabilization of the environment, point to the non-sustainability of our consumerist society and of our species altogether. We don't disagree with the risk analysis.

But we see a solution. Challenges force our reinvention. When the horizon darkens, it is time for innovation. This is precisely how humans have won the animal competition. We are the ones who can invent. We imagine new outcomes, we think beyond the present. We are unbeatable when we match our survival instinct with our intelligence. Unleashing our imagination to innovate is how we have moved forward.

Twelve thousand years ago our ancestors faced a similar crisis. They had hunted most of the big game and saw their resources dwindle. Starvation was imminent. Humanity was even at risk of disappearing. This is precisely when we uncovered the magic of the seed. As naturally available resources declined, we invented the domestication of Nature and developed farming and breeding. Not only did we survive, we also became even stronger and the dominant animal.

Owing to this revolution, Humanity flourished beyond the imagination of any God. After domestication came industrialization. And the success of mankind's History ultimatley led to the saturation of its ecosystem. The extraction and transformation of fossil fuels in particular forced climate change.

Again, we are facing a challenge to our future survival. Again, Humanity can win. The ecologic Wall is an opportunity. We can avoid the crash and invent a new way to catapult our society above the collision that is already at sight. We need to change our current trajectory in a way that acts as a positive catalyst for a great shared future.

Today, everything in our society results from the health of the economy. The theory says that economic growth is happiness for all. Recession – negative economic growth – is a disaster of endless impact. Is there a way to think differently? Can the economy become the servant of mankind's overall progress instead of an unchallenged master with cannibalistic properties?

The quest of Humanity is no longer about conquering the world. We already have. We have multiplied to almost ten billion people on the same tiny planet. Our new objective must be to turn

our world into a sustainable human ecosystem. The realization that our resources are finite must become our stepping-stone toward a better common future.

We have succeeded to canoe to our nearest islet – the Moon – at great cost, effort and risk. Our trip was limited to a visit, the Moon remains uninhabited. Earth appears to be the ultimate limit of our living framework. Until a conquest of Space, she remains the permanent and unique setting for mankind. From our paradise, Earth could become our jail. She is turning into our golden cage - our single precious neighborhood. We are truly starting to *confront the impact of her finity*. It's a *defining new situation* for all of us. Still, we operate with our muscle memory – we keep thinking about growth, expansion, multiplication, development… as if we still had the luxury of infinity.

The ecologic risk that we are taking is to waste what we – including all living beings - have won over millions of years of Darwinian evolution. If Earth rebels we lose the fruits of this Pyrrhic victory, the efforts of hundreds of thousands of generations in the chain of life that preceded us.

We may even be the ultimate outcome of the alchemy that led to life on Earth. Maybe this is all supposed to make sense and we do not yet have the capacity to understand. We have been "elected" by evolution and given a chance to become so powerful that we may either fail or attain the next level of this divine game. To succeed, we cannot escape the immense responsibility of being Nature's caretakers. This role is now ours. We didn't ask for it, we have endorsed it with our domination of the world. It came together with the crown.

It is not uncommon to witness the awe of children when they see a cow for the first time. They have no understanding that the hamburger eaten before coming to the game farm was the flesh of this lovely creature. Our culture seals consumers from the natural source of their consumption. We have separated ourselves from the true world of Nature. Humans live in a second-life.

This psychological fence leads to our collective myopia. We are quasi-blind to the extreme harassment of natural resources, because we see them as supplies – "resources" – and no longer as part of the holistic setting to which we belong ourselves. Our selfish environmental cannibalism is driven by production and consumption growth, not by an ecologic balancing act. As we "grow", we transform Nature around us, we build our own new parallel "man-made" planet.

In the course of the last two centuries, we have morphed into a virus which attacks the body of Earth. We are not a meteorite. We developed from inside of her. With continued exponential growth, we will soon be over ten billion.

Do we know where this is all going? In good faith, probably most of us sense that something has got out of hands one way or another, that somewhat we are building a big problem for our children. But there is no "solution". It seems that no one even tried to contemplate a truly holistic resolution to the challenge that we face.

The reason is that the solution to address the root cause will challenge the social system that got us to where we are. The global anarchy of the empowered countries has stimulated our competitiveness when the objective was successful dominance. It is now our primary inhibitor when the challenge becomes global preservation and our survival as a species.

Before we spend more time on the analysis of our current situation and look at solutions for the future, it may be worthwile to reflect on how we got to where we are – our human Big Bang. Lessons of the past put the future in a logical perspective for who wants to learn from his mistakes. How did we become the catalyst of the transformation of Earth and its strongest predator?

From just a few souls in the original hominid herd, we have multiplied into thousands, millions, billions and soon 10 billion. Since we dared to leave the safe branches of our tree in the savanah of the African Rift in which we used to find shelter, we have turned into a nomadic hunter and later settled as farmers and breeders. We even succeeded to accelerate yields of Nature with the addition of fertilizers. Beyond agriculture we jumped into mass industrial scale, drawing our energy and raw materials from the bowels of Earth.

It all really began with our courageous ancestor who first dared to leverage his rear paws, not to climb a tree but to venture away from its protection and to discover new grounds. Our hunting and gathering capability progressed, so did our lower limbs. We enlarged our territory and invented new hunting techniques. We became a predator and expanded the number of potential targets within our reach. We succeded to feed a larger family and clan. We learned to shape rudimentary tools, recognized the value of fire to protect ourselves at night and to accommodate food better, thus enlarging the spectrum of the edible. This innovation made us truly omnivore and expanded our aptitude to survive on almost any kind of food. Eating meat, roots, leaves and berries, we improved our capacity to escape starvation. We dared to leave our original savanah and to follow the migrations of our favorite games. Our legs got longer and stronger while our arms and hands developed as extensions of our imaginative brain, constantly shaping new weapons. Our intelligence designed new tools and ways to communicate better as a hunting and social team.

Other animals live in the present. They don't think about the future. They have a distant recollection of the past but their focus is "now". Increasingly, the development of our brain has taken us beyond that. As we built more complex hunting strategies, we started to imagine and focus on the future. To do better tomorrow, we treasured our memories. *We discovered the dimension of time*. The consciousness of time changed everything. It made our life much more complicated. We learned our *ignorance of the future*. We became afraid of what we could not understand – more or less everything... Facing the complexity of Nature and the fragility of our own existence, our mind got crushed by the mystery of birth and death. New questions emerged and only brought out more mysteries. Like any void, questions to mysteries eventually got filled with explanations from the smartest members of the tribe. Once accepted by others, they turned into beliefs supported by legends. Mystical beliefs and legends got carried and reinforced from generation to generation. They were the embryo of the first cultures and traveled with their nomadic believers. As groups became physically more distant, they also learned to communicate with a mosaic of differing languages. Distance and isolation, social progress and mystical complexity generated more differentiation among nomadic tribes.

In parallel, our body evolved in Darwinian terms. Inventing new tools, the size of our brain enlarged our cranium. Covering ourselves with skins, we lost our fur. Better fed, we grew taller. In the meantime, with different climate pressures and intermarriages, our skin turned white, black

brown or yellow. From one people in the African Rift, we differentiated into various colors of skin and specific physical traits - also different hunting techniques, tools, beliefs and languages.

Through the millennia, we managed to populate most of the landmass. We crossed mountains, plains, ice bridges and seas to continue our epic journey, looking for new hunting grounds. Finally, mankind got almost everywhere on Earth. We numbered in the millions but at the same time started to reach the limit of our nomadic lifestyle. We began to struggle to find rarefying preys while berries, mushrooms and wild roots also became scarce. There was no new green valley left for discovery with a new herd of delicious mamooths waiting for our skinny bellies. We had turned into an extremely efficient predator and no animal could resist. But the scale of our population and its deployment was saturating the capabilities of what was still a basic animalistic predatory model.

At this defining moment, we could have disappeared as a species or become irrelevant. This is when came the extraordinary discovery: *the magic of the seed*. We understood the vegetal cycle and learned that by preserving and planting a seed in the ground we could replicate, boost or even supersede Nature. We also picked up the domestication of animals. With the invention of farming and breeding, we revolutionized our destiny. We differentiated ourselves from all other beings. From a crisis of near starvation – the first wall in front of Humanity – came predictable abundance. From the nomadic quest came the establishment of the landlord. The *Neolithic revolution* engendered the Homo sapiens Sapiens. An all new paradigm unfolded: day zero of History.

It doesn't imply that Neolithic men and women suddenly turned happier than their nomadic predecessors. It may even be the contrary. Farming implied a lot more work, painful structuring of the society and reduced food diversity, while proximity between men and animals generated diseases. But with farming, we crossed the constraint of intermittent food and nomadic starvation. From the best predator we evolved into *the grand domesticator*. We cut forests to cultivate the soil. We surrounded ourselves with enslaved animals that lived or died to serve our needs and appetite.

As a result of this new sedentary lifestyle, we invented the concept of property. We built fences, not only to protect us from other predators, but increasingly to defend our crops and our herd against our likes. Some laggard nomadic clans were still wandering around and starving, while ambitious farming neighbors competed for our land and crops. Hunting strategies turned into war stratagems to protect or steal new wealth. Farmers anchored themselves to "their" land, a fixed location that became their plot, home, village and ultimately their "country". To secure wealth or steal resources from other tribes, wars became the most strategic activity for survival and domination. True enemies became other men and no longer bears, lions or wolves.

The sedentary lifestyle suddenly enabled a multitude of new possibilities. We learned to tame Nature to our own benefit. We "invented" hybrid plants and animals. We specialized tasks among family or clan members to improve the capabilities of the team. Everyone concentrated on what they could do best to most efficiently contribute to the community. Mandatory labor and specialization were born – probably also human slavery and social classes. In an incredibly short time, primitive Neolithic societies organized themselves around war and social specialization.

When food got under control, war replaced food hunting as the first priority. Behind strong warriors stood the weaker ones tasked to nourish and equip the troops. Sophistication of weapons and defenses became critical. Social clusters grew exponentially complex in just a few generations.

As isolated groups of humans transformed into civilizations, their beliefs turned into religions. Religion became our inner social foundation. In order to stay in force and convince everyone at a larger scale, they formalized and organized – eventually they ruled. Unique to each social group, they reinforced the dividing lines between people of different beliefs. The original inspirations surrounding the mysteries of birth and death - naïve and basic - evolved into the most complex, official and irreductible virtual evidences. Political rulers made themselves priests or living gods and asserted their credibility "in the name of God". Organized religions became institutions and instruments of power. The shaman or chief of the tribe evolved into the king or the pharaoh. The tribe morphed into a sacred nation. Beliefs became Faith.

Civilizations conquered the world and planted their first borders. To protect their unique "culture", they formalized and cultivated their differences. Nationalism replaced nomadism.

Before maps were even invented, invisible lines were drawn on the soil, mirroring wars, migrations, victories and defeats. The *Big Bang of mankind* suddenly accelerated. *Only six hundred years after the discovery of the seed, modern sedentary civilizations were born.*

Religions coalesced with races, ethnic groups and languages, reinforcing again and again the perceived differences between human communities. Eventually, everyone forgot the original homogeneity of mankind. From one people, we evolved into an infinite mixture of diversity – both looking, living, speaking and thinking differently.

Our national fragmentation ensured us that differences exceeded the otherwise evident commonness of human identity. Since then, nations have totally run the human show. They have done a good job in the context of our war-led historic expansion. They provided us with the social and political cluster needed to defend us and to manage us in the millions.

To survive and prosper as populations grew exponentially, nations needed more wellfed soldiers to remain independent and to fight against their fellow kind. More people implied more resources - which meant finding or fighting for more land. This is how the viscious circle of growth was invented. As a social group succeeded to draw resources from Nature, it became more populous. To support more people, additional food and space were needed, forcing conquest or defense from expanding neighbors. This circle defines the growth of human population and its endless quest for more resources. To remain relevant, we must grow. As we grow, we consume more… and so on.

The industrial revolution precipitated the movement with its pesticides, mines and worship of oil, carbon emissions and systematic extraction and utilization of all available materials. It allowed to find a way to make our resources unlimited again – through the multiplying effect of the fossil economy. Economic competition replaced war…

Now, with our endless quest for material prosperity growth for 6.5 billion people – and more - comes Nature's death knell. The cycle has whirled around civilizations since their inception but at a much smaller scale. More people are coming who want a higher standard of living – more food, more cars, more everything. We still need more growth…

Rather suddenly, at the turn of the 21st. century, Earth's fragile ecosystem starts to give us the tangible signs of a pivotal point. *We are the first generation to inherit such an unsettling discovery. It is disruptive and inconvenient and is loaded with heavy consequences and responsibilities: we are approaching the limit of growth, which has been the driver of our historic development model.*

We are entering a very critical and pivotal century. *Suddenly, our heavenly island can become our jail. We risk to blow up our safe balloon.*

We communicate instanteanously by phone, video conference and the Internet. We travel around the globe within a few hours. An illness can spread everywhere in a matter of days, carried by travelers or containers and lead to a massive epidemic. A continent consumes what another one produces. A region finances the deficit of another to enable it to buy more of what it produces. A hemisphere occupies another without a battle, simply through migrants in search for a better future. Still, we are organized to keep growing further…

If all the countries of the world keep growing and reach the same level of economic wealth as the Western economies today, our total energy consumption will increase tenfold. Africa's population is expected to more than double between now and 2050 from 1 billion to 2.4. Imagine that Africans reach the standard of living of Americans. The explosion of fuel energy and natural resources utilization will not be tenable ecologically. It is simply not possible under the same architecture. After thousands of years, endless materialistic growth reaches its limit: Earth's finity.

There cannot be as much materialistic wealth for ten billion humans soon - as there has been for the West at the peak of its golden years – less than a billion people. Something has got to give: natality, materialistic wealth or both. We have to fundamentally rethink the model of our future.

The "old rich" want to get even richer and the "young poor" have no intention to stay in the wait list. Our systematic quest for material economic expansion, further amplified by the desire of the developing world to continue to catch up with a double-digit annual growth, has become unmanageable. Global economic growth, fueled by the economic emergence of everyone, accelerates the unbalance of Earth.

Still, we are collectively trying to ignore such profound implications, because they challenge the social establishment of History and of how we see our future. It's hard to stay blind for much longer though. We cannot deny that the ice of the poles and glaciers is melting at light speed and that by 2050 the North Pole will be totally ice-free. What can a single nation do about that? All nations still want to grow - some still have to get out of poverty to feed their people.

We have to re-imagine the next stage of our development. A stage that cultivates our planet like our garden and not like a trash can. We have to think about how to *consume better* instead of *infinitely growing our consumption.*

The atomic or H bombs are ready, in the hands of a growing number of governments with varying degrees of responsibility. Several of them could in the next hour initiate another form of "Big Crunch" - by just pressing a single button. All the machinery has been prepared and the result would unfold like a set of dominoes.

So far, a loose alliance of the large democracies under the US influence has protected us from an immediate military collision under the cover of a global economic pact of free-trade. This is now going away. Other nations like China are challenging this modus operandi. More importantly, this world order did nothing to prevent such a damage to Earth – rather the contrary. Rarefying resources will cause a fight for survival between populations, starting with those who want to reach the Western wellbeing, those who could be submerged due to the rise of the oceans, those who risk to be invaded by the desert, those who try to make themselves fortresses to protect against migrants or viruses… We are not short of finding reasons for the nations to fight against each other and to have their leaders come out even reinforced through nationalistic promotion.

The British magazine *New Scientist* asked a group of experts to paint a picture of what our Earth would look like at the end of this 21st. century. They adopted a scenario of a high-median temperature increase of 4 degrees Celsius. Here is an extract of their conclusions:

"Deserts will prevail. They will gradually invade the whole strip located between the tropics of Cancer and Capricorn, a zone where resides today half of the world population. For some, the Sahara will even progress up to Central Europe…"

"Finally, large zones of the planet will become totally uninhabitable – a loss which by far won't be compensated by the gain of new useable lands, freed from ice in Greenland, Siberia, Scandinavia and maybe even Antarctica, regions where important populations will be led to come and settle. The massive arrival, in the timeframe of one generation, of billions of climatic refugees will not happen without confrontations…"

"Conflicts to protect basic resources, water and energy, or to win their access, will intensify. The "selection" will be so intense, that we won't be more than a billion by the end of the next century," according to James Lovelock...

Is this scary picture a realistic scenario or is it just excessively overblown? Well, we won't know until we get there, but this is the scenario of a 4-degree Celsius increase above the 1850 pre-industrial level. Whether we can contain this heat wave or not is the question. The temperature acceleration that the scientific community has accepted as a minimum so far is 2 degrees Celsius, which almost everyone now sees as unrealistically low. The median expectation is around three degrees and the maximum around five. Many continue to deny the issue altogether, denouncing some sort of UN leftist and scientific Machiavellian conspiracy.

The margin of uncertainty remains enormous because it is a jump into the unknown, one that none of us has ever faced before and with no irrefutable scientific reference since it is all about predicting the future. Nobody can scientifically demonstrate with certainty how Earth will continue to react. We only have the ability to simulate a series of forecasts or predictions based on historical

data. It has been one degree so far in one century. It is exponentially speeding up. This has never happened before at such a pace, as a man-made event. We are the first generation to learn about the risk.

Global economic growth alone is not going to make the world a better place any longer. Economic globalization was meant to unify everything else, but it's leading to the opposite effect. The lack of global governance and the failure of the nations to resolve global problems in the framework of a global economic competition is the forum that fuels the revolt of nationalism.

We need another magic seed – a new positive revolution for Humanity. We need global governance to equip us to handle the challenge ahead of us as a coherent team.

In the middle of this crisis, we have the chance to recreate our social and political domain. We can adapt our governance to lead us to a new way of life. We can shift our central priority from global economic growth to global preservation of the human community and of its environment. It is totally possible, if we accept to reset our endless and unsustainable economic race toward a model that privileges wellbeing for a smaller and more cohesive Humanity. It can only happen with an empowered global governance. We need a pilot in our global plane.

Earth our country.

Chapter Two:

Our Unsustainable Growth

After millions of years of hominid evolution, *the global human population reached half a million souls 100,000 years ago*, at the emergence of the Homo sapiens. This represents an almost irrelevant number against other species. We were nobody...

Such a demography reflects *the fragility of the Paleolitic man and his constant struggle for survival, in an environment from which he had not yet separated and where competition was fair and intensive with other animals.* To put this frail loneliness in perspective: there was only one human being per 120 square miles. Assuming that a clan consisted of an average of thirty souls, there was only one clan for 3,600 square miles of wilderness - three clans for the whole territory of Belgium or Massachusetts. If we add that the Americas were not yet populated and that glaciers covered a lot of the continents, the physical population density in the populated landmass was maybe twice higher at best. Humans were just a noise for Earth, their carbon footprint was zero…

Such surprisingly low numbers show how painful our "conquest" must have been. This permanent fight for survival certainly left a huge inprint into our modern genes. We didn't win easily, we are real survivors, with many scars. Our early days were a constant struggle. We faced a systemic risk that the species could disappear. Other predators did not give way easily. Migrations and change were constant, we had to quickly relocate and readapt to new constraints. This adversity forced our adaptability. Human beings were survivors, pioneers and adventurers in the wilderness. They were not born kings or princesses… they fought and competed all the time to win to live another day.

Our nomad ancestors relied on an environment which they were intimately intertwined with. No one could survive alone in a world filled with so many dangerous predators. Being banned or cursed was a death sentence. In such a precarious environment, people could only stay alive if they protected and fed each other as a herd. Humans hunted as a pack, like wolves. Each day was a new beginning, a new uncertain timeless search to fill their bellies. They only killed to eat, with respect for their prey. They knew they were a prey themselves. Paleolithic people saw themselves as animals among other animals – they were just the smartest predators. They cohabited with fear and deference with their animal cousins under the common roof of Nature. Life was dangerous and short and the quest for food remained the priority. Our population growth as a species and our evolution was very slow. We were not an instant win. Nature was keeping us under tight control…

With natural climate changes such as the last Ice Age, which enabled Asians to connect with America through the Bering Strait and the dominant winds which push primitive boat-people to discover Polynesia, it seems that Humanity finally completed its colonization of the landmass around ten thousand years ago. This marked the beginning of a finite world for nomadic people.

They didn't know it yet, since they were disseminated across an immense planetarian immensity. But they had reached all the land universe accessible to men. They ignored the finity of their world, although as a species they had just discovered the world. A finite planet was not a comprehensible concept.

While man occupied the summit of the animal kingdom, he was still living among them and as one of them. His toll on the available "game" was making hunting growingly challenging and capped its population to a minimal level.

The Neolothic revolution redesigned our relationship with Nature and the scale of our population and environmental footprint. The forst farmers were initially the luckiest or the smartest. There were the innovators who tried a way of life radically different from the past. They quickly understood the benefits of growing their own harvest, raising their own cattle and sleeping under the protection of comfortable houses loaded with a full granary, which insured their subsistence for a foreseeable future. Growing and storing prevailed over constantly chasing.

For the first time ever, *man succeeded to "create" and to accumulate his own food in advance of his daily consumption needs*. This was an absolute breakthrough, the differentiating condition required for his forthcoming planetarian domination. From spending most of our energy to feed ourselves every day, we could suddenly turn our efforts to… build civilizations.

From the animalistic horizon of a bare daily survival, we projected ourselves into the comfort of long-term planning – giving instant birth to complex social systems. We managed to cross a "sound wall" – the domestication of Nature.

Retrospectively, the lack of available food turned into our biggest opportunity: we "created" our own food. With this invention, we cracked the code of the following 12,000 years. *From this moment on, our population and technologies took a pivotal growth path.*

Food creation originated the concept of property, which sealed the long-term foundation of the economy, a key element of future civilizations. Property was needed to protect the fruits of agriculture and breeding. If you cultivate a piece of land or feed an animal for your future consumption, they must be "yours" – and no more a part of everyone's Nature - or anybody can steal the benefit of your own work. It is a very different situation from living off hunting and wild berries. This time, the harvest was reserved for the one who planted the seed and the milk for the one who fed the sheep. The farmer or the breeder had to "own" the land where the seed would grow and the breeder the animal he had domesticated. It killed the inherent communistic essence of the Paolithic era: everyone's Nature got replaced by landowners…

The profoundly new idea that man could transform a piece of Nature and make it his own (land, crops or animals) implied the need to defend this new ownership. It's obvious to us all today, but

at the scale of Humanity's evolution, it was a hugely new concept. This breakthrough – owning a piece of Nature *as if humans could be above it and not any longer part of it*, fostered the formation of the first civilizations, which emerged in Egypt and Mesopotamia. Owning large pieces of cultivated land and cattle, owners regrouped in fortified villages and then cities and organized armies to defend them. This is where we are coming from. We are the children of this revolution. People there unleashed the cities that we view today as ground zero of world History.

From the decisive moment of this new page of our evolution, it all went extremely fast. In a few centuries large cities started to spring up like mushrooms. They hosted elaborate social systems: kings and armies with professional warriors, specialized weapons, officers and battle strategies; struggling farmers and fantastically rich landowners and their miserable slaves; genuine religions with gods, priests, temples, sacrifices, capabilities to count, record and communicate at large scale with numbers, writing and manuscripts.

Socially, these civilizations were like the ones we live in today. They had their politics, their poor, their rich and their famous. One started a family, worked hard, dreamed, loved, played and died. Many believed in terrifying gods. People drove for military or economic power, recognition or fulfillment in Faith.

Notwistanding scientific progress and its implications, nothing fundamental has changed in the thousands of years that separate us from these first "civilized" men and women. *They marked the beginning of our "separation" with Nature. They turned Nature from a mother to a resource and definitely put us on our current trajectory.*

However, a subtle yet profound nuance remains between this antique era and today. These people still saw the world in which they lived in, along with its potential, as infinite. They could cut a forest to plant their seeds or build a new city - there was still another virgin opportunity behind the hill. The world was flat, immense and unknown. The concept of a round finite planet was out of scope. These men were in the business of permanent conquest of the infinity of the land.

Thanks to its immense success in domesticating Nature, the species flourished quickly. From just a few millions twelve thousand years ago, we exploded to hundreds of millions in less than ten thousand years. Mankind reached half a billion people at the birth of Jesus Christ. This represented an amazing increase – our population roughly doubled in size at each generation.

This explosion had profound implications. There were twice as many humans to harvest the planet's resources with each new generation. We always had to compete for more land. This explains the endemic need for "growth" of our historic model. Growth is our foundational legacy as a civilized species. We need more conquests. Successful civilizations are expansionist by design.

Such an extreme population growth was incomparable with any mammal species. Our growth was only slowed down by wars or diseases. The geographic expansion of the empire was undoubtedly the logical solution for any political leader. War and conquest were well understood necessities and insurances for the future.

Consequently, the History of civilizations mirrors the History of wars. War was unavoidable, built into the system. Competition for resources was permanent. Supplies were always short as population grew. The preferred solution for nourishing more mouths was to increase one's territory, seizing fertile grounds and slaves to cultivate them. Civilizations kept expanding, feeding on new land and people, like fires feed on brush, endlessly. People learned new techniques by watching their neighbors or enemies. The nucleus of civilizations subsequently migrated from a few historic inner civilized cores to the immensity of the outer barbarian unknown. Civilizations spread geographically until they covered the whole planet – which only happened two centuries ago. This infinite expansion has been the basic model for the last thousand years. It has fueled the civilized man's appetite until the nineteenth century, when civilization finally got almost everywhere.

Through Western colonization, the world of the nineteenth century reached finity for the first time – the globe became completely "known". Colonization was the first chapter of globalization. There was no sunset on the empire of Queen Victoria. London was the capital of the world with treasures and materials imported from all over, to be transformed and re-exported.

There were only 1 billion people in the world in 1800 though, twice as much as in year zero.

The rate of natality had greatly flattened since antiquity – the population only doubled in 2,000 years instead of a single generation as BC. Why such a slowdown? The earlier catalyst for our species' growth – the geographic spread of agriculture and the general improvement in standard of living had stabilized. Human population and available resources adjusted with each other. Farming yields were still directly proportional to the surface being cultivated, with little technical progress since Neolithic times. Ancestral techniques remained in force. Muscles were the sole power available – human or animals. Fertilizers were still only biologic. Population remained in direct proportion with arable land.

Moreover, the first eighteen centuries AD had seen impressive human destructions. The devastation brought by the invasions of the post-Roman empire, the medieval plague, the constant wars in Europe and Asia, the almost complete elimination of native Americans - who were as many as Europeans in their totality at the time of Columbus - and the significant draw from African slavery. All took a huge and permanent toll on mankind. Such war-like events succeeded to adjust headcount to available resources quite efficiently.

Science and techniques in agriculture and medecine evolved very little during this period. Use and transformation of resources were static. The land was harassed with stable yields at best and its capacity calibrated to provide food to a proportional quantity of people. Civilizations could only develop through "horizontal" geographic expansion. Population size was proportional to the surface of cultivated land because no new technique was invented to enable a "vertical" increase of wealth such as food/resources yield acceleration through agricultural/industrial innovation. It was more of the same at equal perimeter, forcing the conquest of an always larger arable territory – which only doubled in the period. We would still be around a billion people today without the industrial and scientific revolution…

The industrial and agricultural revolutions of the 1800's changed everything. They multiplied the power of our muscular engine, while chemical ferlilizers duplicated crops performance. New

technologies - vapor engines, fertilizers, mass production - added a "vertical" lever of wealth creation which magnified the potential of Nature, while in parallel considerable progress was made in medicine to extend life expectancy – like mass vaccinations.

"Growth" took a paradigm change. The 19th. century revolution enabled "vertical" expansion and eliminated the immutable "horizontal" limit dictated by the surface of land. Techniques of mass production and utilization of new sources of fossil energy like coal and oil, enabled a globalized model in which the West transformed and the rest of the world supplied raw resources. The model allowed for the continued dominance of the Western minority over the rest of the world.

The demographic results of the industrial revolution are even more staggering than the Neolithic revolution, given the much bigger population scale. *In 1960, the world counted three and a half billion people, three times more than in 1800. Today, sixty years later, our population has already reached 7 billion, doubling in only two generations*. We have reached again the speed of expansion of Neolithic times - on an incomparably larger scale.

Taking a selfish point of view: when I turned fifty the world's population had doubled since I was born. Whereas it took eighteen centuries – between year zero and 1800 – for the same proportional increase to occur. Though this figure is already vertiginous, it is generally recognized that there will be approximately 10 billion people by the middle of this century.

During the length of my life, human population will eventually triple – increasing by over six billion souls.

More importantly, the proliferation in resources and energy that each inhabitant individually consumes during this period continues to increase as the "rest of the world" emerges economically. When I was born in France in 1960 in a middle-class family, there was no shower, no TV, no car, no computer and no air-conditionning…

The conjunction of these two factors – population growth and individual materialistic consumption growth - is acting as a double whammy. Such an exponential accelerator affects our global ecosystem at a pace and scale never experienced before. This explosion – the "growth" of our population and of our consumption together - is beyond the scope of any imagination.

And it is not finished. Here are some basic scenarios for our immediate future:

- Rich countries of today – primarily the West – will maintain their current standard of living until 2050, with marginal economic growth. This is pretty much the anticipated scenario for Europe and Japan, the US hoping for more. They will continue to consume and emit about as much CO2 as today, with a slightly negative population growth. They may become a little more efficient with a wider use of clean energies, but with a minimal impact on the overall picture.

- Emerging and poor countries will grow their GDP much faster, with a double-digit annual rate. Ten percent per annum has been the average growth rate observed for the last two decades for China. Africa was slightly slower at around five percent and is now catching up. In the

meantime, the population of developing countries will increase by an additional three billion people according to the UN, half of them from Africa - a fifty percent increase.

Unless the aftermath of Coronavirus creates an immense recession, *we are leaning toward a further exponential increase of our overall demand for energy and resources.* We will continue to increase our requirement for cars, oil, gas, decent residences, air-conditioning, drinking water, land, food and in particular meat, electricity, breathable air… Consequently, we risk to see an equal reduction of our forests, opened and natural spaces, wild fish and animals.

If we don't find a way to pull the brakes on any of the above trends, the resulting demand will represent an extraordinary challenge to our environment that will plunge Earth and its inhabitants into a state of serious disorder - the "Great ecologic Wall".

Our livability of our ecosystem will eventualy resist such a potential challenge for our lifetime with a manageable impact, which of course we all hope for. This delay authorizes the current "IBGYBG" political approach – "I'll be gone, you'll be gone". In other words: if we are no longer here to see it, why to worry about this just now?

But what will happen to our children and to their own children? In a century, a thousand years, a hundred thousand years, whose responsibility will it be but ours?

Our civilization has become irreversibly global. It is impossible for any head of state to make decisions that benefit solely his or her country without also directly or indirectly impacting all others. Those who try to forget this fact deny elementary logic and lure their people and all other people. We are all living in a single borderless ecosystem – a finite planet with fixed limits.

Country-based political fragmentation obstructs global solutions. It is almost impossible to be responsible for the best outcome of a country while at the same time trying to ensure the best global outcome for all. Countries end up behaving with collective irresponsibility because the addition of their local agendas cannot make for a cohesive global one. *The total independence and Freedom of countries mean global anarchy since nobody rules above them*. Even assuming that each country has the most virtuous national agenda, the addition of all of them doesn't make a sustainable global one. The sum of national wills to grow cannot resolve the global equation that we have to deal with. We continue to prove it every day - again as I write these lines with the Coronavirus situation.

Our fundamental problem is structural. There is no local solution to a global problem. Our forest is planet Earth of which our nations are only trees. At the dawn of this era of planetary challenge, the solution for each country and for Humanity must align to a world that from now on is inter-connected and inter-dependent. *Global and local have become our yin and our yang*. They cannot be separated. There is only one planet Earth and one Humanity.

Let's make an analogy. Seven billion of us are sitting on the same blue aircraft – we are flying aboard "Blue Planet Airlines". We travel on the fringes of the Milky Way in a small solar system. The plane is compartmentalized into two hundred separate classes – one by country – each with its own crew and regulations on board. Migrating from one class to the other can be hazardous. We are all passengers on this plane and have nowhere else to go. The plane is not managed or

maintained by any airline company. “Blue Planet Airlines” is an UN-like association with no central empowerment. There is no pilot in the plane.

The front cockpit looks very much like a large meeting room. Hundreds of national representatives are sitting in there for hours, participating to conferences about plane navigation with simultaneous translations. Their valuable objective is to maintain a dialog and debate the direction of the flight. They never take a decision though. There is no flight plan. They never agree on anything that relates to the benefit of everyone on board. For thousands of years it has been the same and the plane kept circling around the Sun, as if it could last forever. More passengers are born every second though and now fill up the plane to saturation, with numbers never seen before.

Very recently, leaders in the cockpit have been informed by their respective national scientific control towers that the plane is running up against a large unknown and potentially extremely dangerous cloud. It looks like a Great Wall. There are reasons to believe that the plane’s current course is leading everyone to a direct collusion, although it cannot yet be proven with certainty.

The passengers are all rather quiet. They think that their leaders are in control of the process since they are empowered to find a solution. Against all odds, they continue to assume that their guides are capable to modify the plane’s engine speed, direction or altitude, to eventually avoid the obstacle and get them in a safe place.

The truth is that their leaders are not in control of any sustainable solution. Instead, most rulers are individually thinking about how they can evacuate their own class of national passengers, so that at least their people can avoid the general catastrophe. The ones who survive will then justify themselves by blaming the disaster on the others…

Welcome to “Blue Planet Airlines”! We are all passengers on board. Hasn’t the time arrived to knock on the cockpit’s door? - and shout loudly:

“Dear politicians please take a pause and listen. We love you all for taking care of our nation. You are working hard to get the best for our country. It’s not about you but about the limit of your influence. You lead our nation. But we now have a new situation. This cloud is going to hit everyone altogether. It’s not about a specific country. Our plane needs to change course. We need above everything else a pilot for the whole plane, a leader for all of us. We need him or her – now!”

We have joined a new society. The Internet connects almost everyone. The physical means of communication – image, voice and travel – have developed in a way unimaginable even a few decades ago. Information travels at light speed and is accessible globally. Borders are becoming permeable and migrations – non-violent invasions – are a phenomenon of scale unequaled before. Modern migrations are comparable in volume to the largest historic invasions. The difference today is that they are peaceful, with or without visas. Their scale makes them disruptive though, they start to outpace the capacities of integration of their destination.

In the long run, this Great Mix has the potential to reunify mankind and to move us toward an interbred majority, merging all races and ethnicities into one – as we were at our origin. In the short-term, it brings de-stabilization because it is not managed at all.

Scientific innovations reinvent each facet of our lives, their immediate applications on consumer or industrial products and services generate new offers and new needs that stimulate additional waves of demand. Humans consume more to feel secure, satisfied and happy. They accumulate material goods as much as their neighbor to fulfill their social status. "Shopping" has become a ubiquitous leisure. Cities have expanded into working, living and shopping areas – all linked by an overlay of transit routes with streets, highways and public transportation networks.

Brands and consuming habits have reached a planetary scale: *Disney* and *CNN*, Angelina Jolie and George Clooney, *Google* and *Facebook*, *Porsche* and *Toyota*, *Apple* and *Samsung*, *Louis Vuitton* and *Prada* have disseminated worldwide. We all eat pizzas or sushi, drink tea or coffee and wear the same jeans. Once local, these products are now symbolic of our global lifestyle. In spite of the historic weight of our identities we have homogenized our consumption habits. In many fields, we have already started to become a *Homo sapiens Universalis*. The menu on board "Blue Planet Airlines" is becoming more familiar… Would you like fork and knife or chopsticks?

Astonishingly though, in spite of the extraordinary universal re-convergence of our evolution, we continue to govern ourselves as if our countries had their own local garden and their separate independent atmosphere. We consider this situation as completely normal.

Distances and time have become minuscule in our world village, but the weight of our past prides and wounds has not disappeared. We are unifying in our imitation of each other's way of life. Our leisures, tastes, work, travel, readings and accessible information are converging. However, we continue to be primarily attached to our particular historic identity with the anchor of our national individuality. We fiercely belong to a linguistic, ethnic, religious and national group as if it was coming in opposition with our broader global Humanity. Many of us continue to feel torn between universal modernity and our traditional roots. In our own balancing act, we end up finding our comfort zone.

This is how it should be. Globalization assembles us; it does not make us certified copies. It places us where we genuinely are anyway: in a single ecosystem of which each one of us is an integral part. We are all children of Earth; our atoms belong to her and will sooner or later return to her. A cloud coming from Chernobyl or from Iceland contaminates everyone on its passage depending on where the wind and the currents push it, the same for an epidemic of AIDS, influenza A or Coronavirus. The problem always come from somewhere else, but we all share its outcome…

We need a bridge. Ancient civilizations, History, borders, geographical fractures and beliefs – they are still here. They all exist and cohabit. They are the fruits of the accumulated cultures of the people before us, who have grown and developed in their geographically separated clusters. Although we unify, they should remain our cultural inheritance. There is no intention to challenge that. But we must be able to raise above the past to create cohesiveness against our new challenge.

Identities do not have to be hidden or masked to allow Humanity to move toward full globalization. On the contrary, they should be the stepping stones of its integration process, the bricks of the large Babel tower of mankind. We are the result of an amazing History.

If anything, the shock provided by the current Coronavirus crisis, with billions of people in confinement having be forced to take the time to live and think differently, can be a catalyst. It's a very small catastrophe compared with the future impact of the Great ecologic Wall. But it has the merit of happening now, to energize our minds with a complete surprise. It makes our lack of global coordination evident. All in all, it's a wake-up call that challenges everything.

This crisis also proves the disconnect between the economy and the society – the global economic supply chain seems to be out of anyone's political control. We heard: "Who has the masks?" Or: "Really, how come in such a great country we can't produce enough masks? Why do we need to rely on China or Turkey?"

It could flush the evidence of our global interdependence… Amazingly enough, it seems to reinforce isolationism and the belief that the resolution should be local. We naturally focus on measuring the impact on each country - the death toll in Italy and how come South-Korea did so much better - instead of trying to stop the virus to impact the rest of the world and to contain it surgically with global information sharing, global supplies, global vaccine research, global experience sharing. The *WHO* is powerless in trying to manage the crisis globally, as no one has access to all the ammunitions that manking can pull against the crisis… We should reflect on the situation. Shouldn't we experiment a new beginning - exactly the opposite of what most of our national politicians have tried to do so far under such a wind of panic?

We can only be sure about one thing: we are the first generation to be aware that our current model is unustainable. *We must turn the page of the History of the countries and enter into post-history - an era where the the world matters the most, since it's the dimension of our challenge.*

Like pre-history, "post-history" is again a borderless world. It is ruled by a new paradigm. We are global beings. Our culture, our education, our economy and the diversity of our population are global. Our fragmented political model needs to catch up. With this frame of mind, what we see today is a civil war – the fight of the countries is the fight our our own people against each other.

It is *just the beginning of a great transition*. The Wall is just ahead of us and we must figure out how we are going to jump over it. Then we will see the light above the cloud of our borders.

Earth our country.

Chapter Three:

Our Great Transition

Five centuries ago, the dreamer Christopher Columbus followed by the greedy Hernando Cortes, initiated the first era of globalization. After them our world shrunk. Columbus's discoveries allowed us to connect all the missing pieces of the globe and proved the truly finite and circular identity of our universe.

Made aware of the vast new space available, Europeans got compelled and increasingly obsessed in conquering it. Over the course of four centuries, Europe made a fabulous race to make the world its global empire – first politically and then economically.

These empires were heedless of their impact on the resources they raked up and transformed during their expansion – including the natives whom they viewed as another resource. Then came the bloom of technology's advance. The discovery of the power of combustible fossil energy augmented human labor with engines. We moved into an era of great innovation. Fast transport, cheap textiles, mass steel production, sophisticated industrial machines, electricity, revolutionary medicine, chemical agriculture, tap water and central heating to name a few - opened up the capacity of production and need creation of mass consumerism.

The economy became international, with London after Madrid controlling half of the world, along with hubs like Paris, Berlin and New York. Fruitful global mercantile trade across the colonial world diffused a lot of the conflicts of interest between European nations, projecting their battlefield into global competition for economic space in Africa, Asia or the Americas.

A terrorist attack of secondary importance in 1914 in Sarajevo reminded a flourishing Europe of its internal systemic demon: nationalism. A war of unseen proportions spread in a few weeks like wildfire, with the domino effect of intra-European and intercontinental alliances. Suddenly without a worthwhile reason, the entire world plunged into the horror of the first mechanized world war. From Europe to Africa and from Asia to America, the world turned into an immense butchery. Tens of millions of soldiers were killed, destabilizing the European population pyramid, ruining its industry and halting world trade.

The First World War was the first truly global political and military happening. Following colonialism, it opened up the second chapter of modern globalization. The internationalization of our national destinies engendered the first human disaster at a global scale. Many wanted to believe that this horror would force the world to finally unite politically, given so many miseries. On the

contrary, instability between winners and losers seeded the the next conflict and ultimately ignited the fire of the Second World War.

1914 was also a catalyzer for global political innovation. Destabilizing czarist Russia, it enabled the birth of the USSR, which tried to implement in real life a model that had been so far only a utopian philosopher's dream: Communism.

International Socialism became a grand-scale reality and bifurcated nations in two archrival clans. The world became bipolar. Communism spread throughout half of the world to China, Latin America, Africa and Asia. It created a second pole that challenged the historical Western colonial empires won to Capitalism, themselves often confronted to a strong internal Socialist movement.

The US economic crisis of 1929 - itself a consequence of the American post-war economic overheating - destabilized the world economies still weakened by the first world war. It increased unemployment levels in Europe which was still trying to recover. It threw fragile democracies into a gigantic storm, tearing them apart between National-Socialism in Germany, Italy and Spain and Front Populaire (Socialism) in France.

The result was 1945: the second all-out war. It intended to be the losers' great revenge from 1914, against the perceived injustice of the armistice – a hazardous geo-political cut in the first place. Germans and their allies were compelled by the desire to reclaim their lost territories and pride. Once again, international alliances pushed each country of the world to take a position in this conflict and to join in the fighting. This infinitely barbaric war, full of extreme devastation, occurred in the middle of the twentieth century – a period otherwise illuminated by scientific innovation and progress.

It generated the inconceivable Jewish Holocaust, the horrors of the war in China and finally the bombs of Hiroshima and Nagasaki. It demonstrated to Humanity that under duress, modern man remains the ugliest predator. Barbarism happened seventy years ago at grand scale and continues every day at a smaller scale, for instance in Syria. Horror can start *anywhere* and even *everywhere* again, tomorrow. Modern Humanity sits on the permanent risk of savage madness.

The Second World War officially ended in Yalta, leaving behind a bipolarized world, with ruins to be rebuilt. The battlefield was full of neo-imperialist lines immured between the zones of influence of two large winners, the USA and the USSR. Each one exalted itself as the conquering high priest of incompatible societies: the Anglo-Saxon liberal Capitalism on one side (the West) and the Soviet Communism on the other (the East), both powered and protected by an arsenal of atomic bombs. Each pole was the fierce survivor of one of the two modern Western political ideals – liberal-Capitalism and Socialist-Communism. The rest of the world had again to chose camp…

Surprisingly, the bomb turned into a two-headed monster. "I can destroy you, but you can destroy me too…" articulated the fear syndrome of the Cold War. Because the threat of total destruction with the simple pression of a red button was so real, the balance of terror ensured seventy-five years of world Peace - despite the valve of occasional peripheral conflicts.

This bipolar game of planetary dimensions ended up with a clear winner fourty five years later. Americans praised economic liberalism, democracy and Freedom in their "camp". They planified post-war recovery leading to an economic boost for all of their allies. They financed the re-building Western Europe, Japan and Korea with a stunning success. Their ruined allies turned into avid customers, emulating their US ally with record growth in the thirty years that followed the war.

Soviet Communism on the other hand got grid-locked into complete totalitarianism and destroyed the original dream of its people. It developed into an oppressive and imperialist one-party system, plagued with militaristic and bureaucratic dominance. It finally imploded under failing infrastructures, a pathetic economy and a poor standard of living, all in immense contrast with the success of Western Liberalism.

Trying to reform a rusted and corrupted system, Gorbachev reached a pragmatic and peaceful exit despite the internal obstruction of its own Party. Although not glorified at home, he deserves to be one of our heroes.

In 1989, the peaceful collapse of the Iron Curtain tolled the bell of the socialist society. It opened a highway to America and its clud of allies. The entire world to free-trade and free-market economy, after the seventy-year interlude of Communism. This event marked the start of a race for - *economic only* - globalization. Unintentionally, Gorbachev cut the ribbon of the global economic boom of the last thirty years…

With the fall of the Berlin Wall, we entered into the third phase of globalization. The world as an economic model became seemingly unipolar – "global". Reagan's America took the role of conductor through influence, rather than having the need for dominance or genuine control. The US dollar became the overall monetary stallion and the US army the overall pacemaker. Overall, the US won the virtual seat of planetary deal-maker, thanks to its strength as a democracy, federal constitution, non-exclusive multiracial nationalism, multinational corporations and contagious liberalism – the American Dream personified by Hollywood and the Statue of Liberty…

For the first time in History, one nation became the world's clock-keeper and role model. The US final supremacy over the USSR – without even a fight - converted the hesitant and even recalcitrant to join its economic model. The fall of the USSR killed the alternative collectivist model, which weaknesses were disconcerting even before its fall.

America's cultural, political and economic forces of influence grew formidable in the nineties, as if there could not be tangible progress outside of an US-like model. American liberalism could not be ignored by anyone any longer. For the first time, one size was going to fit us all.

While Russia got buyer's remorse and tried to learn how to rebound from the explosion of the USSR, China caught the free-market wave. The Chinese Communist Party saw the benefit that it could leverage from market globalization and made an extraordinary U-turn. Acknowledging with pragmatism the collapse of Communism while maintaining its name and its political grip, China learned from the American winner and morphed into a new economic liberal champion, with the amazing success that we have seen. Following the trend, hesitant ones like Brazil or India decided to follow suit. With various degrees, everyone opened up to a new era of global Capitalism.

The world became a large opened market. Everyone started to consume as much as possible, manufacturing in the cheapest places to minimize cost. Standards of living in the newly converted emerging countries progressed like never before. These three magic decades for the world economy proved that in a world with seemingly no limit of resources, the liberal model enables progress better than any other.

The new disciples of US liberalism continue to leverage the model and to catch up economically with the West, approaching the GDP per capita of their "American idol". It's even hard to see a ceiling to this ramp-up in global consumption as more regions are getting ready to join the game – like Africa. Global growth is here to stay with more rockets to fuel it…

However, the system is victim of its own success. Global economic liberalism consumes the planet's resources and energy at an exponential pace. The model was supposed to maximize a single outcome – global growth in profits – and it succeded to a large extent. But it was not designed to optimize the consumption of natural resources or to minimize pollution. There was no future long-term grand design, no higher-level sustainability concern for the society as a whole.

Without a global regulation on resources management, the model of universal free-trade will most likely be unable to survive. Some countries will compete with each other trying to put a hand on rarefying resources. Others will try to manage an ecologic balance and become uncompetitive. A crisis will unfold well before most of the world can reach America's consumerist nirvana...

Americans have taught the world economic globalization. In doing so they have continued to fuel their own business and enlarged the overall global market – making almost everyone richer. However, they missed the consequences of their success – the ecologic implications of having the world reach the economic level of America.

The outcome of the US economic leadership is truly awesome - in two dimensions. First, everyone being busy to consume, trade and produce, war has been in the back burner. Second, the economic bonanza has benefited to most. Europe has caught up with the US GDP per capita, then Japan, South Korea, parts of China and now most of Asia is getting there. Latin America is on its way and on a more distant horizon Africa will join in.

All would have been great in a world poised with infinite resources. Unfortunately, the planet cannot cope with 100% of humans consuming as much as Americans today. We can in good faith question for how long this global economic partnership can last, with such an apparent reciprocal willingness between the rich and the future rich nations. Will the global economic upturn of the last decades be able to survive such an upheaval in its environment and resources?

It is unlikely. *The Western model cannot scale up to the whole world – unless in the meantime the model accepts a substantial global resource containment – which seems to defy its purpose.*

Somewhat incidentally, the election of President Trump rung the bell of the triumphant era of economic globalization. The "rust belt" elected a man to "make America great again", translating

into: get the blue collars work back home from China. Trump's populist dream was to make globalization one sided - good only for the US...

Yet, the times of an undisputed US hegemony had already passed. President Obama inherited chaos in the Middle-East and the 2008 economic crisis. Still, he managed to federate global actions at this delicate juncture. It was hard, as he could not impose anything any longer. He was the first US president since Ronald Reagan to deal with a totally new set of cards, with China turning from an economic servant to a giant on its own right and Russia doing a political U-turn. The dices had already rolled the other way around, away from the US uni-lateralism. Reagan inherited the uni-polar miracle, Obama the multi-polar constraint and Trump definitely tries to steer to isolationism.

The number one superpower lost its undisputed supremacy, in part for having naively misused it – economically empowering China, financing itself on external debt and destabilizing the Middle-East. The fear of a weakening America elected president Trump. It also eliminated the possibility of a positive diplomatic outcome to such a multi-polar paradigm change – until now.

As a result, *the world before us becomes more uncertain than since 1945*. With the global coach playing solo, former alliances and cooperations have been taken off the global agenda. There is no more global agenda.

Before we expand on the consequences and new risks ahead of us, we should once again recognize the enormously positive economic progress and increase in well-being for most of Humanity that the last thirty years have allowed. Half of mankind came out of poverty. We should also acknowledge and celebrate the longest global Peace since the last global slaughter – we tend to forget this as most of us were not born in 1945.

Yes, there have been many conflicts – some terrible in Africa or the Middle-East - but all have managed to be contained locally. Global Peace, including the Cold War, has managed to last for so long that we have even come to consider it as our new standard, in particular in Europe. Regional wars have been constant on the borders of the tectonic plates of civilizations, particularly those of a religious-centric nature. They sparked around the Arab-Israeli conflict and the related clashes between radicalized Islam and the Occident overall – such as 9/11 and Al-Qaeda leading to Iraq and to the Talibans. But since Hiroshima, the wisdom and code of conduct has been: "a bad Peace is better than a good war." The Cold War, followed by global economic competition, have prevailed over the risk of a never experienced all-out atomic war.

Uni-polar economic globalization has solidified and leveraged this prosperous and peaceful time window. The planet has turned into a wealthier world village. All-out war has morphed into peaceful global economic competition. Global Peace and increased standards of living everywhere are the outcome of the Pax Americana.

However, besides the ecologic damage, another worn was in the fruit. Globalization has been only economic, not political. Global economy and national politics have competed and distorted each other, leaving many people on the side, unable to benefit from the wealth generated by the model. Nationalism kept its borders and political regimes ready for a revenge. Our historical legacy - identities and civilizations - were taken by storm with such an economic growth and success. But

they remained ready to fight back sooner or later, as no political integration was achieved during this period, to channel back the benefits of business success into prosperity and sustainability for the society overall.

We are now dealing with an extremely dynamic situation. We stand at the crossroads of full-globalization and nationalism, while suffering from the vanished US global leadership. The East is boiling in its fast-paced emergence while Western dominance is fading away, having lost its guide. Eventually we are reaching an inflection point between different ages. The dice of globalization is rolling at full speed and can suddenly stop and flip on either side. It's either full-globalization or return to full-nationalism.

Economic *globalization is definitely at risk of moving backward if political globalization doesn't come to the rescue with coherent institutions and an environmentally sustainable framework*.

Surprisingly, nationalism is not weaker after thrity years of economic globalization. Worse, it got an unexpected boost from the economic bonanza. The last thirty years have allowed the amazing molting of ex-communist totalitarian states into hybrid systems, politically totalitarian but economically semi-liberal. *Poor communists have turned rich owing to global Capitalism, but have not denied their original political grip.*

China is the most fascinating example. It has utilized global free-trade to finance its economic transformation, with a totalitarian political structure. It has learned to leverage to its advange the opportunistic greed of democracies to develop its own controlled economic actors – in a classically one-party autocratic way. As a result, China's political apparatus appears on the surface to be stronger than ever. Russia is trying to follow suit.

Should we anticipate the emergence of a new model of "liberal totalitarianism", the swan's song of totalitarianism or of… democracy? Is global liberalism the poison pill that will ultimately kill authoritarian regimes? This is for everyone's best guess and too early to judge. The question is of extreme importance though. Will democracy continue to prevail or is totalitarianism having a second life, as economically reinforced nationalism fights back against half-baked globalization?

The success of China is extraordinary. The fact that a totalitarian regime – openly ignoring basic democratic and human rights – has succeeded so well with the full support of the free-world is troubling. It gives the message to all other dictatorships or fragile democracies that there is a "liberal totalitarian way" worth pursuing. Sadly, it has created a true alternative to the enabling democratic free-trade model. Free-trade has ensured an extremely fast transfer of wealth from rich consuming democracies to the formerly poor suppliers, independently of their political regime. In thirty years, China has become the principal creditor of the United States.

At the peak of their influence, democracies have unintentionally reinforced the agonizing anti-democratic models, with free global trade. They naively offered a rope of survival to ex-communists and turned them into a much stronger reincarnation. Economy was the endemic weakness of Communism. China is now the number one economic superpower. The largest mistake of the US "global leadership" post 1991 has been to reinforce dictatorships owing to the

free-trade game, instead of filtering economic engagement proportionally to the democratic level of its economic partners.

This unconceivable tolerance is leading totalitarianism to challenge democracy again. Beyond the ecologic issue, it is the largest drawback of this era. We had the opportunity to make the democratic model the ubiquitous governance system for all people with shared prosperity, enabling new democracies such as India, Latin America or South-Asia to florish and to build the foundation of a future global democracy. Instead, we have reinforced dictatorships, made them the winners and given them the cards of future dominance.

Democracies had won the global economic and political race, building on the Achilles heel of autocratic Communist regimes: economic failure. The USSR collapsed of this disease, while the Chinese managed through it owing to the rope of free-trade with democracies. Post mortem, economic globalization has completely turned the table in their favor. They now own economic strength together with the power of long-term authoritarian planning.

Looking back at 1991, this was not meant to be. We are now where we are. Nobody can predict how the Chinese model will evolve, but it's hard to bet on the collapse of the system any longer. We need to acknowledge our new global hybrid political landscsape and decide how we deal with it: true democracies (apparently weakened), true dictatorships (with a second life) and various hybrids (enlighted dictatorships or populist democracies). It makes it even more difficult to align national agendas for the future and to tackle global problems in a cohesive manner. From the potential alignment of a "democratic order", we have moved to a disorder of mis-aligned political hybrids. Not only do we have many countries, but also very divergent governance systems to guide them. More importantly, we have let a one-party regime become the emerging world's role model.

In such a labyrinth, is there a way that democracy can survive and reclaim its leadership position? The conflicted ambitions of these political poles could steer some violent winds and ignite a worldwide conflagration, in particular with the current heavy hand manoevering at the White House.

A relatively weakened America needs to take again a more universal approach. The November 2020 Presidential election is critical as it happens at such a global crossroads. The aftermath of Coronavirus risks to reinforce isolationism as a lure against recession and make economic globalization our scape-goat.

The last decades have taught us a great lesson though. Even weakened, a globalist US remains indispensable to the world order. With an isolated US as we have right now, we risk chaos since China is not yet driven with diverse and democratic values and cannot be accepted as our new conductor. It will take much longer for China to be "trusted" in any international role.

While culture and communications have converged toward a freer and more multi-cultural world, the fragility of our political construct has developed in an opposite direction. America was the original core engine of the system and has gradually lost steam. For now, it remains indispensable because Europe cannot unify itself while China and the other large emerging powers have not reconfigured complementary alternatives of leadership. They may never get there. Other

than Brazil and India, emerging countries are not founded on comparable integrative multi-cultural roots, based on human rights and diversity. China or Russia lack a universalistic inclination while the US is a land of diversity and immigration.

A "post-Trump" US is the only possibility for the re-establishment of a stable world order. While imperfect, its influence – not to say governance – fills a daunting vacuum. We can see right now the implications of its sudden absence. Without such a pacemaker for much longer in a now finite and economically globalized world, we are jumping in the unknown. All in all, the US is the sole anchor for democracies and our tenuous gateway to a universal future. It has been imperfect and is lately its own worse enemy. But what would the world do without such an influence at all?

Hopefully a new path will open up in November 2020 for a more engaged, consensual and respected US. It will ease tensions and allow for a more cohesive approach to international governance.

What was un-achievable with one dominant US leader becomes more realistic with the softer touch of an US influencer-only. It provides a banner of global continuity, consistency and eventually could serve as a stepping stone for a new universal political system.

A non-gregarious US can win even more respect if it behaves wisely, with an acute sense of integration for critical international interests. It is in the general benefit of everyone to see a restored United States build a trusted political forum for cooperation, until we can get to more formalized universally elected global institutions.

A softer-handed US influence will help to defend the proven benefits of free-trade, acquired over the last decades. It will continue the promotion of human rights, hopefully more forcefully. It will fuel the free communication tools that provide the invisible foundation necessary to the emergence of our world village.

Good luck Joe Biden!

The pace of economic change has accelerated. What took centuries now takes decades. This increase in velocity further highlights the urgency for increased global synchronization. The economic crisis that started in 2008 and its ripple effects are the testimony of the failure of the international organizations to control the world economic "system" cohesively. We deal with local fire brigades instead of preemptive plans and global initiatives. We have seen these brigades at work again with Coronavirus.

Should we take this "state of the dis-union" for granted, or can we invent a better way forward? Now that the Internet enables all individual voices to raise and to connect all over the world, don't we have the open forum that a global public opinion needs in order to emerge? Nothing prevents us to shape a new thinking for our politicians – more global, less fragmented and consequently more efficient. Only a new universal leadership can resolve the challenges that we face. To emerge, such leadership requires the support of millions of us around the world.

Local and regional obstacles are profoundly entrenched in our international decision making. The individuality of national policies blocks a basic global economic and political governance. International organizations lack empowerment to compensate for our hesitation for much longer.

- *The United Nations* remains the only true platform where *everyone* can communicate but has no delegation of power and lacks the leadership coming from election by popular consent.
- *The World Bank* fulfills the important task of monitoring financial support to the most fragile nations, but its stabilizing role for the overall economy is at best limited.
- *The World Trade Organization* is useful in disputes resolution for commercial anti-discrimination, but few concrete results have materialized after slow procedures.
- *The International Monetary Fund* has been an awesome lender of funds to countries in crisis, but lacks leverage over countries that are not its creditor and seems unable to address profound commercial imbalances.

The intrinsic weakness of our international institutions is that they are condemned to limit their roles to official intermediaries, for solutions that are designed for all by a small or bi-lateral group. They cannot push for decisions against any of the great powers. Typically, Russia, China or the United States will never agree on a given decision when it harms their direct or even indirect interest. It has been worse lately with the US itself gripping the system. One nation is enough to block everyone else.

Thinking positively, the leading powers may end up one day to eventually agree about how to handle North-Korea, Iran, Syria or ultimately Palestine – although they haven't yet. But they will *never* make a direct national sacrifice for the benefit of resolving a global fundamental issue. Local interests – *always* – prevail, even in front of an imminent global threat. We can see it every day.

International organizations are fantastic on their own merits, but have been intentionally designed to be weak enough for the nations to exclusively rule. They represent the minimum link between countries, so that the countries can dominate. They "excuse" the lack of a cohesive system. They are meant to be as tenuous as they possibly can. They embody the official facade of world governance. In reality, the anarchy of the countries rules our Blue Planet.

It is fair game to pick on international institutions as a proof-point that nothing can be done globally. We forget to mention that they are only what the nations designed them to be in the first place. The nations are the masters and the *UN* the slave. If an organization "misbehaves", its funding is cut – like the *WHO*'s. We are used to the reassuring smiles of our leaders on the traditional pictures taken at any international leadership gathering – it always looks like everyone is so friendly and happy to be together. These smily faces hide that the world is solely controlled by the chaotic imbalance of individual national forces and interests. There is nothing else.

The solution to the problem that we face can only come from a reinvention of the role of our international governance. We need a quantum shift, from many powerless institutions to one powerful constitution empowered *above and beyond* all countries. Somehow, there must be a *transfer of power and ultimate sovereignty for international affairs from the national to the global level.*

A universally elected international entity should represent the voices and the general interest of all the states, nations and countries and serve all men and women to deal more efficiently with the overarching issues that we face altogether. *It is only by superimposing a world government to the anarchic sovereignty of hundreds of nation-states that Humanity will take the reins of its future.*

It is so evident, so logical and at the same time so *impossible* isn't it? Utopia, fantasyland and wishful thinking it is. Why would everything be possible in the world of technology which strives in constant innovation and everything would be so impossible in the world of politics? Some dreamed of a global social network and they made *Facebook* a reality in just a few years.

We need a new political dimension. While the global plane continues to zigzag, we must accept that an unstable and uncontrolled world is heading for a potential crash, which will ultimately destroy most individual national goals and benefits, instead of protecting the selfish interests of each country. The US cannot win alone. China cannot replace the US and take over world leadership. Russia cannot win with 140 million aging people and an economy built on oil and gas. Europe can do much better united and fill some of the vacuum, but it misses the alignment of visionary national leaders to become one.

It is time to change gear. The anarchic sum of our good old local recipes nurtures our global instability. New powers emerge and the West has lost its grip. Nationalism is up for a revenge. Free-trade has reinforced totalitarianism. A virus cannot be fought by a single country. Our resources become scarce and our climate warms up. The relative global Peace that we have seen since 1945 – first owing to the Cold War and then to the leadership of the US – may be coming to an end. This is all piling up at the horizon. Contrarily to what we have seen over the last seventy years, Peace is not a natural state in a world solely governed by the disorder of independent countries competing in an increasingly challenging environment.

We are reaching a turning point. The evidence of our collective blindness is imminent. When we will cross the chasm of the old world to the new world and realize the need for a big transition, we will complete our great metamorphosis. We are mutants, coming from the gregarious identitarian Homo sapiens Sapiens who has been unable to deal with the saturation of Earth – to the *Homo sapiens Universalis.*

We are preparing to adapt ourselves to the new constrainsts of a post-industrial society shelled into a finite ecosystem. We are starting to learn that building sustainable Peace with Earth is the missing key to our promising long-term future.

One country, one home, one team – all of us. It is time for the Great Transition.

Earth our country.

Chapter Four:

The Great Waste

The free-trade consumerist model of these last decades has un-intentionally created its own limitation with waste and pollution. How many more individuals can own and use multiple cars, several air-conditioned houses, commute by plane on a weekly basis and eat so much meat and sugar that obesity has become our most widespread disease?

Our Western lifestyle generates in average twenty tons of carbon dioxide per head per year – almost 2,000 tons in the lifetime of a single human being. An average American consumer rejects 20,000 times his weight in CO2 in the atmosphere…

Our fast climate warming indicates that since at least the industrial revolution, we have begun to unknowingly derail our ecosystem. Moving forward, there are different scenarios of risk levels ahead of us.

i. The "conservative" scenario:

At the very minimum we already are on tracks for of a global warming of a *minimum of 2 degrees Celsius* above pre-industrial levels within the next thirty years, given the inertia of the gas already accumulated in the atmosphere. We just exceeded one degree already. Two is the official goal of the *UN*. It is very conservative, because most indicators show that we are going to exceed it by at least one degree and rather trend toward three degrees.

Sticking to two degrees assumes that we stabilize our annual emissions at their current level globally. It is very optimistic and politically sensitive, considering the double-digit growth of emerging countries. It can only be achieved if developed countries reduce their footprint significantly while the emerging ones increase theirs only slightly.

To get to the magic goal of two degrees, the CO2 concentration in the atmosphere would have to be restricted to 450 ppm at the maximum in the future. We have passed 400 already – 411 in 2019 - from 300 in the 1950s. It will be tough to freeze the trend and stay below 450, unless some pivotal sustainable changes finally materialize.

Of course, these numbers are completely meaningless to most of us. To put them in perspective, the last time there were such high CO2 emission values on Earth 4 million years ago during the Pliocene era, jungles were covering northern Canada (source: *The Economist*, May 11, 2013).

Estimates keep changing. Predicting the future remains a difficult and somewhat uncertain exercise. But the trend is indisputable – just look at Bangkok growingly underwater, the North Pole freeing up, the glaciers disappearing or the increased intensity and frequency of hurricanes.

The *UN* climate chief Christiana Figueres warned us ten years ago already: "With 400 ppm of CO2 in the atmosphere, we have passed an historic ceiling and have entered into a new zone of danger. The world must wake up and acknowledge what it means for the security of mankind, their well-being and economic development. There is still a chance to escape the worse effects of climate change, provided a political response genuinely addresses the challenge."

ii. The "realistic" scenario:

Unfortunately, a more logical scenario is that our global rate of development and pollution continues at its current path. This "realistic" assumption simply projects constant historic growth of resources and emissions. It is "business as usual" - just more of the same.

In this scenario, experts count on a mid-century warming of *around three degrees* against pre-industrial levels. This is the situation on which most scientists put their bets. Some see that if the trend persists and nothing massive is done to react globally, we might reach a few decades later – by the end of the century – an increase of four degrees or even up to five degrees on the higher end. No one can really predict how the ecosystem would react if this was to happen. It would drive a chain reaction of extreme climatic events of unpredictable consequences, which evidently no man before us has ever experienced and could ever measure.

iii. The "extreme" scenario:

We just considered two basic assumptions: i. freeze everything to current levels (conservative) or ii. keep going with the current growth path (realistic). These are the mainstream scenarios around which politicians are currently basing their *UN*-led negotiations.

With a more paranoid perspective though, more complexities should be inserted.

- First, demographic growth only comes from developing and emerging countries. Their population is anticipated to grow by another 50 percent between now and the middle of the century – in particular Africa, where half of our total population growth will come from. It represents a specific challenge: "newcomers" will originate from areas where local ecosystems are already the most fragile, such as subtropical zones. People will try to migrate in larger numbers than today, facing a growing resistance at destination.

- Second, emerging countries will continue to develop economically. With a higher GDP per capita copying the model of growth pioneered by their Western predecessors, they will increase their impact on the global ecosystem. This factor is pivotal. Today poor people from Africa or developing Asia emit only 100 kilos of CO2 per year. That is 200 times less than their distant American neighbors who, together with Australians, occupy the other extreme of the spectrum. If by the end of the century the material progress of all men levels out to today's Americans, global CO2 discharges will be over ten times higher than today.

This nightmarish scenario would warm us by *4 degrees in 2050* and five by 2100. We cannot let this happen by any stretch of the imagination. It implies a short-term catastrophe for mankind.

Our national political leaders should be less concerned about faking their belief in the realism of the conservative scenario which is already game over. Instead, they should fight to fence us to the realistic one and make it the red line, since 3 degrees are already in motion. The "extreme scenario" would be a cataclysm in a matter of decades. 4 degrees should be the nightmare of our leaders, because there is a serious probability attached to it given our current pace. We are not saying that it *will* happen. It *likely will if we keep going with our current trajectory* for natality and economic growth, while maintaining fossil energy and our current consumption model.

Obviously, there is hope that we land in-between the first two scenarios. I can even hear more than one of you thinking: "the nightmare of the extreme scenario cannot occur because in the meantime cars will be electric, heating will be solar-powered and people will learn to be much more energy efficient."

My response is: "Great! Perhaps this virtuous trend is at the horizon and we can see some timid signs already. But – what if not?" Let's be fair to ourselves: we are not reinventing our society at the appropriate pace and depth. What happens if no magic wand comes into play and everyone keeps fighting for what appears to be best for his or her own country and the "realistic" or even "extreme" scenarios continue to develop?

While these hypothesis can be discounted as a simplification of the genuine complex challenge ahead of us, they enable us to at least calibrate the size of the risk that we are facing and to appreciate the urgency of the preventive reaction needed.

We need a radical concerted political anticipation and an engagement of all countries together to quickly and drastically reduce their emissions. Without this, the future scenario will be "extreme". The impact can be a military conflict or a protectionist economic blockade between the rich, the new rich and the future rich, or a mix of all of them.

- Third, environmental "hot spots" are worse precisely where populations and economies grow the fastest. The zones between 30° and –30° of latitude are the most vulnerable. It is unfortunately there that the risks associated with climate warming will be the greatest, creating shortages of drinking water, famines and an acceleration of migratory flows – peaceful or not.

On the positive side, growth in human fertility rates will possibly decline following a peak in 2050. After that, population could stabilize or even reduce, with birth rates already falling in some developing countries like Brazil, Indonesia and certain parts of India.

A 2:1 fertility rate represents the equilibrium of replacement between the old and the new. Already half of Humanity has dropped below this line. If the trend continues, the species could stabilize in 2050. At that point, we will become an aging population with fewer children. It has happened in the more developed societies already. While appealing, this thesis is challenged by the *UN*, which currently predicts that we might reach 11 billion people by the end of the century – still a slower growth than what was experienced over the last fifty years.

If we anticipate a reduced demographic pressure, *the essential problem to be attacked and resolved becomes the reduction of individual consumption and pollution per capita*. We must solve for the upcoming waste-to-consumption of resources per capita of emerging and developing countries, rather than for their birth-rate. This is the factor of further destabilization ahead of us.

As we saw earlier, this means attacking the foundation of our civilization, which is growth-centric since the beginning of History. While numbers speak for themselves, they are apparently not sufficient to create the needed "fear factor". Can we see what the shock of a pandemic can do? Suddenly billions of people stay at home – they obey.

The risk of dying tomorrow – of Coronavirus – even at a 2% probability - is much more convincing than a 100% chance of destroying our immediate environment, even if 100% of our children will suffer from it, with their own children even bearing the risk of disappearing.

We have seen these scary numbers for quite a while already. I had related an extensive summary in the first version of this book ten years ago. Global surveys from the *World Meteorological Organization (WMO)* for the decade 2001-2010 came out by mid-2013, showing that "94% of reporting countries had their warmest decade in 2001-2010. No country reported a nationwide average decadal temperature cooler than the long-term average." Secretary-General Michel Jarraud of *WMO* had declared: "*On a long-term basis, the underlying trend is clearly in an upward direction, more so in recent times (...) The observations highlight yet again how heat-trapping gases from human activities have upset the natural balance of our atmosphere and are a major contribution to climate change. The laws of physics and chemistry are not negotiable."*

Professor Piers Forster from the *University of Leeds* went further: "For the past decade or so, the oceans have been sucking up this extra heat, meaning that surface temperatures have only increased slowly. Don't expect this state of affairs to continue though, the extra heat will eventually come out and bite us, so expect strong warming over the coming decades."

The ultimate official authority for climate issues is Costa Rica born Christiana Figueres. When she was Executive Secretary of the *United Nations Framework Convention on Climate Change (UNFCCC)*, she broke down in tears speaking with the *BBC* in London in October 2013 about the impact of global warming on coming generations: "I'm committed to climate change because of future generations, it is not about us, right? We're out of here. I just feel that *it is so completely unfair and immoral what we are doing to future generations, we are condemning them before they are ever born*. We have a choice about it, that's the point, we have a choice. If it were inevitable then so be it, but *we have a choice to change the future we are going to give our children*".

There isn't much hesitation any longer from climate specialists about where the Great Waste is ultimately taking us. It is now broadly accepted that we are the influencers of the change. For the future, we work on predictions based on scientific models, accumulating a ton of evidences (ice, hurricanes, sea level, temperatures...). Unquestionably, all trends are converging. It's getting harder for anyone, including the Trump administration, to continue to argue that there is nothing to worry about and to further delay the urgency of massive action. Any non-partisan pragmatic observer can measure the evident effects of our industrial civilization.

Melting of glaciers is our easiest indicator. It is simple, visible, precise and irrefutable. Liquid state or solid state - water or ice - is binary and a direct function of temperature, within a degree.

Here is a short extract of an analysis put out already in 2009 on the impact of warming in the Arctic (*The Intelligent Life*, December 2009): "Since 1979 – in thirty years' time – almost 40 percent of the summer ice of the Arctic has melted into the oceans and the rate is accelerating. One day – some scientists predict in 2015, others in 2030 and a small minority hope for 2070 – there will no longer be anything in the summer except for an expanse of silent water at the summit of the world. The North Pole will be a point in the open ocean, accessible by boat. The Arctic, as it has existed for all of human History, will be no more."

Same could be said of the subsequent rise of sea level. *The Intergovernmental Panel on Climate Change (IPCC)* estimates that sea levels could rise by 23 inches (60 centimeters) by 2100. A different source, a panel of EU-funded experts named "Ice2sea", sees a mid-range global warming scenario of 3.5-degree Celsius by the end of the century, with sea level up to 15 inches (40 centimeters) and a one in twenty chance that it would go above 33 inches (85 centimeters).

Now comes the most important factor, because it is the root cause of most others. Carbon-dioxide concentration is the key source of global warming. On May 4, 2013, the barrier of 400 parts per million was passed (*US National Oceanic and Atmospheric Administration*, Mauna Loa Observatory, Hawaii). The first CO2 number measured was 315 ppm in 1958. It went up by a quarter in only fifty years, with a rate of increase of 2.1 ppm per year – 0.5 percent. At current rates, CO2 concentration will exceed 450 by 2037 and is clearly taking us above the conservative warming scenario of 2 degrees Celsius.

There is a huge amount of scientific materials available, of which 99.99 percent are headed to the same direction. Frankly, even without scientific simulations, the destruction of the natural state of our ecosystem and resources is clear enough to the naked eye. We can see by ourselves the increase in temperatures, massive melting of glaciers, rise in sea levels, increased frequency and strength of storms including never-seen before typhoons, deforestation, decreased air quality, permanent smog over metropolitan areas, deteriorating water quality in rivers and oceans, atrophy of the diversity of animal species and of bio-diversity, increasing scarcity of fish, expansion of cities and of human infrastructure and consequent shrinking of natural space, proliferation of cars and of their emissions, increase in non-biodegradable waste, rise in pollution related to food production, littering of old or unusable objects (from plastic bags to metal carcasses) - just to name a few. There is an endless list of man-made devastation of which we are the first ones to unmistakenly see the first wave of full-scale effects on Nature.

What else do we need? *We miss the evidence of an immediate life-threatening global cataclysm* – such as the panic shock of Coronavirus. We miss a general wake-up call. 99% evidence is not enough just yet as long as it doesn't hurt us in the face… Until the irremediable effects impact us in a massive way, we seem to be collectively blind, ignoring the obvious root cause despite its evident daily testimony.

There is another reason, beyond the lack of panic, that makes us so impermeable to the loud and clear message of our ecosystem. We have become accustomed to the constant degradation of our surroundings. We co-habit with almost no natural landmark in the urban areas where most of us live. We have immersed ourselves in a state of collective anesthesia, in which the abnormal artificiality of our constructions has become our normal parallel to Nature. If a caveman man from 12,000 years ago was transported for a day in our new world – New York City or Shanghai – he would feel like landing on another planet, a totally alien setting. In a matter of hours he would collect enough viruses to die within a week, but might collapse even earlier not even able to inhale normally without suffocating.

Our man-made environment looks normal to us, because we are used to it. It's our second Nature as we forgot the primeval setting of our ancestors. We can only calibrate our normality with what we see during our own lifetime. Since we were all born only a few decades ago, we don't know any better. Our eyes and smell cannot compare our setting with what it was a couple of centuries ago before industrialization, not to say 12,000 years ago before deforestation.

To be fair, we are not the first humans to make an impact on Nature. While animals kept playing their immemorial role in the ecosystem, humans have been deviating from theirs since the beginning of their epic tale. Starting at minuscule scale, they have invented and applied innovations to their surroundings. They have cut down forests to construct their dwellings and to make fire. They have over-hunted other species until they disappeared. They have polluted rivers with their tanneries and other pre-industrial activities. They have mined ore and coal. They have carried plants, animals and even microbs on their ships to new destination. Pre-industrial endeavors were not so benign. They could even cause self-destruction when scaled down to the size of a small setting like Easter Island. But the volume was innocuous at the planetary level, relatively to the small number of humans limited to the bare force of their own muscles. Our effect was linear, parallel to the expansion of our agricultural civilization.

We then exponentially catapulted our ecologic footprint with the industrial and agricultural revolutions and kept endlessly accelerating since then. The invention of machines activated by fossil fuel was the defining moment, it gave us the capability to dramatically impact our legacy environment, with unlimited scale. Burning fossil fuels replaced arms, horses and wood – indirectly, involuntarily and unpredictably impacting our finite ecosystem's equilibrium. Man's energy consumption took a quantum leap. Human population grew, benefiting from technological and scientific progress. Life expectancy got longer through reduced infant mortality, allowed by medical breakthroughs such as vaccinations and better nutrition. Material comfort became a new finality in life.

The ease of extraction and utilization of fossil fuel energy has unleashed the economic explosion of the last two centuries. Fossil energy is cheaper than any other one discovered to date. Its transport and storage are equally simple. All it takes is a tank or a pipe to replace a multitude of horses or donkeys. One day, "industrial revolution" will be replaced by "fossil revolution."

In 200 years, we have constructed the entire structure of our industrial society on the plentiful availability of fossil fuels. Coal, fuel and gas took millions of years to biologically develop since the emergence of life on our planet. They are the buried remains of the living organisms

precedeeding us. Still, they could be extracted and burned at massive scale in a few decades, funneling smoke and pollutants into our fragile atmosphere and challenging its fragile equilibrium.

The fossil revolution has engendered trains, cars, planes, plastics, electricity, heating, air-conditioning, steel and metal production. It has reinvented the human society as the foundation of the modern civilization that we know today. It has recomposed our "natural" horizon. Cars, roads, bathtubs and lights are as natural for us as trees and rivers for our ancestors. We take comfort with our man-made world…

Nothing is more efficient than burning fuel, including our clean energies as they stand today. Oil and gas have become the engine of Humanity. Alternative cleaner energies have to face the unequal strength of this established colossus. Green energies are still struggling to win a solid footing. They remain more expensive or less practical - intermittent - with the exception of nuclear energy, which generates fear. Consequently, the rule of free-market still favors fossil energy. It keeps enough attributes to remain the economic winner for a while.

Unfortunately, combustion of fossil fuel pollutes. It generates gas into the atmosphere – primarily carbon dioxide. We discharged CO2 into the atmosphere by the billions of tons since we started burning oil. In 2019, we generated 36 billion of tons of CO2. This amount alone represented 150% of the total pre-industrial concentration altogether.

Once emitted, CO2 stays in the atmosphere for around 100 years, while we keep emitting more. Even if we could stop our emissions today, the effect of the past would continue to haunt us for a century. We aren't dealing with a one-off situation that we can eradicate at any time. We have ignited a process with profound long-lasting consequences, a time bomb for future generations. We see only the tip of a melting iceberg. Independently of what we do now, the harm to our atmosphere will generate a chain of effects for the centuries to come and is already irreversible.

CO2 is the first pollutant gas and represents half of all gases responsible for the greenhouse effect. The other half comes from a variety of sources. Methane comes second, with around 600 million tons generated per year, through the raising of livestock and intensive agriculture. Levels of methane reached record highs in November 2018 with 1,900 parts per billion. Third is black carbon, which comes from poorly combusted fossil fuels or bio-fuels. Finally, nitrogen and ozone make for most of the rest. *Science* classifies the greatest causes of global warming in the following order. The top two are road transportation (CO2) and livestock production (methane). They are followed by gas production, rice agriculture, coal production, domestic/commercial fossil fuel use and polluted water runoff.

These are the first symptoms of what is coming soon to further disturb our ecosystem:

- **Climate warming**.

  Global mean warming just exceeded one-degree Celcius above the pre-industrial level. Our climate has been the warmest in more than 11,000 years. February 2020 hit 1.17 degrees above the 20th. century average. Only February 2016 was warmer (source *NOAA-NCEI*).

The *GIEC* assesses with 95 percent certainty that this rise is purely man-made, due to emitted gasses that have created a thin layer in the atmosphere and hold in the heat created by the rays of the sun, resulting in an effect similar to the one of a green-house.

Lately, rises in temperature have accelerated with 0.2 to 0.3 degree per decade, the average of the most current estimate is 3 degrees by 2050 – almost two degrees above current levels – according to the International Energy Agency (IEA), with a greater than 50 percent likelihood that this number gets higher and closer to 5 degrees by the end of the century.

To put these numbers into perspective: *the current global temperature is only 5 degrees greater than during the last ice age.* What we are talking about is almost the difference between the ice age and now!

Furthermore, average global temperature increases are not spread evenly around the globe. Changes are higher on the poles and in the middle of the globe. Climate change also reinforces storms, hurricanes and typhoons and modify the pattern and amplitude of sea currents. Weather-led cataclysms of an unknown amplitude (floods, typhoons, droughts) have already started.

Finally, we are only looking at the century ahead of us. It is nothing at the scale of our species and even less for the chain of life – just an instant. More than a 5 degree difference is now very likely for the 22nd. century. It will have effects that are yet impossible to anticipate. Never during the previous millions of years and for sure since the existence of man and of its close humanoid predecessors has Earth been as warm as it very soon will be. No one can really predict the effects of such a flash warming. Many experts think that the climate has already entered an irreversible cycle that will take us to an irremediable and dangerous level. There can be unforseseen scenarios as well. For example, the enormous quantities of methane that are enclosed in ice and the polar permafrost can free up. They can cause a brutal and even greater warming. In other words, it can even get worse, but there is probably no way back.

- **Rise in sea level**.

Oceans represent two thirds of Earth's surface. They are very complex to understand and to model. We are learning the effects of the overall warming on them, there will be discoveries ahead.

Polar ice caps and ice floats are melting from above the sea level, due to the effect of the greenhouse heat trap. Below the surface of the oceans, the water temperature is increasing as well. When warming up, water expands its volume - think about mercury in a thermometer. Due to both factors – ice melting into water in the oceans and the seas getting warmer – sea level is rising fast.

Good news in the short-term is that seas act as a magnet for the CO2 in the atmosphere. They delay the atmospheric warming effect and act as a time buffer to climate change. With their huge deep cold masses, they have a slower internal heat diffusion than the atmosphere and they absorb CO2. As CO2 is captured in the water, seas warm up slowly, getting ready to ultimately redistribute the temperature differential at their surface later on. Seas are temporarily hiding the full extent of the overall warming, they act as a buffer. This cycle ultimately affects sea currents, sea volume

and the melting of ices. Additionally, as oceans absorb more CO2, they become increasingly acidic. More acidity harms the chain of marine life.

For at least the last 2,000 years, sea levels have been quasi-static. Since the end of the nineteenth century, they started to rise by 0.07 inches a year (2 millimeters) and for the last thirty years by around 0.12 inches a year (3 millimeters). What was a 12 inches rise last century (30 centimeters) is looking more like 23 inches for the 21st. century (60 centimeters). The water level curve parallels atmospheric warming, with the delay of waters' heat retention.

A rise in sea level of 40 inches - one meter - is currently the higher end of predictions for the end of the century. It will displace in theory approximately 1 billion people and will force the disappearance of entire states, countries or sub-regions like Florida or Bangladesh. Metropolitan areas located near the water will be primarily impacted.

The *UN* estimates that climate change could create 200 million refugees by 2050, more than the total number of worldwide migrants today. Recent floods in Bangkok and the shrinkage of many island-states already demonstrate the imminent effects of rising water level.

- **Deforestation.**

We started to clear up forests thousands of years ago with our first agricultural settlements. We continue today, as cultures, cities, highways and golf courses nibble away at territory and land. Forests still cover one-third of Earth's non-liquid surface, managing to absorb 12 percent of human carbon emissions. The massive deforestations in South-America and Africa – the two largest remaining natural sanctuaries – reduce further the effect of this indispensable lung. Tropical deforestation is responsible for 20 percent of the world's greenhouse gas emissions.

Between 2000 and 2013, the planet lost another 2.3 million square kilometers of forest, while it's grown 800,000 back, making for a deficit of 1.5 million square kilometers (580,000 square miles) - an area as big as Mongolia according to the University of Maryland. Brazil had shown the best improvement of any country during the period, but just reversed its trend since 2012 when its rate of deforestation increased again by 28 percent.

According to the magazine *Nature*, the footprint of cities has almost doubled between 1985 and 2015, their space has already grown by 10,000 square kilometers every year, occupying 650,000 square kilometres in 2015 vs. 360,000 thirty years earlier. Researchers from *University of Delaware* estimate that this trend will accelerate and the footprint of cities could be multiplied by six this century, hosting two-third of mankind. Cities could occupy 1.6 million square kilometers by 2100 (600,000 square miles), impacting agricultural land and forests with a cascading effect.

Submarine forests in the oceans are also essential to our ecosystem. They have already prevented a catastrophe through the CO2 absorption of aquatic plant life.

- **Mass extinction of living species and reduction of biodiversity.**

We have massively shrunk biodiversity and are continuing to drive mass extinction of species and life diversity. According to *National Geographic*: "it may be the fastest ever, with a rate of 1,000 to 10,000 times the baseline extinction rate of one to five species a year. Humans are largely responsible for the striking trend. Scientists believe that pollution, land clearing and overfishing might drive half of the planet's existing land and marine species to extinction by 2100".

It's a genocide of massive scale. The last time such a crisis occured at a similar pace was during the extinction of dinosaurs, which was due to an extra-terrestial cause. We are reaching a similar effect to the planet, this time with an intra-terrestrial cause.

The number of animals living in the wild continues to shrink, both on land and in the seas. There are not many non-domesticated animals species left on land. Industrial fishing – the marine form of massive hunting – is also emptying out the oceans, already stressed out by their higher acidity levels.

- **Generic pollution.**

Pollution, both visible and invisible, is affecting us every day. For centuries we have dumped ever increasing quantities of pollutants and waste into the ground, the oceans and the atmosphere. The results are now even visible in the atmosphere in the form of fine particles that make up clouds of brown dust, covering towns and sometimes entire countries. The volume of pollution is so vast that it filters the light below the gas greenhouse layer, so that the quantity of sunlight reaching Earth is now 10 percent less in some areas. In some megalopolises, the effect is already quite stunning. The degree of people's passive tolerance in Beijing for instance is amazing. Some days in this city in which lung cancers have already increased by 50 percent, it is hard not to cough when walking in the streets.

Putting all these symptoms together is what we call the "Great Waste". It's the toll of industrial mankind on Earth. As dark as the present may be, the picture becomes more worrisome when we project ourselves thirty years into the future. It is worse a century from now when our "tripple whammy" expands its effects: (i.) a larger human population, with (ii.) a multiplied individual consumption per inhabitant and (iii.) a 100 years gas retention in the atmosphere.

- First, as we saw earlier the world population by 2050 will be higher by a third than today and three times more than in 1950. More people will have to be fed and will mostly come from geographic areas that are the most at risk to climate change – where agriculture will struggle even more. This will result in massive relocations, with the potential of creating a chain reaction of conflicts over livable space and resources – in particular water.

- Second, the continued economic emergence of developing nations, coming from far below the standard of living of the rich, will rise their level of carbon footprint near the one of the US today. This factor alone risks to duplicate the carbon footprint of our species. One way or another, overcoming this material wealth difference among regions can generate a major conflict for the appropriation of resources and cause a climatic cataclysm as well. Polluting cannot just be the "privilege" of the rich, now including China which has accepted to become the factory of the West

and therefore a unique magnet for pollution. Everyone wants a better quality of life and material progress, establishing a puzzling ecologic equation.

How do we achieve the objective of a relative equal standard of living across all growing populations of the planet, in a way that is sustainable for our environment? Can we reinvent our world economic order accordingly, despite each country wanting to position itself to compete for maximal production and consumption? Can we find alternative measurements of individual economic success and satisfaction – beyond owning and consuming more demanding fabrications?

Usually, when people agree on a problem definition, the solution is not far. Here, the hope comes from a broader recognition of the Great Waste, more today than one or two decades ago. The coin has turned, deniers are starting to play defense. The argument between those who finally recognize what is happening to the environment and the ones who deny it will soon be defunct.

But there is no concensus yet. This delay between generic evidence and public opinion is bizarre. It is reminiscent of the religious debate that continues to question the Darwinian evolution. Post mortem in the future, worsening facts and measurable numbers will irrefutably prove the issue and then everyone will agree. It might be too late. Let's analyse how such a chasm can possibly happen.

Anyone looking at climate change has the choice between three interpretations:

- The first interpretation is ours – *strategic and assertive*. What is coming is going to have major consequences on the fragile conditions needed by our chain of life if we do not make an about-face quickly. It implies that we must act fast, in proportion with the risk at stake and steer Humanity toward a route of sustainable development. The critical path is to resolve the problem of our political fragmentation and to reach the full globalization of our capabilities to implement a holistic solution. Global governance is absolutely necessary to breed a cohesive economic, industrial and consumerist model toward a zero-carbon society.

- The second interpretation is to wait until we are "sure" that we completely understand what is coming at us – *sceptic and opportunistic*. "Maybe it is not so terrible. Experts are still bickering over their predictions. We observe symptoms but do not understand the precise causes." We can hear: "this winter there was a lot of snow, so how can we be sure that climate is getting warmer?" The implied path of this approach is to take more time to better understand and then act if and when the "necessary day" comes. This is going to impact future generations more than ours, so why to take the pain of resolving it now? Meanwhile, we should stay alert, look for new ways to make this a better place as long as we do not disrupt our current economic and political castle of cards. Eventually, let's get ready for action when evidence solidifies and gives us no choice.

- The third interpretation is now only supported by a minority – *negationist and egoistical*. It is one of denial. Deniers of man-made climate change refuse to observe the facts and to consider the associated risks, pragmatically and logically, with an open-mind. At worse, this can be called revisionism of what even the bare eye can see. "I don't believe it; therefore, it is not true. And there is no proof that it comes from us anyway, so why should we change what has no link with the

potential problem?" One can relate to people being in the oil business trying to delay the inevitable and selfishly defending their own wallet. But the others – are they just fools?

With the level of evidence that we already have in front of us, it is impossible to accept the deniers point of view. It rejects factual realities that any bare eye can now see. It comes with a dimension of "belief," ignorant or by design, that climate change is not real. "Melting of glaciers has come and gone throughout History and has not been proven to be the result of man-made pollution. Climate has been changing since the eve of times with causes we don't understand. This may be another climatic cycle as we've had before. In any case, we are not even sure that climate is changing. A warm year comes after a cold one, who knows?" For this third group, the response is no action and continue to charge ahead with consumerist growth. All is good, business as usual, more of the same. Climate activits are leftists making noise with "fake news" - a political nuisance. One wonders what would need to happen to change their minds, if not a catastrophe at their own front door.

For people sharing one of the first two interpretations – proactive or doubtful - there can be only one responsible reaction and strategy: we must deal with a major risk. To be safe, given the risk, we should take actions. We must mitigate the *greatest risk that has ever threatened us*. *Our responsibility is to focus on reducing the risk, even if we don't have complete evidence*.

For any responsible person in 2020, the risk has become absolutely irrefutable and for most of us, the evidence as well. These two positions do not coincide in their degree of conviction, but they do at least agree on the elevated probability of a risk that highly threatens Humanity in the very near future. Even the most skeptical people can recognize with simple common sense, that the pollution of our over-consuming civilization is incomparably greater than before and that the ecologic impact will be immensely larger moving forward.

Consequently, a majority basically shares a compatible understanding on the situation at hand. Activists and skeptics both support the logics of extreme contingency planning. It's like saving for retirement, health insurance or building a trust for a difficult child. Both camps are prepared to invest in risk management. In such a situation of major future risk, a responsible person will act decisively, as early as possible, to keep it from ever happening. In economic terms and at a world scale, it means that we want to allocate a percentage of our GDP to deal with the risk. Have we done that? No, we have not invested anything yet in our risk coverage against the Great Waste. We lack the combativity to challenge the deniers who have managed to let us go unprotected.

Deniers are still powerful enough, they muddy the waters of change. Incidentally, they run the White House. Even when most of us agree with the problem definition, a minority of deniers is sufficient to delay the inevitable. We know why this is the case: the solution is expensive and will change our habits. And truthfully, many believe - right or wrong - that the solution will be a little painful. So, we don't fight back as hard as we could.

Al Gore called this situation "*an inconvenient truth*": inconvenient because so annoying. We have to spend money for no immediate reward and we are not totally sure about the future impact. It is not a positive event to deal with. Instead, it is a risk – negative by essence - that we have to mitigate in advance. It takes policies that would potentially challenge more positive short-term

economic gains. It's hard to win a popular contest, crusading for such a responsible plan. It becomes an "unpleasant" undertaking for any politician: allocating funds, building new regulations and fighting against powerful established lobbies. In democracies, it forces elected politicians to make voters unhappy in the short-term. In totalitarian states, it hurts the economy of regimes relying on economic growth and makes popular tolerance more delicate.

This is an issue of popular opinion before anything else. Popular recognition of the problem and the general support of the risk-management policy is essential. It is up to us. Our popular voice can empower elected officials to finally dare to do what it takes to mitigate the risk. To support such a bold and decisive investment is an act of responsibility for every citizen, anywhere, now and in the future. We must raise an active *Vox Populi* that stimulates our politicians to come with answers - as *"inconvenient"* as they can be.

Remaining passive or deciding to do nothing is a dangerous stance when such a risk is so evidently pivotal for our civilization in its entirety. We must fight. Even if there was a very slim statistical chance that global warming would suddenly stop or that the cause of climate change would be independent of human's activity – less than 5 percent probability according to the last *UN* report. Why should we take the foolish risk of betting Humanity's future for generations to come, against a 5% chance of being right and 95% of being wrong?

The time has come for such "*negationist*" interpretations to become totally obsolete. We cannot let what is now turning into a minority endanger the safety and the future of everyone else.

There is hope. The debate's sclerosis is starting to shift on a more active ground internationally. From generic denial outside the EU a couple of decades ago, a somewhat unanimous consensus has formed among progressive and responsible leaders of the world. China has moved a long way. President Trump and President Putin remain the most notable exceptions. At least one of the two goes through an electoral referendum soon…

Assuming that we have political recognition at sight, the discussion shifts to economic grounds. How seriously do we want to invest into a remedy? How big is the needed budget? What are the actions to prioritize? Who will pay? How to coordinate a genuine global effort?

Financing the reinvention of our societies against waste and climate change unfortunately remains a distant second in our national priority lists - at best. Economic growth always comes first. If there is a relative progress, it is frustratingly slow - a David-against-Goliath competition. Growth is the first national priority. Funding ways to escape a recession requires the use of the very public funds that are lacking for the environmental struggle - everywhere.

Coronavirus is raising trillions of dollars of public money in an instant, while our ecologic survival moves from conference to conference, awaiting a decisive punchline. It's kind of mindblowing: Coronavirus has led governments to accept the largest-ever impact on their economies through mass-confinement (immediate threat), while no sacrifice has ever been tolerated for climate change (longer-term threat).

The good news is that reality of global warming is truly taking hold in our collective consciousness and is starting to get the attention that it should. Thanks to the integrity and credibility of the *United Nations* which is assembling everyone together every year, we are moving the needle in the right direction. Annual *UN Climate Change Conferences* inject the issue on the international agenda constantly and force permanent negotiations among countries. The Kyoto agreement was the first official signal of climate change recognition, hammered by Europe. It already called for a 5.2 percent reduction of greenhouse gases by 2012. Of course, the countries did not execute.

The agreement of the Paris conference in 2015 was probably the most decisive move, signed by 174 countries. The expected wishful result was to limit global warming to two degrees Celsius, with a zero net anthropogenic gas emissions level to be reached in the second half of the 21st. century. The plan assumed that all *UN* member states – in particular the biggest polluters - would reduce voluntarily their carbon footprint. There was momentum after the Paris agreement, broken by the U-turn of the US administration. Out of the seven countries which generate more than half of the world's greenhouse gases (China, US, India, Canada, Russia, Indonesia and Australia), only the US under President Trump pulled out, despite the initial ratification of President Obama. This was an unthinkable hit to the US global credibility.

Still – with or without Mr. Trump - we have reached an international concensus: greenhouse gases must be kept below 500 ppm of CO2. Fundamental international agreement on the necessity of placing the environment "near" the top of the world's political agenda has been reached, except for the US as of late and Russia among major powers, leaving the nations with the need to come up with a truly effective plan to finance it.

Experts judge that the level of the real investment required to stop and stabilize climate change to a sustainable 2-3 degrees Celsius line is in the order of *one trillion dollars* per year at a minimum, while the green transition is being executed. It represents about 1.2 percent of the world's GDP. This is ten times the amount envisioned at the Durban conference. However, it is only one third of the national stimulus just announced by the US for the Coronavirus – which proves that it can be decided under pressure... An investment of 1 percent is the lowest possible amount that could have a real effect, assuming a very efficient use of the money. To execute efficiently such a plan in a multi-national context without global governance may not be realistic - it truly represents the lowest possible limit.

An investment of 1.5 trillion dollars per year – almost *two percent of the world's GDP* (1.8%) - is a safer number to shoot for if we want to definitely succeed to contain a derailment of the climate.

Let's visualise what two percent of the world's GDP would represent in a practical way:

- Two percent of the WW GDP equals the world annual military expenditures. Cutting most of military budgets would pay for the "cost" of Humanity's sustainability.
- Two percent of the WW GDP is less than the cost of the 2009 banks bailout. But once again, the banks' meltdown was an immediate catastrophe, with chain bankruptcies, millions of jobs eliminated, countries at risk of defaulting. Climate change goes slowly in comparison.

- Two percent of the WW GDP is only a third of the global Coronavirus public response. We don't have a holistic number as I write these lines, but the US alone has announced 3 trillion, the EU 500 billion – the global ballpark will certainly be around 5 trillion.

A stabilized economic model – one *with no need for cyclical public rescue packages in economic down cycles – would more than pay for Humanity's sustainability as well. There would be no need for an emergency bailout every ten years in a stable global society.*

In summary, if there was such a thing as a genuine global political ambition, our ecologic sustainability could be financed in a heartbeat. Funding would already be sealed if we had a proper global governance. Our governments could allocate the money that cannot be found in the "long-term/slow-motion" mode that we are agonizing with. An immediate climate crisis providing a shock similar to Coronavirus - which will "only" kill a few hundred thousand souls – would be enough. An ecologic "September 2008" or "March 2020" would grant an immediate fix. If the state our planet was as alarming to our civilization as the economic warning given by *Lehman Brothers* to the financial markets or the risk of catching a nasty virus, we would be already on the other side of the Great Wall.

It is just that *popular and political momentums are still far from being strong enough. Global warming is still seen as a theory, an opinion, not a fire burning in the basement of our own house. Carpe Diem remains the modus operandi.*

How can we create such a sense of urgency in anticipation of a climatic catastrophe which will be much worse than 2008 and 2020 altogether? Is there a way to win the *Vox Populi* before we hit a tremendous climatic panic mode? Can we win recognition for a preemptive- emergency status?

A huge typhoon or a disruptively warm year would certainly "help" – although some people could still challenge its origin and diffuse the consequence of the message. With a big ecologic shock wave, would there be final victory and massive concerted global action? Maybe – although we would still need to agree on who pays for what, how to channel funds efficiently across borders, make sure that each individual country maximizes its own benefits... Our fragmentation would still take us back to the reality of our global dysfunctionality. The 2009 funds went from public national money to national banks and enterprises. The 2020 funds will be spent from public national money to national companies and unemployed citizens. A global climate warming fund should have a borderless allocation… It is more difficult.

Successfully establishing an agreement on such an investment is necessary, but let alone with a by-country governance, it would probably not be practically implemented, given the difficulty in obtaining funds and efficiently dispensing them through 200 nations that have different and competing agendas. The issue goes beyond reaching an official agreement and signing it – we already signed one in Paris…

We are, from this point forward, confronted with a structural problem of political dimension. The climate change policies that we need will conflict with our national political fragmentation. Without doubt, it is the most complex problem that politicians ever had to resolve. Hundreds of governments – one voice for each at the *UN* – share together a common situation of long-term

crisis management. Long-term means that they have the luxury to ignore it for now, while the longer they wait the hardest it will hit their successors. For anything meaningful to happen, they must agree on a common analysis and must find a financial and societal solution to resolve it. Then such a solution must be implemented everywhere, so that all countries can trend toward zero-carbon emission – nationally and universally – before the risk of the catastrophe that would impact everyone materializes and can be avoided or minimized.

It is hard to see how so many stars can align at once without a profound emergency call… Getting there with our current global governance system is beyond stenuous. In the meantime, the ecologic mouse-trap continues to close on our irresponsible Humanity.

Here is the response of President Giscard d'Estaing of France after he received the first manuscript of "Earth our Country" in 2010: *"I share your analysis, but I am afraid that mankind lacks the wisdom to save itself."* We can take this prophecy as a stimulating challenge, coming from a visionary founder of Europe, whom I respect as the wisest European politician alive.

To save ourselves, we must address the root cause of our challenge, not only its effects. We have tried to address the effects of climate change since Kyoto, with no tangible results. The root cause is the competitive nature of the nations, a system built by the sedentary-Neolithic Homo sapiens Sapiens. The anarchy of the nations competing through a rein-free economy has led us to our current sustainability impasse. The effect – twelve thousand years after the inception of countries - is the extraordinary ecologic crisis in the making.

I do not see how we can resolve climate change – the effect – without repairing the fragmentation of our political system – the root cause. Our equation only resolves if we turn the page toward the Homo sapiens Universalis and his peaceful and sustainable society. It is hard to see how, after already so many symbolic trials, we can even continue to believe that nations will ever be able to respond to the problem of the Great ecologic Wall.

In order to succeed, there are four main challenges that we need to address:

- **Reach a global agreement to finance mass-replacement of fossil fuels**.

Oil and its derivatives will remain the most efficient and economical energy source for a few more decades, until its scarcity makes it uncompetitive. We cannot wait that long. Free-market timing could take as long as a century given the latest discoveries of shale gas reserves and soon Alaska and Antartica. The switch has to be accelerated through political stimulation, limiting supply and demand of fossil energy.

Limiting oil supply means implementing quotas or taxes. Quotas would basically regulate the volumes of fossil fuels extracted. Since entire nations rely on oil, this approach is impossible with our fragmented political system. We need to find a model in which the rich countries which are the largest oil consumers, compensate the oild producing countries for their transition to a clean economic model – in which oil will be only a fraction of their GDP. This can happen through redistribution of the "carbon tax" paid by the rich to oil producers and poor countries, during a period of transition. The "carbon tax" is based on the "full cost" to the society of the polluting

energy, not only the cost of its extraction and refinement, but an estimated cost of its polluting impact.

Either way, only a global public strategy can bring about this economic change. If only one country implements a green taxation, it makes it uncompetitive against the ones continuing with the short-term free-market appeal of oil. Global economic actors can still use cheap oil where they don't face this "nuisance". Oil producers continue to produce… If one country cuts its fossil production, the state runs out of business and cannot take care of its people. A cohesive program can only be implemented with at least the largest countries acting in unison and with solidarity.

If we are all serious about the challenge, each government should become both a taxer of pollution and a stimulator of massive investments in new energy sources. The goal is to create a long-term economic acceleration for new energies, attractive enough to investors to bring the private sector in – while helping oil producers and poor countries to transition. The action of governments should be clear and sustained in duration. Private investments can then rely on stable regulations to have time to make a profit, regardless of a long or difficult economic cycle.

The cycle of the energy sector is very intensive in capital from the very beginning. It takes investment in research and development, then in establishing an adequate industrial ecosystem (supply chain) and finally in marketing to new users. Only many years later comes the full return on the start-up investment. Such a cycle scares private investors away unless governments ignite and support this sort of change consistently. It is difficult for consumers alone, though informed, to willingly pay a higher premium for a greener product if given a choice – in particular during a recession. Investors also have short-term alternatives, while ecologic returns have a longer cycle.

Renewable resources have already made possible high-speed trains, electric or hybrid vehicles, self-sufficient "eco" houses, wind farms and solar power… The path for investment is clearly established and waits for a large stimulus that will change the reality of transportation and lifestyle. The public sector must take true leadership.

Our challenge creates its own opportunity: a new green sector will re-energize our whole economy. It is the clean energy growth story that every investor has been waiting for. If the public sector starts, the private sector will take over assuming regulations are clear and support a solid long-term model. There should be no political back-pedaling.

The virtuous cycle must start in the US and China. Together they represent 40 percent of total CO2 emissions. With the EU, they emit the majority with 55% of the WW total. *The EU is sold for a long time. The US-China political partnership on these topics is the go/no-go starting point that will unfold the castle of cards.* Already China is making progress with its hydroelectric power which increased by 23 percent since 2012. In the US, shale gas replaces coal in the generation of electricity and is now responsible for one third of gas production and for almost one fourth of the total oil production. The EU's economic stagnation helps to contain its CO2 emissions.

Still, despite the accumulation of these factors, global CO2 in the atmosphere continues to increase. At this point, the US holds the key. *Without the US leadership – or worse with an*

irresponsible US - it's hard for the rest of the world to make a virtuous but painful move. This should not be a partisan issue. It is about our civilization and shared future.

- **Feed a growing population together with an increased GDP per capita**.

Between today and 2050, developing nations will generate a *70 percent growth in demand for agricultural products*. They will increase their population by 30 percent together with an improvement in standard of living. The demand for meat alone will double, driven by poor countries. Individual demand for meat typically grows proportionally to GDP per capita.

These are good news for consumers of developing nations. They will be the beneficiaries of this accelerated consumption. Hunger and poverty will continue to shrink, with more people enjoying rich food, new cars, better homes and discovering international tourism.

We are taking for granted that the enormous growth in demand for food will be matched by the capacity of the agricultural industry – as it has been the case for the last 200 years in the West. Unfortunately, it is almost certain that farmers in developing countries won't be able to catch up. They would need to clear up much larger surfaces of land for cultivation and find more water for irrigation, while freeing land for the expansion of cities and adapting to changes in the climate that will affect their methods and products. Soils will react to new climatic constraints that are likely to be more harmful than good for agriculture – except in Siberia, Canada, Greeland and Antartica.

Scarcity of water and available arable land will turn into the true speed bump of global food production, as demand will not cease to grow. A *large increase in food prices* appears to be the first inevitable effect ahead of us. Governments should take the initiative in anticipation of a major food crisis. We must stimulate an ambitious agricultural policy that copes with more stringent boundaries of tolerance for environmental pollution. Short of such a strategy, farming and food supply will become a critical bottleneck for the most challenged geographies.

For the last decades, investment in agriculture has been dropping. Today it represents less than 5 percent of global public expenditures. Consequently, the efficiency of agricultural techniques has not progressed much since the major yield improvements that were achieved until the 1960's. Innovation faces a plateau. From a 3 to 4 percent increase in productivity per year during the mid-twentieth-century agricultural revolution, the rates have stabilized to 1 to 2 percent – basically yields are now flat. Yield improvements represent only half of what was possible when dynamic food-centric policies were at the top of mainstream political agendas.

Nonetheless, agriculture remains the number one activity for developing countries. Three quarters of the poorest people still live in rural areas, from where they don't have access to a central market. They cannot benefit from national or regional reach. In such places, investments should not only focus on production – agricultural techniques and irrigation infrastructures – but also on logistics of communication, transportation and distribution needed to quickly move fresh products to hubs of significant scale. The ability of Africa to rise above subsistence agriculture and to export crops would be increased tenfold if logistical and communication infrastructures were comparable to the rest of the world. This sort of investment has yet to be seen.

The key to the agricultural challenge will be to greatly boost the output without increasing the future use of water and land. The easiest solution is through efficient global redeployment, utilizing new lands in the upper North that are becoming arable, while soils will increasingly dry up and desertify around the tropics. We need a new agricultural revolution that spreads a wave of innovations that already exits - such as drip irrigation, better use of less aggressive fertilizers and widespread experimentation of seeds requiring less water. Overall, we must accelerate investments in techniques that re-accelerate production yields at a lower cost to the environment.

Such investments are not affordable by poor countries, while they are the ones that need them most. They cannot grow their food supply without having an even greater impact on their environment – like cutting more precious primeval forests. We should not force individual countries to cut trees, harass their poor soils and dry up their water resources to achieve agricultural self-sufficiency. No country is self-sufficient with anything any longer… Food is not different.

Soil quality, water and weather – as well as population density – are unevenly distributed by geography and climate. The problem cannot be resolved in autarky by a country under such a stress. This has to be addressed as a global problem, or the outcome will be even more painful.

The only way is to look at agriculture as a global business, in the perspective of global resource management, consumption and preservation. A new model implies a more holistic approach. Only appropriate anticipation and international capacity planning of future growth in global demand will make it possible to feed the greatest number of people with the lesser harm on the ecosystem. Strategic planning for food production is required in order to map the potential of soils and match them with optimal crops; to maximize outputs while containing the stress on the land and its ecosystem, such as available freshwater. All has to take place dynamically, while climate change redraws the map of available productive arable lands and productions that they can best supply, given the evolving natural constraints.

The true headache is that growth in demand will be the highest in places where local capability is fragile. Most developing countries are grouped between the two tropical lines and cannot reach self-sufficiency without an ecologic disaster such as massive deforestation. *Globalized agriculture is the only viable direction for the future.*

Agriculture will become again a strategic sector - green and efficient, strong and attractive to investments and to technologies. Smart nations are preparing plans for food security. Amitava Mukharjee reports in Food Security in Asia that China has acquired or leased 2 million hectares of land in the Philippines and Laos (planning for 2 million more in Mexico, Tanzania and Australia), the Emirates just bought 900,000 hectares in Pakistan (planning for 800,000 more), Saudi Arabia 1.6 million hectares in Indonesia, South-Korea 700,000 hectares in Sudan… and more to come.

Modernization of agricultural logistics and distribution should take an equal part in the food supply equation. Access to consumer markets and the quality of trade lack the efficiency required to transfer increasingly scarce and more expensive products to the greatest number of people in distant or remote locations. As food becomes more precious, the entire chain from producers to consumers must be optimized into one that is truly modern and efficient, to reduce endemic waste.

Food waste is a critical issue. The level of waste from production to final consumption – those left-overs that are useless and cannot be consumed because their consumption date has expired, they have been spoiled or have been damaged in their harvesting, transport or distribution – has become totally unacceptable. Over 1.3 billion tons of foods are spoiled every year, representing a global loss of 750 billion dollars, according to the *FAO (UN's Food and Agriculture Organization)*. FAO's president Jose Graziano da Silva declared: "Each year, the food produced and not consumed is equivalent to the volume of water of the Volga River and is responsible for the reject in the atmosphere of 3.3 giga-tons of gas with greenhouse effect." *This pure waste corresponds to an incredible 30 percent of the total cultivated land in the world!*

This is a huge problem today and an opportunity to be resolved. The number of well-fed people who can be tolerated on our planet can only be understood once the food chain is made as efficient as other strategic businesses. The potential for improvement is enormous. However the way to close the gap is still unclear, as this problem has captured little attention so far. It should now be in the top of the world's political minds as food scarcity becomes our biggest challenge.

- **Anticipate millions of refugees pushed by poverty and climate change**.

The pressure on international migrations is a challenge with many fascinating repercussions. As man-made climate warming continues, our landmass will be redrawn with a new sea level, new deserts and a shrinking temperate living zone.

Last time such a change impacted mankind was the end of the ice age. Given the borders that we have artificially created in the meantime and the mass of our siblings, the warming of the planet that we are currently experiencing does not appear to have the same promising outcome. This time, the warming will plunge billions and not thousands of people into the instability of a new setting. To make it worse, we now have passports, countries and national borders. They did not exist at the end of the Ice Age. This time, borders block or filter the infiltration of refugees as well as the tolerance for demographic re-adjustment. It is an all new paradigm. *We have frozen the localization of our people within a geographic perimeter, assuming that it will never change because Nature will remain the same. And Nature is now changing…* While our ancestors experienced what appeared to be a natural phenomenon, we are dealing with our own impact, one filled with CO2 gas clouds and other methane produced by our own activities.

Latest scientific simulations assert that under the pressure of climate change, twice more arable land will disappear and faster than new land made available. Current political borders will become a serious problem as climate led migrations and induced poverty will be blocked by these lines in the sand. Will more Mexican walls be erected again?

Numerous experts estimate that there could be up to 200 million displaced climate refugees by 2050. It's almost tomorrow. If 2050 gives us fifty times the volume of the Palestinian problem, what will 2100 bring us – and later? What nationality and law will manage families coming from countries that are disappearing underwater or turn into desertic unfertile soils, much like what is already happening in the Maldives or Sahel?

Only a true globalized governance could manage and regulate population flows of such disruptive amplitude. We need an orderly logic to optimize the sustainable development of the cold lands turning temperate, while oceans and deserts will reconquer the lowest lying or driest areas.

Climate change will have implications on the world's population that will transcend borders. We need a new world order to prepare efficient and legitimate solutions that otherwise will never be peacefully adopted under our current historic nation-state model. Our countries were built on thousands of years of a static environment, with stable temperatures and sea level. They are not prepared to deal with this. Such an existential stress to our legacy borders can only be handled strategically and non-emotionally at the supra-national level.

- **Empower a globalized democratic governance.**

A shared challenge takes a shared solution. Nation-states are not designed to share abroad. They are perfect to manage their defined slice of solution, for local issues within closed borders. For a global problem, conflicting national interests poison the common well general interest. The problem is never defined as "what is the right thing for all of us?" - but rather: "what is a pragmatic compromise between the powers of the day?" *The cause of our problem is our national and fragmented political dimension*. The division of our interests and decision making is the roadblock of mankind's progress – or survival. No country feels safe to consign its destiny to another.

Centuries of policy making have taught us to manage issues for the city or the state, but never prepared us for the management of a problem shared by all, friends and enemies around the globe. Most politicians have zero international experience. To be able to be elected locally, one must do his or her whole career locally. There is no reward to be a political globe trotter - it is suscpicious.

For the first time, our legacy model has to deal with a truly global problem, which is just a few years old in its widespread recognition. Our leaders and institutions are not equipped to address such challenges. Thanks to *the United Nations*, we can share neutral assessments and forecasts. We have a negotiation table for everyone to share, discuss and argue. Even if no decision gets implemented, a link of joint information sharing and potential cooperation exists. We can confront ideas and solutions, with a forum for consensus building if needs to be. But beyond sitting around the same table, the different and cumulative desires of each country make the progress painfully too slow. Mr. Trump's edict alone is sufficient to turn into ashes years of careful diplomatic work and compromise building - probably worth millions of international super-high IQ's hours. Such summits have almost turned into an excuse. They justify our global immobilism and give the appearance of an action. *Global conferences lead us to believe that there is a world order when there is none.* Their best intent hides the root cause of our problem – our global leadership vacuum.

The *UN* is doing all it can to surface a shared solution and tries to rally the countries around a common position. Yet, it cannot achieve substantial progress, while totally aware of what it takes to fix the problem. The *UN* has the right global perspective – "only" lacks empowerment. It shows the transparency of its design on an issue that is evidently global and is in its sphere of influence more than any other. None of our governments can fix it individually either. *We are facing a global political governance gridlock.* Stopping the Great Waste is in the interest of everyone. Still, humans miss a system of governance that can reach this dimension. The problem will not disappear

with an agreement sponsored by the UN and signed by all, as long as anyone – even the world's first superpower - can then step out and escape after the fact. This is way too important.

The *Club of Rome* is a highly recognized think tank. It recently ran a study about the future of our planet called "Limits to Growth." It used a computing model doing simulations for alternative models of growth, linking various constraints and opportunities. The group really tried to answer a very simple question: *"Is the planet full?"* Their conclusion was that only drastic measures for environmental protection will have any effect on the situation at hand and allow for the population to continue to grow with at least a constant wealth level. The main barrier that they identified, which blocks a positive scenario of "continuity", is the lack of political measures. They reached the same conclusion. *Moving forward, our problem is the limit of our political construction.*

The world has become our unique megalopolis. The problems on the desk of our politicians have quickly moved from a national level to the level of the whole planet. We have not adapted yet. The survival of the species is at stake. It falls to us, consumers and electors of the world, to to crusade and launch a great initiative that supports a new logic of governance. If the global public opinion embraces it, elected officials will follow and a virtuous effect will emerge.

Each man or woman is responsible for Humanity and reciprocally. Millions of years of human evolution and thousands of generations have brought us to this point. We find ourselves incidentally chosen, being at the wrong place at the wrong time, or rather the opposite. Change agents may believe that we are at the best place ever - a pivotal moment. We can together make a long-lasting difference to the world.

We have the chance to strategically change our whole lineage. Now, we know the risks. We are first to reset the direction of our civilization toward a new, clean and global society. We owe this to our ancestors, who allowed us to be who we are. *We owe it even more to our descendants, who will inherit the fruits of our reaction.*

The future is now. We are the generation that receives the demonstration of the Great Waste. We are now all aware of the impact of what we have done. We know the risks of going as we have until now. We cannot ignore the Great Wall ahead of us and the opportunity of changing course...

"Errare humanum est, perseverare diabolicum" ("Error is human but to persist is diabolical" – attributed to Seneca the Younger, Roman Stoic philosopher, 4 BC-AD 65).

Earth our country.

Chapter Five:
The Great Mix

For the last fifty years, a post-colonial flow of mass-migration from South to North involving tens of millions of people has replaced the North to South invasions of colonial times. When rich democracies opened their borders to welcome cheap unqualified labor, no one envisaged that a controlled stream of temporary manpower would amplify to full-time migrations of such a scale.

Despite the economic slowdown which led to the chronic European unemployment of the late seventies, this migratory tide has continued to expand over the last decades, especially because no regulation has been put in place in anticipation. Immigrants already represent a double-digit percentage of the European population. And it is just the beginning…

Western countries continue to act as an enormous magnet for the rest of Humanity. First with the colonization the US, and Canada and then West-Europe for the last fifty years. They attract increasing numbers of hopeful immigrants, hoping for work, money, welfare and the chance to take part in the "American Dream" or to benefit from European welfare systems.

With such a scale, the aspiration of migrants is becoming much harder to fulfill, in the aftermath of the 2008 economic crisis and now the Coronavirus recession. New immigrants find their target space already occupied by preceding waves of people like them. They become quickly disenchanted upon arrival when the initial welcome has been replaced by rejection, in societies that are already saturated with unqualified newcomers. New migrants are surprised by the misery of their predecessors, together with a landing made even harder by a colder weather. The reality hardly approaches the dream seen back home on a television screen, nor does it match the tale of the ex-immigrant who returned to the village to retire so wealthy that he built the biggest house.

The poor and uneducated still don't have a choice. They flee a misery that systematically condemns them at home. The money they send back represents the primary source of income for their families – billions of dollars annually for some of the poorest countries. The phenomenon is irreversible. Most migrants end up calling their new destination home. They take anchor and sometimes the citizenship of the new land. Over time, integration works. Slowly but profoundly, the landscape of the formerly mono-ethnic Europe is turning multi-ethnic, while the US minorities are turning into the majority. This is coming with profound future implications.

New categories of migrants from the middle-class, who are much more cultivated and "useful" for the receiving country, have superimpose themselves to the original uneducated waves in the US, Canada and the UK. Engineers, MBA's and doctors of tomorrow will increasingly be the graduates of a virtual global university, whose curriculum will constantly become more selective

and international. Looking at the ethnic origin of students from the best universities in the world shows how quickly this process is developing. In the US and Europe, Asians are often occupying the front row of the classroom. They came to study in the West and then often take roots there.

The result of this new mass migration is astonishing, with effects still impossible to fully anticipate. It acts as an enormous force of change. Suddenly, the West has turned multi-ethnic. *Adding the West to countries that were already a mosaic since colonization (Brazil, India and South-East Asia), the majority of the world becomes a kaleidoscope of races, ethnic groups and cultures that go beyond the immemorial borders of their religions and civilizations.*

Mono-ethnic countries will soon become a minority. In a hundred years, there may be almost none left. Diversity settles everywhere and becomes our pervasive normality. The addition of minorities will make the local majority. China, with its scale, closed borders and the dominance of its Han people (90% of the population), may remain the sole sizable exception – a non-diverse China in an otherwise diverse world.

Even old European nations, foundation of the Christian culture, are losing themselves in infinite debates over the wearing of chador, building new mosques and the darkeness of the skin of their national soccer team. This shock is multi-dimensional. It affects all aspects of their social structure. They question their new national identity. It is the core topic of their modern politics.

This "peaceful invasion at scale" has developed so fast and obviously uncontrolled, that it took politicians by surprise. In the US, even the most open and unbiased democrats wonder about the evolution of the identity of their country. None of them can come with an answer, because a response can only take a global nature – Americans will be citizens of the world, with roots everywhere. The same will happen to Europeans, while Brazilians are already there.

Almost overnight – within twenty or thirty years – the color of the crowd has materially changed in London, Paris or Berlin. Los Angeles has a Latino majority, San Francisco is Asian, Houston is now as diverse as New York. Food habits and restaurants, musical styles, schools, sports and of course religious practices are going through a dramatic metamorphosis. "What do you want to eat tonight?" now translates into which country's food vs. which local dish before…

Who knows on which new ground to re-define national identities, as they already differ so much from just a generation ago? Should borders be closed, should host countries focus on integrating the immigrants they've already got or continue to welcome new ones? Should they set-up quotas to accept only eductated ones to fill specific local employment gaps? Are ethnic ghettos worse than openly mixed cities? Should immigrants be forced to learn the local language or should their hosts learn theirs as US Anglo-Saxons now learn Spanish?

The Chinese diaspora counts more than 50 million beings. There are more Jews in the United States than in Israel. The north of Paris is more African than Gallic. The majority of Brazilians is of mixed race. A third of Londoners were born abroad. Caucasians will be just another minority in the United States before 2050 – they are already out-numbered in many parts of the country.

We are facing a diversity never seen before. It impacts us at many levels from cultural mixing to ethnic inter-breeding. It is just the beginning of a new era.

Brazil is well ahead with *ethnic inter-breeding.* It has centuries of mixed racial ancestry. The predominant part of its population has some limited degree of mixing, while 43 percent in 2006 were *Pardo's* – "the brown ones". The Pardo's, after centuries of inter-ethnic mixing, have turned into the country's core. America and the soon-to-be "diverse Europe", together with the mosaic of minorities in India and South-East Asia are only at the stage of cultural inter-breeding: they haven't mixed their blood yet. They will move to inter-breeding like Brazil as well in the long run.

For these countries that are the current melting pot of immigration, the debate can be summarized with a simple question. Should they accept an amalgamated ethnic culture on their own soil, or should they protect their legacy identity and stop additional mass-immigration?

One thing is certain. Population flows are now unavoidable in our global village. Closing borders won't stop the problem and won't address its cause either. We live in a world where a plane can loop around the planet in a matter of hours, where we can see each other live on video calls, or where we can exchange messages instantly on our mobile phones. We are cosmopolitans who can travel with basically no constraints else than borders and money, with information and viruses spreading out at the speed of light. A businessman can fly 10,000 miles for a single meeting, a family jumps across continents for a short holiday under the sun…

In the short-term we are paranoid of the Coronaviris outbreak and while being confined, we have thought about new ways of life. This is a good thing and changes may unfold beyond the habit of working from home. Still, I do not see how the clock could be turned back or the Great Mix even slowed down. *Earth has become too small and men too many for ethnic insulation to be manageable*, except in small islands of religious radicalism where the resistance of ethnic purity will remain the political objective. Artificial gates won't resist to the irresistible flood.

Isolationism can only create a wave of unrest, with immediate xenophobic implications. Rejected migrants are left in excruciating pain and disarray, parked in camps at the fringe of rich fortresses. The global house of cards will collapse if borders close. We can build new walls of shame, but people desperate to find a shelter won't be able to return to the place they escaped.

Yes, resistance to the Great Mix is and will be massive. We can see it right now with the Mexican wall or the unwillingness to accept more African migrants in Europe. But it will be impossible to contain the "natural" flow over time. There is no way back against the irremediable paradigm change of a finite planet which struggles to host billions of humans.

Instead of resisting, we should think about how to best manage the Great Mix with an appropriate planetary approach. "*Where to direct the flow?*" is the burning issue. Inter-breeding of ethnic groups from all over the planet will only become more pronounced as we go along. Climate change, local wars and poverty will push millions on the road.

What will ultimately unfold is evident and will be a factor of the pace of migrations. They will create more resistance, exposing even more the lack of global planning. As the scale further accelerates, reactions will become more violent. It won't change the long-term game though.

It may take up another thousand years, much more or much less. But *over time, the Great Mix will give birth to a majority of men and women of mixed-race all over the world.* Today's Brazil is tomorrow's global norm. At the time when gay marriage is being legalized, remaining "pure breed" will become an exception. The survival of Historic ethnic purity is just a matter of time.

This will challenge the fabric of nations – because there won't be "pure ethnic tribes" to justify their fences any longer. Most societies are already turning multi-ethnic. *We are becoming one people again. The case for our separate physical evolution has disappeared forever.* The Great Mix is definitely happening. All we can do – if we still want to resist and remain ethnically and nationally pure – is to slow it down artificially, defending against it with great pain.

Inter-breeding will become mainstream. Man *will* generically become darker, back to his original homogeneity. Our lineage will be *Pardo's* and Obama's sooner or later. *The Darwinian factors which drove our differentiated physical evolution and led to the divergence of human races have vanished forever.* There will be no new race. Instead, all races will converge and inter-breed into one. All of us will belong to one single global human race again in the future.

This is not a point of view or a thesis, but an absolute evidence. We already share everything everywhere. Evolution and/or marriages will continue to make us more of the same diverse people. Ethnic purity will be more and more the exception. We will all blend. It is only a matter of time.

Let's make a simplistic experiment to demonstrate the evidence. If you drop a few colors of paint in a single pot, then start to mix them slowly together. What happens? The colors are not blending into one. There are different mixing patterns, it's hard to see what's going on. Some spaces remain pure, others not. It looks like a kaleodoscope. It's the beginning of the mix.

As you steer faster, blending accelerates. Do you start to see the emergence of a single dominant color, becoming almost homogeneous? To get a perfect blend will take more time. Ultimately the mix will be complete when the full pot turns into a single homogeneous color.

Had any of you chosen black, yellow, white and brown? Are you getting… a yellow-ish milk-chocolate color? It depends on how much of each color you injected in the first place. Earth is our pot, the colors are our races. It will be a beautiful outcome. In any case, one color at the end.

In case you change your mind and would like to reverse the experiment. You will never get the original colors back. The mix can happen only one way. You cannot de-mix and turn the movie backward. All colors, free in the same pot, are blending into one, the mix only goes in one direction. Remember the *Pardo's*? The pot is Earth, we are the colors.

The only variables in this experiment are the quantity of each color and the speed at which the pot is steered. In the 20th. century, the speed of our mixer has accelerated with urbanization, travel

and communications. Earth has turned into a much faster human planetary shaker. In another millennium, Earth will be like the beach of Copacabana, we will all be milk-coffee-colored.

The unrestrained development of *urbanization* is the largest accelerating factor, on all continents. 55 percent of the world's population live in a city today - 68 percent in 2050 according to the *UN* - compared with less than a third half a century ago. Urban growth is occurring three to four times faster in emergent countries, which are now quickly catching up with developed ones. Though all continents are on the urban rise, Asia and Africa are moving at light speed.

Throughout History, urbanization has been an indicator of advanced development and of prosperity for a civilization. As progress in agriculture freed up workforce, more hands became available for specialized roles not physically attached to the land. Such roles were more efficiently centralized in a city, which acted as the hub of surrounding agricultural areas – the "market" where all products of the land were sold and transformed.

Developing cities act as a magnet for desperate crowds. Young peasants leave for exile to mushrooming megalopolises, where they are often reduced to extreme poverty. The megalopolis propels them in migratory mode within their own country. They are confronted with new lifestyles that quickly cut them away from their traditional rural identity.

In Europe and the United States, the urbanization process is now stabilized. Interestingly, the trend toward urbanization in rich countries is even starting to retreat, as people rediscover more healthy country living, facilitated by an Internet-enabled "working-from-home" lifestyle.

In most of the world however, urbanization continues at rapid pace. The blending of identities speeds up. In large cities, all ethnic groups are neighbors or colleagues. They are all part of the same cultural diversity, with every newcomer adding its own layer of variety. People connect in the street, on the bus, in bars, at work, in supermarkets, at the mosque or on the soccer field.

The Great Mixer is at work and there are four dimensions to its acceleration:

1. The acceleration of the *cultural* mix:

Beyond our archaic frontiers, we increasingly have access to common international information thanks to new medias. The Internet also allows 2-way communication with active individual engagement. Facilitated by search engines, social networks and unmatched interactivity, "many-to-many" services enable the first true global community. We have seen this new power emerge during the Arab Spring, the Yellow Jackets in France or the students revolt in Hong Kong.

TV and radio are also turning international. Almost everywhere in the world, half of TV series and movies are American. Surfing through the numerous channels available, we are likely to see or listen to the same content and the same core of international news. Beyond local topics, general subjects largely follow global themes, starting with a shared bank of images and transcripts received from a global news agency.

Despite the new digital reach, censorship remains active in authoritarian countries. Filters calibrate available contents through the official local lens. China has mastered a process to take control of the Internet, with 2 million dedicated agents – also Russia, Iran, Syria, North-Korea…

We consume a central and globalized core of information, even though most of what we digest comes from local, national or regional relays behaving as active filters. Insiduously, new knowledge broadens our curiosity and universalizes our information gathering. The same topics is now covered almost everywhere in an instant. This was not the case a few decades ago.

We now consider that accessing worldwide news is a given - while it's been only 30 years or so in the making. We are unconscious citizens of the world - just by watching international news "live" or surfing on the Internet.

While most people used to care about what happened next door, they have deepened their interest for international issues. It's a virtuous cycle – more curiosity brings more knowledge and free thinking. The realization of a higher-level universal picture is now stronger than ever.

Alas, access to universal information is very uneven. Poor countries suffer from an endemic lack of access to the internet. Billions are insulated from the digital world. This issue prevents global education and culture to take off at a broader scale. There is one world in which all is accessible and information abounds to a point where some cannot even cope with the overflow of data available and suffer from a "Big Data" syndrome. There is another world where people are starving for basic information, poorly accessible due to lack of capabilities and affordability. The absence of communication infrastructures together with local censorship create a digital divide.

International education, once rare and elitist, is now expanding exponentially too. I can vividly remember how exceptional it was just fourty years ago to go and study overseas. Nowadays it is the norm for millions of talented students, who obtain a top diploma at home and then complete their final curriculum elsewhere. A stamp of international education – usually Anglo-Saxon – will make a crucial difference in their future professional success. The "global" campus is developing fast. Less than 2 million people were studying outside of their country in 2000 according to *OECD* and over 3.3 million in 2008 – a 60 percent increase in eight years. English-speaking universities are the prime destination, with America alone hosting almost 20 percent of the world's global students and two-thirds of the post-graduates studying abroad.

These students win an open vision of the world. They go back home with a new spirit and offer a new lens for their friends and family. Some stay where they finished their studies and get a job – as new educated migrants – adding to the diversity and quality of the local professional community.

2. The acceleration of the *linguistic* mix:

The explosion of English as a second language is proving to be an indispensable tool for global communication and education. Mandarin or Hindi are the most widespread first languages. But English has developed as the vehicle of cosmopolitan communication everywhere on the planet, following the pervasive rhythm of universalization. Multi-national firms now make English their internal channel of communication, independently of their home language.

English is the fisrt second language and the official administrative language for 2 billion people in 75 countries. It is the number one foreign language taught everywhere and the omni-present language of the Internet. English has become the unique vehicle of communication between nations and within international organizations, as well as the undisputed language of "business."

English is the long missing tool of diffusion for our universal cultural capital. It has succeeded where Esperanto tried by design and failed. This is not a small thing. For the first time ever since our species disseminated all over the planet, we have *a universal language*. English *is* the international bonding tool, the missing link between cultures and civilizations. It offers the opportunity for almost everyone to communicate with everyone else, as one single human group.

We must reinforce this advantage. English eduction should progress internationally. It is not because it's a great language. Its own merits are irrelevant and its selection must be non-emotional. It's a matter of pragmatic scale. Factually, English has reached such a critical international mass that it cannot be challenged by any other language. Let's stop the resistance and jump on the wagon. Educational systems that wish to shield their people behind their local cultural heritage are old news. English is the only practical medium to enable everyone to communicate with each other.

Defending local languages against English and preventing access to quality English education is another form of resistance to the emergence of a global community. A language is a border. It creates a heavy handicap for those children who won't be able to master the global language. Other languages will survive and flourish in parallel, but we should all be capable of speaking at least two languages – ours and English. We need one universal vehicle of communication for all.

3. The acceleration of the *geographic* mix:

We travel more than ever before for work, holidays or in search of a better destiny. Tourism has turned into a major industry and is now the principal resource for many developing countries. We can breathe different cultures more than ever before. Coronavirus will not change that – it will slow the pace temporarily, but over time we will travel again.

Fifty years ago, I was a child in the Southern French Alps and spent time with an old shepherdess who was keeping her sheeps from dawn to dusk every day. From the top of the hills we could see the sea, fifteen miles away. She was often meditating while looking at the not-so-distant water. She loved the sight of it. Once, I asked her when she had last been to the sea. "Never" she said with a grum look. "I haven't had time. It takes two days to get to Nice and I have the sheeps." I understood that she meant two days walking, as the drive was only an hour. "I could never make it. There are too many people for me down there anyway." And she turned her eyes back to the sea, with a mix of fascination and fear. Maybe she was not motivated enough to waste a few days away from work. I rather think that all that mattered to her was here, around her stable. Her "city" was the nearby village, with fifty inhabitants. This sealed her complete universe. Nice, down by the sea, was not only completely alien to her - it was irrelevant, the mirage of another planet. My old shepperdess was not unique - she symbolizes the forgotten normality of our recent past. She was last of a long lineage though - her children got a car, a TV and a cell phone…

For most of us at various degrees, in a world where millions of passengers are in the air at any point in time, it has become unthinkable to spend a lifetime in a single place. We are living in a new world where the planet is the finite space of our life. We all have our lifetime travel dreamlist: London, Paris, Venice, Rome, New York or San Francisco; see the Great Wall of China, Yosemite, the Pyramids and maybe go for a safari in Africa.

Borders are the vivid evidence of our past and of our temporal political powers, but already we dare to imagine our life beyond their contours. We have dramatically expanded our living radius in two generations. While countries govern and control everything, we are starting to envision a realm that matches the size of our expanded footprint and the one of our children's dreams.

4. The acceleration of *inter-breeding*:

Inter-ethnic dating is the culmination of the Great Mix. Love cuts across cultures and origins and is the ultimate glue between people. It gives birth to the infants of diversity and tolerance.

Inter-breeding develops at very different paces with geographies facing various degrees of (un)tolerance. It will take some time for the world to match the reach of the American or Southeast Asian racial mix. Nevertheless, the wave is unstoppable. There is no need for the pigment of our skin to mitigate the weather around us any longer, this was the fruit of a long-gone adaptation. To the countrary, our bodies now adapt to a convergent lifestyle and will adjust and optimize themselves to a growingly common evolutionary process. We will be one people again.

We are turning into "obese giants". Worldwide obesity has tripled since 1975 and we are growing at the rate of an inch every twenty years. We spend more time seating, using our brain or watching a device than walking, running or flexing our muscles. With no more evolutionary reason to diverge, the human species is on a path to return to its primeval homogeneity.

As the Great Mix spreads though, it stimulates its own resistance. It reinforces the fear of change for those who are least prepared for it and know nothing else than the tiny place where they were born, grewed up and lived. They panic with the new color of the crowd around them.

This rejection is a natural reaction. Hosting populations need time to adapt to the demographic transformation around them. Even if the US is a relatively new country founded entirely on immigration, we sense the limits of people's tolerance for the always stronger inflow at the Southern border. This fear drove the outcome of the last presidential election. As non-Caucasians begin to out-number the descendants of European colonizers or immigrants, many Americans no longer believe that immigration strengthen their country. They feel besieged by a peaceful invasion that precipitates the decline of *their* WASP (White Anglo-Saxon Protestant) dominance.

In Europe, the principal cause of rejection comes from a lack of a sufficient end-to-end capacity and preparation to endure such a brutal surge in alien population. The economic gap and the differences in culture, education, religion and language are hard to close. European immigration almost uniquely comes from the poorest places in Africa. Most immigrants are totally uneducated. It puts pressure on the welfare system, lodging and security. It confronts the lower classes of the population – already challenged with an endemic lack of unqualified jobs - with a mass of new

workers “competing” on their own soil. Finally, most new entrants join Europe with a rigid religious baggage which proves surprisingly difficult to mix within a modern secular society.

When immigration scales up too fast, assimilation fails. Immigrant groups reach a sufficient stand-alone critical mass to avoid integration. The old citizen foundry doesn’t work any longer. They remain isolated as a distinct ethnic nucleus in the country of arrival. New immigrants stick to older nucleus non-integrated peers, creating a resilient parallel society, culturally and affectively anchored to their country and religion of origin.

A growing mass of non-integrated people pose an enormous challenge to the host educational system for instance. Public schools struggle to cope with two populations in the same classroom. Schools are encumbered by the task of educating newcomers. Many indigeneous students shift to private schools when possible, shaking up the foundation of the education system. With separate groups not blending at school any longer, the nation loses its critical integration mechanism.

Migrants must make the appropriate effort to integrate. Host countries have an absolutely key role to play. Their tolerance, respect, and economic preparation are tantamount. But they are not the only ones to be blamed in case of a failure to integrate newcomers. Migrants must help themselves to be helped and own their chances of success.

Mutual openness, respect and tolerance are the attitudes and values needed. The responsibility absolutely resides on both sides. It is a mind-set issue. It is a mutual pact, which comes with reciprocal behaviors and duties.

Having personally emigrated several times and lived in eigth countries or states, I must convey a deep respect and gratitude for the people who have welcomed my family and I. Behaving with humility, curiosity and respect for the new culture is essential. It is one of the most enthusiastic experience in life. I feel like it has been an interesting exchange as well for our welcoming friends and colleagues. They have done much better than just tolerating us…

For the first time in History, being a resident alien – belonging to a minority - has become common ground around the world. The attitude of the majority is more inclusive in places where there is no overflow. *Soon, the addition of minorities in a place/country will represent the majority of its people*. Being originally Chinese in Paris, Indian in Dubai or Haitian in New York doesn’t turn any head. An enormous amount of change has been digested already in a short period of time. Remember the old shepperdess in the Southern Alps? Most likely she never saw an Asian or an African in her lifetime. We have moved such a long way so fast.

All in all, the general perception is that the current scale of migratory flows is already un-sustainable for such a narrow number of target destinations. And if there is such an overflow, it will only get worse in the future, looking at geography and basic demographic facts.

A *tenth of the population of the richer countries was born elsewhere* and the growth of this ratio is exponential. Hundreds of millions of voices can claim: “I am a foreigner, but this is home and I love it here. I belong to a minority but I am a citizen of a diverse civilization in the making.”

According to the *UN* (*AP* September 11 2013), more people than ever before have chosen to live abroad: “232 million people or 3.2 percent of the world’s population were living outside of their homeland in 2013 – a significant increase from the 175 million in 2000 and 154 million in 1990” said Undersecretary-General Wu Hongbo. The US remains the single most popular single country destination with 46 million and gaining 1 million additional migrants per year. Europe is the most popular regional destination with 72 million a year. Asia is growing the fastest, having added 20 million migrants between 2000 and 2013 and is now reaching 71 million.

75 percent of migrants are of working age, which shows that the primary reason for international migration is linked to the attraction of a better professional opportunity.

The key issue is that international migrations remain highly concentrated, with only ten countries hosting over half of the total: US, Russia, Germany, Saudi Arabia, UAE, UK, France, Canada, Australia and Spain. *We miss a logical cross-border process that defines migration capacities by destination* and prepares for the integration of migrants. While migrations are irremediable, their destination is not.

Unless we proactively plan for migrations, they will lead to humanitarian catastrophes. We need a global policy and there is none. Individual governments do not have external authority. These are difficult issues for them to handle with no right or wrong solution. Closing borders or letting millions of people enter will further polarize opinions, even in the most tolerant societies.

We have to find a way to make migrations sustainable. Yet, we lack any form of global process to prevent the South to asphyxiate the North, the countryside to become desertic and megalopolises to turn into monstrosities of pollution and inhumane survival… *We have no strategy to spread out human masses on Earth in a cohesive manner and no strategy to regulate our overall population either.* There is no higher level of thinking - not to say master plan – to assist such massive flows of people. There is no legitimate international organization in place to manage cross-border “invasions” at the supra-national level.

If there was such an authority, it would at least channel migrants toward destinations that provide opportunities, with economic and social preparedness and environmental sustainability. By default, anarchic migrations at such a scale will generate un-controlled reactions. More populism, isolationism, refugee camps, walls and new wars are waiting for us.

Yet, whatever way we look at it, the global melting pot is in march, with a pace and amplitude never seen before. A new world is in the making. The day will come when love between couples of all sexes and origins, made free by a universal and tolerant culture, will be celebrated across ethnic groups in full normalcy. We need to strategically organize for such a paradigm change.

Let’s prepare for the greatest Samba of all times.

Earth our country.

Chapter Six:

A Global Political Vacuum

What is a country? Which purpose did countries serve in the past – do we still need them in the future? The question is so simple, seemingly stupid. Isn't it like asking why we have two legs and two arms? The question is brutal because we are so accustomed to being citizens of the country where we were born. We live with a flag tattooed on our forehead, we sing our national anthem with a pride that gives us goose bumps. We feel disoriented when we cross a border and hand our passport to the customs officer who gives us a circumspect gaze.

Most national borders are physically invisible though. They are not physical lines on the ground, else than walls or iron curtains built to enforce them. Nevertheless, borders materialize something so solid and so important on a map, in the human imagination and in our political organization that they have become like a physical geographical element that humans only can see.

We simply step across a borderline and immediately land in a place so different that it is culturally, politically, linguistically and religiously alien. You and I clearly sense when we cross a border - my dog doesn't. It is the same natural setting, only its man-made attributes have changed.

A quick look at a dictionary tells us that "a country is the land occupied by a nation. A nation is a group of people living in a particular country, forming a specific political and economic unit." Have we not always been taught that our country is our home, our protective shelf, our second mother and family and that outside of it live different people – aliens or foreigners? In all cultures, this is an obvious fact, the elementary building block that has constructed our interpretation of the world since childhood. *Countries are the fabrics of the organization of men*.

Countries are the structures that have survived and prevailed over the human challenges of History. The most resilient tribes under the wisest leaders defended or won against their neighbors and managed to maintain their independence. They formed the countries of today, after endless wars, shocks and revolutions. These tribes have been luckier or stronger than others. They won the right to have their own flag, proud identity and own national laws and sovereignty. It makes it hard for them to even consider to ever give up their luck. Kurds, Tibetans or Jews before Israel for instance only reached minority status across several countries – they know the difference...

Humanity is divided into one hundred and eighty-nine countries. Eighty-nine are "democratic states". The remaining hundred is an assemblage of principalities, kingdoms, dictatorships and religious or Communist states. Each country is reputed to be independent and sovereign under its own government, elected or not - "legitimate" or not. They own absolute power and authority over

their territory and citizens. With the partial exception of multinational companies operating on their soil and of the globally distributed Internet, they control everything else.

Each country has its own army, police force, laws and regulations. Taxes paid by its citizens - individuals or moral entities - finance its government with its public servants, infrastructures, armies and benefits redistributed to the people… This social structure was invented 10,000 years ago and has not changed much since then. From the first country-empire in Mesopotamia, the country model has turned so resilient that nothing has altered it to this day. It took very different political forms and sizes, but the basic system of a country has remained the same.

The size and relative influence of each nation varies with extreme diferences between the largest and the smallest. Canada and Russia extend over almost entire continents, while some countries cover less than a single square mile, such as Vatican City or Monaco. Two countries – China and India – host over a billion people, while three less than a thousand (Vatican, Coco Islands and Pitcairn Islands).

If we divide the number of humans by the number of countries, the average national population is 30 million. This number illustrates that a typical country has to deal with: a large assemblage of people. It manages a social cluster so numerous – millions of souls – that the individuality of a person is dominated by the characteristics associated with national references, after centuries spent together behind closed borders.

Continental countries have won dominant power in the the concert of nations. Smaller ones often try to compensate with alliances, forming homogeneous geographic groups – like Europe (EU), ASEAN or the Arab League. Their combined voice can sometimes weigh in against larger ones. Certain countries have an influence that largely transcends their borders – like the United States – owing to their economic or military power. On the other extreme stand minuscule and historically tolerated historic anomalies.

Each country develops its own agenda. The government is organized by public sector: health, education, justice and defense for example. Only one department or ministry in the government deals with the external world: “foreign affairs” whereas all other ministries manage the “inner national world”. Indeed, public activities are fundamentally national. The great majority of public work is dedicated to internal issues, over which national authority excells.

We evidently all know what a country is. I apologize for boring you with such evidences. But an avid reader from planet Galactica is planning to visit Earth soon and he is more curious:

- “Outside of the countries themselves, who is responsible to deal with anything that goes beyond the country’s geographical limits?”
- “Well, we have a number of non-elected international organizations on Earth, but *none is empowered to decide or to act*. Their role is to analyze and recommend, not to take actions. International institutions are the fruit of our country-based construction. They have been designed by the countries to be their missing link, not a layer of empowerment “above” themselves. One country like the US is enough to block any decision at the *UN* – the “veto”. The role of these associations is to bring countries together and to be a forum to negotiate international solutions.

Countries are the masters. Cross-country organizations act as a parallel international diplomacy. Their influence is in assembling, counselling, connecting, stamping or advising – not much more. It is not for their lack of capability - they are capable and could even be operational with an elected assembly empowering them, had they been framed that way. But they are not allowed to rule. Fundamental powers are organized by the nations and *all* controlled at the national level. The world of politics is *all* national. Enforceable laws are *all* national. Elections are *all* national. Even Europe is not an exception. EU nations elect their own EU Parliament members to represent *their* nation at the EU level, not to have citizens from other EU nations stand for them. Make no mistake, dear reader from Galactica. Earth is a world where only nations rule. You will find it soon enough when you visit. Rules and regulations will change each time you cross a border. Please make sure that you keep your passport with you all the time – I hope that you have one?"

- "I have a Galactica passport, there is no other. May I ask if you thought about re-building your governance from scratch? It sounds so ragmented and unefficient. If you started with a clean mindset, wouldn't you immediately design a central government? This is what we did on Galactica. Are you fighting with a taboo that prevents you from looking at meaningful alternatives?"

Our friend from Galactica has a point. The importance of borders is occult. Countries never confess their incompetence and keep protecting their "sovereign" turf. This attitude hides the need for an alternative to their intrinsic weakness. They make us perpetuate the same closed loop that fuels itself, again and again. We are like mices endlessly running into our old national wheel.

Worse, countries make international organizations the scapegoats of their own inability. The *UN* was "guilty" of failing to fix Saddam or to reach an agreement on climate change, the *WHO* failed to prevent the Coronavirus epidemic. The *UN* blocked an intervention in Syria. Likewise, in a European context Brussels wastes Europeans' money, paralyses Europe and steals the sacred sovereignty and beloved identity of European nations. The culpable can only be outside – right?

Our ubiquitous *country-based model is a self-perpetuating system*. There is no alternative source for any political authority to come from anywhere else. Every politician belongs to a country. To be a politician, you need a local career – or you have wasted your chances if you went abroad or came from abroad. You have been elected only if you cultivated your local voters. If you are a good mayor, you must have the skillset for a president of the nation...

As a result, politicians only see the world through a local lens. Their prism is uncompatible with mine as a global vagabond. On most issues, they take the opposite lane. With my global experience I cannot be a politician. I am a suscpicious fellow who self-exiled from his home town and country. Worse, I carry two passports. To whom do I owe allegiance to? Had I stayed in my beautiful home city of Nice my whole life and known nothing else, I could be an engaged local politician, maybe a national representative. Would I deserve to be an expert in global business, green technologies or climate change? Could I possibly be a truly educated resource for my citizens on the critical global issues that they face?

The system keeps recycling itself endlessly. It has alienated the potential curiosity or discovery for an alternative construction. Until the day we hit an explosive and immediate crisis – which I call the Great Wall as a symbolic image – it will be hard to change.

The reason why we keep running in this endless loop is not that it works better. We don't even think about it. It is only because we have nothing to compare it with. It has always been like this since historic times. Alternatives are utopia.

Al-Assad can exterminate hundreds of thousands of his citizens and force several millions on the road to exile. He survives it. Because he is the official ruler of his country, until defeated from the inside or from the outside. Above him, there is no supra-national power who can say and enforce: "Mr. Assad, enough is enough, go away."

The need for orderly governance is well understood at the level of all the subdivisions of the planet – countries, states, regions, cities, villages – but surprisingly not for the ultimate level that matters the most: Earth. Earth is now the level which needs coordination and management more than any other of its subdivisions. It has none. Isn't it completely amazing?

Our reader from Galactica has decided to come and visit, to judge by himself. After landing, he askd the first person he met with: "Dear citizen of Earth, could I please speak with your leader? I have an important message from the leader of Galactica." In the US he was taken to Mr. Trump at the White House, who told him that he knows everything about ruling the planet and offered to make a deal between the US and Galactica. In Russia he was taken to the Kremlin to meet with Mr. Putin who offered to build a shuttle to Galactica for Russian oil and gas. In China he met with President Xi who proposed to launch a spatial Silk Road between China and Galactica. Europe was more difficult: everywere he went there was a different leader, he run out of time. Eventually, he was advised to go to Brussels or Strasburg to meet with the European Commission or the European Council, he was not sure where to go. Finally, just before leaving, he was offered to make a speech at a *UN* conference on outer space…

How can we fill such a vacuum? As unrealistic and utopian as it sounds, what if Humanity was one? What if we could make Earth our country?

Imagine - with some help from John Lennon:

Imagine Earth as a single, large, free and democratic country.
Imagine a federation of all countries, a place for everyone.
Imagine Earth as an US-like construction with states reflecting our identities.
Imagine the "United Democratic States", the anchor of our global freedom.
Imagine that all of us elect a president, to represent everyone.
Imagine that he or she makes decisions for the general benefit of Humanity.
Imagine a world in which there's no countries, there is only one.
Imagine all the people living life in Peace.
You may say I'm a dreamer…

Is it an absurd dream? It is absurd because…

- … it doesn't make any sense and will never happen. It's idealistic. Men are too different. Additionally, governments will refuse to sabotage their own power. So many people will resist and go back to what they know and like – their nation.
- … Earth would become an immense bureaucracy. Individual citizen would be marginalized with one voice out of nine billion. People would lose their identity. It would seal the end of the civilizations and cultures that we cherish.
- … we have a majority of poor people. In a global democracy, the poor will ruin the rich.
- … there would never be concensus for anything. It's too complex, with too many people. We will never get everyone to agree. We will remain fragmented and indecisive.
- … everyone will oppose. Nationalist movements will oppose. People will resist the unknown.
- … some countries may join and others not. Totalitarian regimes will anchor down and fight.
- … we lack with wisdom to make this happen. Who really cares about the universal picture?
- … life is too short. Why to make it even more difficult – just for the sake of mankind's future?
- … man is not a honeybee. Humans are free, their future is random and not planned for.
- … we don't want to build a Big Brother that can eradicate any national will.
- … it's unrealistic. Nobody ever asked for this. There is just no point to waste cycles.

We are all one kind. It is just that we do not feel like it yet and miss authorities to cope with our new boundary. The frontier of our eternal country is so simply defined. It is the only frontier built for us by Nature, the same for all living beings. The atmosphere is our only "border". *The sky is our limit*, the atmospheric skin of Earth is the lifeline that we all share.

Earth is like a condominium building in which each country is an apartment. We just discovered big widening cracks in the foundations, expanding quickly. To repair the problem – it takes joint action and funding.

Our challenge is to execute the vision of Martin Luther King. He saw that Earth was becoming a neighborhood and asked us all to stand up for the next step: *"We must make our neighborhood a brotherhood*". A place where truly, there is only one country. *Earth is our single Country.*

The question becomes: "how do we organize ourselves accordingly?" Structure over 200 sovereign countries under one single roof while passing their global powers to an overarching federation appears to be a daunting task. It is not trivial to try to conceive how the unification process could take place, which cross-national steps to take to get us there – even in theory.

The ultimate concept is to build a global federation, in which ex-countries turn into member states, with a president elected by everyone. The states would continue to carry the flame of our identities and to manage cohesive human clusters, below the umbrella of the global federation. It's a two-layer building. Several existing countries are already federations themselves and have two layers on their own. In such case, *the United Democratic States* would add a third layer.

Three layers for ten billion people appears to be an acceptable span of control – not a bureaucratic construction. Alternatively, we could come down to two layers only if we put all larger states and countries on an equal footing, as direct members of the global federation. Texas, Bavaria, Singapore, Taiwan, Italy and Sao Paulo would then be states members of the global federation. As

we take a clean sheet of paper, we can see that there can be many options. We do not need to take a position, there are many ways to get this done, with pros and cons.

We want to "think big" first and see if a path of least resistance emerges to get us started. The state-level construction matters, but comes later. There are basically three possible scenarios for the formation of a global union, at the highest level:

- Scenario one is to *create an all-new greenfield global political structure*:
  This is the model that comes to mind first - empower the *UN* with a strong democratic constitution and an elected assembly. Make it our federal government, with the two hundred countries morphing member-states over time. Countries become a part of the global federation when they elect to do so after a referendum.

  On the positive side, it's pure and simple: one federation ultimately rallies all the countries. They insert themselves into the same global constitution. For instance, the USA would join as a single state, Spain and Monaco as well.

  On the negative, since it's a greenfield construction, there is no embryo of pre-existing federal construction or constitution to manage the process and the integration - the *UN* has absolutely not been designed to be "operational" as a political entity. It takes a recognized leader and a very willing core of founding nations to make it happen.

- Scenario two is to act in two steps. *First, accelerate the formation of regional poles of equivalent sizes; when done, make them member states of a single federation:*
  Two hundred countries under a single roof may be hard to manage, so consolidating countries as regions first has its merits. Having the US or China be an equal to Monaco in the federation is not optimal. Thus, we could form several clusters of countries that are willing to unify regionally as phase one. All regions could use the same template of regional constitution during the first phase. Then as a second step, regional federations would become member states of the global federation. Under this model, we would complete the EU federation and duplicate the approach to five or ten other regional clusters. Each of them would form a strong regional union on their own rights. Finally, all the regional clusters would unite under a common global roof.

  On the positive side, this approach builds itself around pre-existing "regional clusters". It's regionalization on steroids: North-America around NAFTA, Asia with ASEAN, Europe and the EU, Africa and the African Union, Latin-America with a new UNASUR or PROSUR, Russia with part of the former USSR and finally China and India may be large enough to stay alone on their own rights… Taiwan and Pakistan set aside.

  On the negative, it's a double whammy. It may double the effort.

  First, these regional clusters are all dealing with their own issues right now and none is on tracks. The EU is the most advanced, still with a fair chance to unity, but it takes a re-boot to which the global union could be the catalyst. Others regional constructions are non-existent in practice.

Second, even assuming that such regional constructions can be taken to the next level under the stimulus of an imminent global framework, the ultimate outcome could be divisive. The world would turn into an assemblage of structured regional super-powers – a formalized multi-polarization. The global federation would have to be strong enough to supercede their individual regional power and interest.

- Scenario three is to *use an existing federal structure, to be expanded into the world federation*:

Large democratic federations already exist and host many member-states under their wing. One of them could be selected to welcome new willing member states and become the foundation and magnet of a global political construction. For instance, the US could make a complete U-turn in its current leadership and international policy after the November election and become the architect of a global federation. The EU could play such a role if it was already more advanced in its construction, but it does not even already exist as a federation yet. Others - like India or Brazil - lack the global power of influence to play the role of a central magnet.

On the positive side, it looks like an easier operational scenario. The US already stands out as a strong federation. It is the oldest and most resilient democracy in History. If Joe Biden, endorsed by Barack Obama, wins the next US presidential race, it's a totally new situation. While weakened, the US can resuscitate its influence in a lighter and more inclusive form to eventually lead a responsible full political globalization process. New member-states would be added to the existing union. USA would be rebranded *United Democratic States* and Spain would become a new member state on par with California. At least, we would have a solid foundation to start with.

On the negative, it creates a two-dimensional problem - internal and external. Internally, the US is currently in the midst of a destructive bi-partisan antagonism. It will be Biden's first priority to soften the divide and our project will not win instantaneous support from both sides. Externally, the US is weaker than in 1991, which was a magic moment when such a project could have been put on the map while the US had undisputed influence. Since then, a lot has happened. We have re-divided into a multi-polar planet, China is so much stronger. The US has made controversial moves in the Middle-East post 9/11. Then came the idiosyncrasies of president Trump. The rest of the world has to forgive and be willing to join a pre-existing US construct, morphed into a global nation. The shared evidence of the global Wall and a proof point of genuine universalist intent from the new US administration would have to re-balance the momentum. There is work to do…

Which scenario offers the path of least resistance? Scenario one is simpler in theory and at first sight. To build *the United Democratic States* from scratch comes with the purity of a new beginning. It doesn't have the luggage of the struggling European construction (scenario two) or of American imperialism (scenario three). Scenarios two or three are using controversial intermediary steps or constructions to make the final destination more manageable.

Let's look at the issues with scenarios two and three first, so that we can later focus on scenario one and ways to improve it.

With **scenario two** comes the risk of a polarization of the world - the opposite of globalization. With this scenario we would first take the regional pooling model to conclusion – multiplied by the number of regions - and then merge the regions globally. We would have two layers of

integration: first regionally and then globally. We would regionalize before we globalize. Such a process is prudent and logical if a one step approach is unlikely. However, it may very well kill the final outcome. If we succeed with step one, we obtain five to ten huge and powerful regional federations – each one as big as a successful EU. They could suddenly polarize the world into equivalent competing powers. We could go back to a Cold of Hot War with a risk made four or five times higher. Once successfully consolidated, would regions still want to partner - or would they compete with each other? Would step one lead to a complete gridlock that kills step two?

Certainly, the level of globalization required to meet our great challenges calls for a political construction that is less fragmented. But there is no guarantee that a regionalized planet rather than one with many nations would allow for greater flexibility and decisiveness in global negotiations. Instead, it could freeze the decision-making process. A handful of powerful players could neutralize each other - and make the world totally multi-polar. The Cold War was just that between America and Russia. We basically had only two "political regions" – "North/West Capitalistm" and the "South/East Communism." Imagine what could happen with five or more mega-powers…

Another consideration is to reflect on the true driver of multi-national integration. Is geographic proximity the best vector? Nations can be close geographic neighbors and archrival enemies for centuries. Germany-UK-France, Japan-China-Korea, Poland-Russia-Ukraine, Hungary-Romania, Turkey-Greece, India-Pakistan, Iran-Iraq not to say Israel-Palestine, illustrate the challenges of goegraphic integration. There can be other axes than geographic proximity such as religion, race or color of skin. One axis is the political model. Democracy should be a powerful glue. Democracies may be easier to unify than a geographic cluster. What democracies have in common – Freedom – gives them more to lose and to protect than just merging with a "bad" neighbor.

All in all, there are two main concerns with scenario two and its regional approach.

The first concern is realism: the difficulty to build regional federations is overwhelming. It may be even harder to federate countries into regions than going straight to a global union. Building Europe is hard enough already and it was probably the easiest regional construction after the trauma of World War II. There was a magic moment, with visionary leaders and a shared spirit. Still, the EU got stuck before the finish line, sixty years later. The core issue has been a lack of a popular compelling argument for political regionalization. A region brings a larger market and provides a larger scale to compete against continental countries. These are evidences for politicians but not really for the citizens who see these issues as futile. The regional scale is rather unclear - "in the middle". What is really an issue of regional scale? What does the intermediate "regional" layer solve for? It's not easy to articulate. This led to Brexit.

The second concern is the risk of regional polarization, pooling smaller countries into more powerful clusters. It can dilute the global effort and obsess everyone with not-so-important regional issues, instead of positioning our efforts in their necessary universal dimension. When we move from small to bigger borders, we lose clarity of where the borders are. What is the geographic limit of Europe – of Asia? Who belongs to a region or not – is Turkey in Europe or in Asia? It's a difficult process but if we ultimately succeed to make regions, we will remain divided with even more powerful individual players. A truly united EU would be a powerhouse capable of challenging the US and China. It's an absolute win for Europeans in isolation, but can be a scary

one for others. While regionalization would simplify communication between fewer players and dilute fragmented positions, its success would inevitably result in a few large and less flexible fortresses of similar size and strength. It would equalize forces between regional giga-powers. The result could amplify the risks of world scale conflicted situations, with additional complexities linked to regional protectionism. One region could veto the rest of the world to agree on pretty much anything. Not only Trump could block the Paris agreement.

More than one country gets us back to division. Regionalization is a positive process but no panacea. Worse, it could indeed become a threat to full political globalization. With multiple powers competing for the same resources – two hundred small powers or five or even two huge ones – the fundamental problem remains. We will lack single global leadership. Two or five players are enough to disagree. In fact, there are more likely to disagree. Fully politically integrated regions would rebalance multi-polar powers over time and create a case for intra-regional fights, making regions feel that they can exist as stand-alone through regional protectionism.

It's interesting to see that no existing great power – the US, China or Russia – tries to help Europe to unify. They all know that they should fear the result of a powerful integrated EU. Europe continues to try very hard. President Macron of France keeps pushing and in her last days Mrs. Merkel's of Germany may become pro-european after all. It's worth looking at the EU integration process and see what we can learn for globalization.

The EU is the only "live" trial of regional federation. It was initially driven by a pacifist motivation – no more war in Europe. It has granted Europe with its longest Peace since the Roman Empire, a region otherwise chronically challenged with endemic aggressive nationalism. Despite the extraordinary chance that the region had after the war, the missed European integration demonstrates that it would take several lifetimes to build a regional then global integration process – if at all. We would get stuck in the mud of regional complexities, without the light of global simplification, which is the true "pull" that the EU has missed so far.

Europe has not been able to unify after fifty years. It is not even clear that its relative success - Peace and a common market - could even be duplicated to other regions. The case for the EU is probably more compelling than any other regionalization process – although Africa and Latin America are great candidates. Yet, Europe has no clear geographic boundary, unifying language or clarified "next and final step". What is the dream that European people should share - a federation? It has been the intent of the Founders after the war. Over time, it got polluted by the confrontation of two visions which turned the initial momentum into paralysis and then Brexit:

- The *federal vision* is to drive the integration of the European nations into a single country. Since the historic founders, who dares to believe in it any longer after the EU's post-USSR enlargement and the economic North-South divide?
- On the opposite, the *"business club" vision* makes the EU a commercial association to serve the benefits of a larger regional market, while preserving absolute national sovereignty. This vision has so far prevailed and "protected" the nations. Few national leaders tried to share their federalist dream – instead they made Brussels a scape goat for everything.

The lack of clarity and convergence between these two visions challenges the European unification. Europe lacks the leadership of an enlightened Germany while France is not strong enough. It is a lesson for globalization. *A complex multi-national edifice cannot be built without a clear shared vision and a consistent leadership.* Europe seems to move backward and nationalism is again at its door. I am still not giving up though… Macron and Merkel stand a last slim chance.

The full-globalization process can learn from the European political challenge and even allow Europeans themselves to see a much stronger appeal with a united democratic Earth. The project of a global federation can resolve the European bottleneck. Our initiative can save Europe, not as EU 2.0, but as the logical form of a supra-national consolidation.

One thing is for sure: Europe, buried into its "internal" problems, cannot be the core engine of political globalization. Full-globalization can save Europe but Europe cannot enable full-globalization. As counter-intuitive as it may appear: *unifying Europe may take longer than unifying the world.* Europe's lack of leadership and strategic clarity prevent its unification. Europe cannot pull the world in its integrative path. Eventually Europe will continue its own search for political consensus – but it cannot lead the unification of Humanity.

Definitely, it's hard to see an example that we can leverage or learn from as the regional first step of our political globalization. There is no all-new green-field regional union of willing countries that can give us confidence that within a few decades, a global federation could surface out of anything that is already in motion somewhere regionally. It makes scenario two unlikely.

Climbing from a national to a global governance – in one step - appears to be a path of surprisingly least resistance and of much greater benefit. The intermediate layer of the regions creates a complexity which proves too difficult, without a clear case for it. Worse: if successful, regionalization may lead us to a very polarized world between hyper-powerful regions.

It will be potentially easier to build a United Earth than it has been to build a United Europe. It is clear and simple, with an evident benefit. It aligns our political model to the scale of our challenge. It is simpler because evidently needed and clear in its perimeter and objectives. Going from many nations to one Earth is the translation of our *"glo-cal"* (global-local) duality. It simplifies everything. A global federation has an immediate geographic foundation that everyone can understand: the planet. It resolves one of the two issues learned from the European construction – clarity. But because of the jump from the country-based model, it raises even more the criticality of the second EU issue - leadership. With clarity at hand, we need strong leadership to drive the global construction, the one Europe has missed. We need a pilot in the global plane from day one.

Now let's look at **scenario three**. The idea is to use the foundation of a pre-existing structure as the embryo and inner core of the global snowball that we want to build, instead of building a global political integration from scratch. Would a pre-existing federation provide the systemic initial structure that we miss and the leadership needed for the initial spark of the movement?

Several continental countries already represent a large assemblage of member-states and have demonstrated for centuries that the duality of a state and federal level system is a sound model of governance. This political construction differs from the nations where all powers are centralized

into a single national government. In a federation, member-states maintain a number of local powers such as education and police. The federal government consolidates powers that are common across the states and cannot be divided, such as going to war or printing money. A common constitution unites the states politically into one overarching unit.

The oldest example of a democratic federal statehood is probably Switzerland. The Swiss model is specifically a "confederation." A confederation is very similar to a federation in theory but with a looser binding between its states, which are united through a treaty and not necessarily a common constitution. Democratic federations can be multi-ethnic – such as India – or ethnically homogeneous – such as Germany. While India, Brazil, Argentina, Mexico, Russia, Canada and Australia are the largest federations, there is only one that stands out and cumulates the criteria that would be needed from a magnet for a global model: the US.

America has the strongest capacity of influence when used well, the economic scale, the military power, the geographic dimension, the political stability and the widest diversity. It is a country founded by immigrants from all over the world, who keep reinforcing its multi-ethnic nature. The US is a continental country spreading across the two most strategic seas, part of the North American Free Trade Agreement (NAFTA) with Canada and Mexico. It was founded over two centuries ago as a federal presidential constitutional republic and is now the oldest large continuous democracy in History. Since then, every president has been elected by its people, without the ruling of a military junta, a king or any form of dictatorship. It has remained the "land of the free". The US federal constitution is the oldest in existence and most exemplary at least for its stability and resilience, demonstrating its endurance over forty-five consecutive presidents.

As the most robust democratic and multi-ethnic example of a sovereign, federal and multi-state system of governance - could the US be the pre-existing vehicle that we are looking for and provide the global leadership needed to federate more countries? Can it be the embryo of a global solution, with its constitution becoming the foundational tool of the global consolidation?

One approach would be to add more states to the fifty states of the union. *A more neutral proposition is to have America play the role of an engaged global integrator, in a way that would be acceptable to the rest of the world when coming from such a former militant and once dominant power.* The US would offer offer its help, but remain a member-state itself, not the backbone of the global federation. In both cases, it would take recognition as a trusted and respected partner.

This is why it is so saddening to see the US behavior at the moment. It is the only political force that could initiate the snowball of global unification under its universal democratic banner and the strength of its constitution, while its current policies lead to the opposite outcome. It scares everyone else and makes the US look like a rogue state at grand scale. As long as Mr. Trump is at the oval office, there is no chance to reach any kind of international harmonization process.

If Joe Biden takes over in November, it will create a magic window for a new beginning in international relationships, post-Coronavirus. Other countries will have an alternative to protectionism, because they will see again an US ally that they had written off. A lot will depend on the attitude of the US itself. Biben must behave as a global healer – not only the US president. The risk of return to isolationism is higher than ever. Isolationism will kill globalization: deciding

that countries must again achieve self-dependency on everything will send us back to the middle-ages and straight toward a third world war. The US election is the last pivot against this shift.

Option two and three both come with complexities that will be hard to overcome. Europe shows us that option two will take generations to build and once there we may have regional fortresses. Option three is questionable, at risk of not having an acceptable existing federation to start from. The US of 1991 could have been it. Even with Joe Biden at the helm, the US of 2020 may struggle to rally the souls abroad after the damage of the Trump shockwave – people have a muscle memory.

This brings us back to **scenario one**, which is to build a global federation from scratch. The US election ahead of us has an extraordinary importance, not only for the US but for the entire world. If Trump wins a second term, the world is in danger, so is America's democracy. His first election could be seen as an accident, some moderate Republicans may defend that they didn't know who he really was. Re-electing him is unforgivable. It validates his behavior and policies and probably seals the dismantling of the international system. The US represents 4% of the world's population and 15% of its GDP. It cannot be that someone elected to lead this country, not even with a majority popular vote, takes the stability of its allies - the world's democracies – further apart. If Trump wins, none of our three scenarios even matter - the Great Wall is now.

If he loses, *a blend of scenarios one and three can emerge as our solution*. Post-Coronavirus fear, recession and global economic shake-up open up a window for radical new thinking. Scenario one alone – a global federation out of nothing as a super UN – is neutral and clean. But it takes a big sponsorship. We need a core driver for this process to take off, one that the EU construction has so badly missed. It's all about transformational leadership with a clear strategy.

Joe Biden should lead with a global dimension: "Let's Make Earth Great Again". He should ask Barack Obama to lead an international taskforce, with representation from all willing democracies, to architect a future world federation - the United Democratic States.

This is scenario one with a twist of scenario three. Let's call it **scenario four**. The US acts as the catalyst and leader of the free-world. Its role is limited to rallying forces around a new construction and to lead it initially, with a diverse proven leader like Obama – Nobel Peace prize. While Biden leads the US recovery and calms down the spirits at home, Obama spends time with his democratic peers to design a new global landscape.

In scenario four, the US is the active enlighted facilitator, not the one imposing its own constitution or adding more states to its own federation - unless other democracies feel that this is the preferred option which is unlikely. The US will demonstrate soft leadership to ensure that option one reaches an outcome. This is the path that makes the most sense.

First, we must elect Joe Biden as the 46th. US president in November. It completely changes the current game and opens up a new path forward. Second, the US must become inclusive again and turn itself into a trusted magnet for a global "Democratic Club" – its allies. Third, given their long relationship, Joe Biden can offer Barack Obama the leadership role for the future United Democratic States project. And then everyone else can join as long as they are democratic regimes. Europeans (united or not), Japan, Korea, Canada, Australia, India (…).

As any national politician, Joe obviously has to position in his campaign that he will lead for a stronger US. The point is that the US will be much stronger if they lead a re-inforced global cooperation than fighting against everyone else - "Let's *Make Earth Great Again"*. Given the global challenges ahead, the US can only be strong with a sustainable planet and an international alignment around what it takes to jump over the ecologic Wall. Barack Obama can be the best lead architect of this new world and help Joe to campaign for such a programme. With a global baton, he can invite all democratic countries to prepare for a global union – all others to follow.

Timing is magic. Joe Biden needs a grand plan to *Make Earth Great Again*. Most likely, he will have to run his campaign when the economic impact of Coronavirus around the world will reach its peak. Many economists anticipate the hardest recession since World War 2 and the risk of a few painful years ahead of us. Joe must message a flamboyant and compelling agenda for a fast recovery of employment, businesses, national and international cooperation. He has to fight isolationism, unify the minds at home and steer an accelerated transition to a post-fossil economy around the world – rejoining the Paris agreement and well beyond that.

At the international level, Barack Obama can echo his plan with a global initiative that includes:

- *Political cooperation across all nations to build a responsible full-globalization – toward democratic federalism,*
- *Sustainable economic recovery through the transformation of our industrial model, from fossil-centric to zero-carbon - leveraging all available funds globally, public and private.*

The first initiative has the potential to generate massive reactions around the world:

- Heated debates in democracies, centered around the historic sovereignty of nation-states;
- Fear from totalitarian regimes. Despotic rulers could try to create their own alliance in reaction. In reality they already have one. It is hard to believe that their people will support more of the same, when they understand that there is a true alternative. For instance, the Chinese Communist Party would get an elegant way out and call for a referendum - after having led China through an amazing economic metamorphosis.
- A forum for the agents of change everywhere, offering them the missing global political rally.

Joe Biden – with his unmatched diplomatic experience – can calm bi-partisan emotions in the US and re-unite the country around a common platform. This program is what he neeeds. Barack Obama - with his logic of global cooperation and avoidance of wars – can win the trust needed internationally for influential global leadership.

We stand a chance. I don't see anyone else than this respected pair to be able to pull this off. They have won international respect as much as any other team, have a solid well-oiled relationship, they can personify the initiative better than anyone else if they want to endorse the mission.

The timing is ideal for Joe. He needs a vision and a project. He needs a muscular program to win brains and souls. He needs to rally the troops of Bernie Sanders in a pro-active mode and

secure the votes of the ex-Obama fans. He needs to rally moderate Republicans who value an ethical president and want the US to be respected internationally. He needs to comfort the business community with a fast recovery. He needs jobs for thirty million unemployed Americans.

The timing is ideal for Barack as well. He's had four years to take the perspective of an engaged spectator. He understands how much the US is in search of a new momentum. He acknowledges the Great Wall. He can partner and work for consensus, knowing intimately a lot of the international players. He can become neutral territory - with no personal agenda any longer in his country, because he has already run his two terms. Free of any US-led agenda, he can focus on the sole objective of convincing other presidents or prime ministers to put their weight in their national balance and engage in leading the process for national referendums to join the federation.

This is not a mission for the faint in heart. We have to trust that most leaders in their inner conscience are already reflecting on their own. They must understand in good faith and behind curtains that the Great Wall will not be eradicated with the anarchic political construction of which they currently lead a national fragment. Obama can play the missionary and further convince them. They need "one of them" to carry this through. One who is not just another local leader or a non-elected member of an international institution. If he takes the challenge, Obama will know what it takes, both for him and for his fellow country-leads. He is the only one today who has the charisma and credibility to federate a global team behind his name. He can lead us to find a solution against the lack of a cohesive global vision for Humanity.

Transitioning from where we are to where we should be is difficult. It will take a few great leaders to lead enlightened crowds with their respected credibility and intellectual integrity. To get started, we must ignite and embrace a positive dynamic momentum to carry the idea forward. The evidence has to hit as many of us as possible. Dear fellow citizen, you have to stand up and help.

Such a transformation must take roots from the people themselves. It must start with a huge buzz on social networks. Then a formal political process can emerge and ultimately lead to a formal popular referendum in all the countries candidate for memberhip. We all have a role to play.

It's only a matter of time. The evidence of our unification is unavoidable. Will it take a century – at which point the consequences of our pollution will be irreversible and Earth won't be able to host billions of humans any longer? Or is it possible for us – individual citizens – to initiate a huge reaction of public opinion and to act now? Can we stimulate a handful of our most visionary and courageous leaders like Joe and Barack to overcome our national divisions and to act for us all?

We are the elementary atoms of the great magma of the opinion, the influencers of the world we live in. We should give our leaders the mission, the right, the responsibility and the empowerment to *think big* in the name of us all. In tough times we tend to isolate ourselves. We need the opposite attitude. Such periods are the chance for shared solutions and for brotherhood.

"When goods don't cross borders, armies will." (18th. century economist Frédéric Bastiat)

Earth our Country.

Chapter Seven:

A Vision for Mankind

These first chapters have prepared the case for *why* we need to elevate our governance from many to one country. We also tried to encircle the possibilities of *how* we can shift to a global political construct in the last chapter – although no-one can plan for the future of politics...

The second part of the manifesto will about *what* can be done with a single plan to make our species durable on our planet. We are now moving from building a case to designing a plan.

Our vision

The foundation for such a plan starts from a *simple and engaging vision of what we want to do*. Everything starts from a vision. Without it, we are just a bunch of individual souls or nations running with our bare instincts and ambitions. Any commercial, military, scientific or non-profit enterprise can only exist and progress with a vision for its future. Then strategies are developed to make the vision a reality and finally they are iterated into plans for their execution. Firms are constantly reworking their vision, strategies and plans as a function of unforeseen events in the market. Liberal Capitalism does not mean random results based on wishful thinking and luck. Success and failure come from strategic choices made in anticipation of an uncertain future, with an optimized organization to yield the best outcome.

The human enterprise – extraordinarily – has absolutely none of these "basics" to guide its destiny. "Mankind Inc." has no vision, strategy or execution plan. We have no direction to prepare for our future. It just happens, getting us all to live another day. There should be no surprise then if we are struggling with our sustainability. Why should we survive forever if we do not even plan for it – just by an act of God?

Of course, countries are doing some of this for themselves. They have their own political agenda that citizens can vote for in democracies, watch the implementation and support or complain about the outcome. Leaders cannot be elected without a compelling program, whether put into practice or not later on. In dictatorships, the vision may just be to remain in power as long as possible and to confine opposition. Governments have a good grip on the national future that they can control, for what relates to issues that don't need global resolution. China Inc. has demonstrated, owing to its stringent national plans, what can be achieved by a country led with an iron fist and a strategy of economic domination.

However, we the people of Earth don't have any of this. We totally miss a vision of who we want to be and how to make it happen. We carry on with the anarchy of our Great Village, each generation passing the baton to the next one, without an overall goal. We have no way to measure the progress or drawbacks accomplished by our generation, no channel for taking concerted corrective actions. Individually we try to plan for our lifetime - studies, career ambitions, children, retirement - but as a species, we live by the day, like any other animal breed. Individually or in groups we innovate extraordinarily, but *as the global human herd we are totally dumb*.

The accumulation of our individual or national agendas is all there is. We cannot tell our children that in a hundred years, the world should look like this and how they could best contribute to make it happen with the time and energy of their life. We just live and go while in parallel other lives join the crowd and do more of the same. There is no human "honeybee substance" to guide us to where this all is eventually going – or at least where *we want* this to go...

Without a vision, a strategy and a plan, or even some shared generic scenarios of cohesive development, it is truly difficult to succeed in reaching an objective - especially because there is none in our case either. As a result, with the human species short of any form of vision or objective, we default to our bare instinct, the only one shared by the rest of living beings: *survival*. We will survive - until some higher-level issue whips us all out. We are inflicting climate change to ourselves and will soon face the consequences of our acts. Still, we are not able to deal with it and to anticipate, strategize or plan for what matters to our species.

Survival is – by default of a more sophisticated intention – all that we truly can deal with. Evolution has brought forth adaptation in every species so that it may better survive in its surroundings. Humans do not differ from this simplistic path. We can argue that we are so much smarter than any other animal. It is true individually or socially, but bottom line the unfortunate truth is that we are not any doing better than other animals at the highest level.

We share with other species the minimalistic objective that has guided our evolution: *survival.* We don't translate it into a defined vision though. Without one, even our individual and collective objective of survival is at risk. Our species was at risk for the first time before the Neolithic jump and the reason was starvation. This time, the reason is the ecologic Wall that we have created. The first time we were lucky – we invented the civilization of the seed… What are we inventing now to mitigate our climate disruption? Electric cars – we knew them a century ago. Wind turbines? Solar panels? None of this is really new. We have many "new seeds" but no plan to plant them…

The instinctive objective of *survival* is not good enough if not articulated around a holistic planetarian vision, strategies and plans to survive in the billions and for the long-term. A vision should express that we will reconnect with a balanced development *in harmony* with our planet's complex and fragile ecosystem, to maximize our chances to survive for many more generations. A vision should acknowledge our convergence as a species and tackle with a unified direction for our economic, ecologic and political imbalances. A vision should define where we want to go, how we can jump above the ecologic Wall to reach another phase of stability in our evolution. Put simply, we need a vision for a better future, one that stimulates us *to push the accelerator for a better innovative outcome – not a brake against progress and development.*

Unfortunately, such a vision would challenge our established political systems and highlight that they are unintentionally incapable of coping with it collectively. Our lack of central governance conflicts with the immutable and simplistic objective of survival of our species.

- In democracies, politicians are elected at the local or national level and cannot make decisions that are viewed as locally unpopular in the short-term, even if necessary for the long-term. The job of politicians is to be popular. This is an intrinsic problem. With the rare exception of a few bold visionaries who risk personal unpopularity, politicians generally push for visible benefits within their tenure and country, to be re-elected. A democratic tenure is typically 4-5 years. How can a leader succeed if his or her policy bear fruits after a decade or longer? *"I'll be gone, you'll be gone*" (IBGYBG). Even with the best intent, this pragmatic approach influences strategic choices and typically leads to the easiest way out.

- In autocratic regimes, rulers have the power to roll out long-term agendas when their grip on the country is strong enough. China superbly demonstrated the superiority of its long-term strategic planning over the tactical electoralism of democracies. One-party systems are not paralyzed by the pre-defined limitation of their tenure. They can rule for as long as they last – see Mr. Putin. Inversely, despots must constantly manage the perversity of their illegitimacy. It makes them paranoid. They have to politically protect themselves from their own citizens whom they fear will ultimately aspire to more Freedom. They are obsessed with the need to perpetuate and defend their political model. It forces them in defensive mode rather than proactively sharing a global responsibility – as we can see with imperialist nostalgia in Russia, isolationism in North Korea or the obsession of an atomic bomb in Iran.

If the fundamental minimal objective of Humanity is its survival, then our vision should be designed accordingly. Let's attempt to draft one, to visualize the process that can derive from it:

"WE – the people of Earth - want to unify into one country and make it a brotherhood, to take responsibility of the long-term sustainability and survival of our species. WE recognize our common destiny and want to pool all our resources to build a free democratic society which prioritizes the long-term betterment of life for all in harmony with Nature."

Our strategies

To translate such a vision into strategies, we should capture its two essential dimensions. The first one is the overarching objective of "sustainability and survival of our species" to "prioritize the long-term betterment of life for all in harmony with Nature". It really means the capability for our species to survive and flourish for the very long-term. The second one is the vehicle that we miss to attain this objective: "unify as one country" to take collective responsibility and to pool our resources efficiently.

As a result, we can derive two essential strategies that unfold from our new vision:

1) *Build one country:* a strategy of political unification and solidarity in a universal society.

2) *Build a sustainable society*: a strategy of combat against wars, economic unstability, pollution, global warming and protection of bio-diversity.

1. Build one country

These strategies are both separated and intertwined, as one makes the other possible and they together enable a single mutual resolution. The success of the second strategy clearly depends on the execution of the first one. "*Build one country*" is the strategy that drives the realization of the whole vision. The metamorphosis of our political model is the foundational elementary block that makes our long-term survival possible. It provides us with the social and decisional system that we currently miss. Let's illustrate our "*build one country*" strategic intent:

"We want to build a global country that shares the social and peaceful values of Europe; the Freedom and resiliency of the American democracy; the diversity of Brazil and the long-term intelligence of China."

We want a vision that is compelling enough to engages millions of people into a popular movement around the world. We need a starting point and we miss leadership. As concluded earlier, the shock of Coronavirus and the economic recession that unfortunately may unfold can create such a catalyst, together with the US election. They offer a formidable opportunity for a big political shakeup. We have browsed the possibility of a tandem between Joe biden and Barack Obama to provide initial leadership for a global agenda. Their partnership can yield immediate traction and international leverage and act as the conductor of this grand change. It can influence future members, manage the process and help to align the various agendas. If this happens, a few critical questions need to be addressed:

- Inside of the US:

Can Americans become inclusive global magnets and make their own metamorphosis from a proud nation – nationalistic and sometimes belligerent – into the world's moral role model? The dream of the Founding Fathers is totally compatible with the universal creation that we are painting here. The US was not meant to be exclusive, the federation has been a dynamic process which anticipated more states to join in, beyond the thirteen initial members. America is best positioned to help assemble more states into a construction similar to its own, as long as the grand design is clear, well understood and ultimately belongs to the same democratic destination. There must be a way to engage the majority of Americans with pride into the journey of leading the unification of mankind. After Trump and Coronavirus, Americans need a compelling mission to re-unify.

- Outside of the US:

Can public opinion in other democracies "re-recognize" the US as a guide after the current lamentable parenthesis? The free-world needs a compass. It's a matter of communication and political leadership in messaging the project. Joe Biden will bring back US international respect and trust in a non-intrusive manner, re-establishing the US as the missing facilitator. The intent of full globalization is absolutely not for the world to become American, but for America to provide help "on demand" to form the federative democratic "Club" and take us to the new model.

This is a paradigm change, exciting and thought-provoking. We can do it if we want to believe that Humanity has a chance to save itself. With a common analysis of the situation, a common vision and a strong core leadership, the sky is our limit.

Barack Obama is an emblematic leader. His aura goes well beyond America. In fact, he has the chance of being seen as a true citizen of the world owing to the diversity of his roots. He can be the leader remembered and recognized by generations to come – the founder of post-national History and the architect of our vision for a sustainable mankind. If he is willing to stand up for such a cause at this pivotal moment, does any of us see a better candidate? He can win a core support in America and abroad with the humanism that he personifies. He can help Joe to re-energize a positive and partnering America, with a truly a bi-partisan message. He can re-ignite America's role in the free-world. If he is willing to endure what may be a difficult beginning, he can gain more popular support internationally than anyone else. It takes a first wave of national leaders to join in and then the snowball can roll at its own pace.

Indeed, the time has come to start our universal journey. The next US presidential election will be an historic turning point that can take the world to two opposite paths.

- Extreme economic globalization, with almost everything being made in China is coming to an end anyway. The backward reaction has already started. Factories are coming back home.
- The evidence of the ecologic challenge is broadly recognized and its imminent implications will raise yet more endorsement. Joe wants back into the Paris agreement.
- Common societal challenges facing democracies make them more compatible than ever. Three points are now unifying them: (i) the need for solidarity inside, (ii) pressure from immigration and (iii) the burden of the public debt. (i) The US will have to turn more social after the healthcare issue flushed with Coronavirus and subsequent unemployment benefits – embracing a more European-like model. (ii) All democracies are now facing mass-immigration, not only the US with Latinos but Europe with Africans. Europe is struggling with its new diversity and given the competition from emerging countries will have to revisit more seriously the economic weight of its social welfare model. (iii) Everyone is coming out of this crisis with an even higher debt level, wworth well above a year of GDP. Convergence is under way.
- There is a realization that the most powerful autocratic regimes are turning dangerous again. The new Cold War has already started. At the same time, democracies are losing faith in America's willingness to protect them, unless America steps up. Japan, South Korea and Taiwan are scared of the rise of an aggressive China and Europe of Russia's new imperialism.
- The Middle East is in a genuine mess, out of anyone's control. Syria is a shame for mankind. Nuclear capabilities in Iran will provide further instability, so is Israel with new annexations.

The time has come for mankind to finally receive the revelation of its oneness, or serious trouble is ahead. More geo-political stars are aligning for a shake up than since 1945 or 1991…

With the US election, there can be such an interesting construction for whoever wants to see it. President Obama can position his post-presidential initiative around the theme of a new world order, while at the same time sponsoring Joe Biden as our next US President. These two have learned how to work together effectively and will complement each other. Together, they can establish a mutually reinforcing duo. As Biden concentrates on US affairs, Obama can focus on

the formation of a union of democratic leaders, touring the world to advocate for the global initiative. To impact change, leadership is everything.

National democratic leaders know - deep inside - that the battle against the Wall cannot be won nationally. If they face their responsibility with enough courage, they have already concluded that the solution to the crisis that Humanity faces goes through a new world order. A new order has the draw-back of diffusing their nation-states. This is a delicate fight for national politicians.

Individually, they must convince their nown nation of the superiority of the global cause. They may feel lonely at the begining, their own political establishment may threaten them. They have to take a personal political risk, to engage their name and credibility. More importantly, they have to turn themselves into educators, communicators and evangelists. They have to confess that the problem is inside – national fragmentation – and not outside as they have always done.

Educating their people is critical. With intimate conviction, the role of leaders is to create a comprehensible bridge for their citizens toward this paradigm change. This endeavor requires leaders who accept to take a personal risk and elevate themselves to the true role for which they have been elected for. They must be willing to crusade for a cause, because they know it is the right thing to do. They must for once get over the pressure of the next election.

As a reward, they will be the heroes of generations to come - *the Founding Fathers of the United Democratic States.* They will be the ones who avoided the Big Crunch and gave birth to "post-history". They can bring us all to a promised multi-ethnic and sustainable land.

The time has come for our democratic leaders to stand up and to build a joint global initiative. Democracies are still strong enough to influence the world toward the global cause – but not for much longer. We need a strong and united democratic club and we need it right now. The political clock is ticking in the opposite direction – democracy itself is going backward, with the rise of despotic regimes coming reinforced from the era of semi-globalization.

Any country will be welcomed to the *United Democratic States*, provided that they have established democracy in their homeland or are clearly in the process of doing so. Democracy must be the tool of unification of the new world.

The formation of *the United Democratic States* will facilitate the transition toward democracy everywhere, as never before. The Union will give everyone a chance to re-set their own model and to join us. The afterglow of global democratic governance will ring the bell of totalitarian rulers. Their anachronism will be obvious in the light of a new vibrant form of global democracy.

We can build a democratic society that enables shared progress and offers a positive and sustainable way forward, a realistic alternative to the current accumulation of fears, uncertainties and doubts. Humanity can continue to evolve toward a better life and experience new ideas, lifestyles and technologies. We have to take a further step in our evolution. The way out is forward looking and innovative. We have to learn from our errors and rebound with a much simpler model.

It is all about change. Climate changes? Let's acknowledge it without undue emotions and deal with it. We did not know, now we know. Let's define how we can reverse the trend and accommodate our society to what is now the biggest challenge that our species faces. We have to execute a plan in response to the lessons of the mega-event that we face – with curiosity, honesty and no taboo. It can be a gigantic task or the simplest one. It is a mind-set issue. It is all about accepting the need for change it and then dealing with it… *Nothing condemns us to continue to barricade ourselves behind the bars of our borders* if they don't serve their purpose any longer. The bars will fall if we know how to convince those who hold the keys and have the power to act.

2. Build a sustainable society

We have just imagined a potential transition path for our first strategy – unify all countries. The formation of a global political federation is a necessary but not sufficient change to save us all. It is the enabling pilar. It enables the management of our critical change – sustainability. We must reset the way we live and re-think our fossil consumerist model.

Demand from consumers must change and offers from providers must adapt. This dual transformation takes a political guidance.

Everything is inter-related. Gas pumps cannot flow without control. Freshwater will become rare. Food production must deal with climatic constraints. Social and healthcare benefits are unbalanced. Ethnic purity is wishful thinking. Migrations must be channeled… How to get started?

At the forefront, we must revisit the historic concept of "growth". The evidence of our shared legacy takes the form of an absolute formula: GDP growth ⇔ population growth ⇔ progress growth ⇔ profits growth ⇔ happiness growth ⇔ pollution growth ⇔ repeat the loop…

The evidence of the finity of Earth makes this equation nonsensical. As we saw earlier, GDP growth for all countries with all countries reaching the same level of wealth is a horizon with extraordinary implications. Also, material wealth is not directly proportional to happiness or even well-being. While assumed to be the case, it's never been demonstrated. We target our life individually and as a whole society against an objective that ultimately never delivers its promise.

Wealth has exploded during the last half century, but nothing proves that we are happier than our grand-parents. What leads us to believe that Grandad or Grandma should envy us? We know for a fact that many more people came out of poverty recently and can now eat every day. This is an awesome development. We also know that we live much older – life expectancy at birth more than doubled since the beginning of last century. Not being hungry and living longer can directly correlate with well-being, though aging through artificial survival and intensive medical care come with their own issues. But what about having three cars, a McMansion and a week-end house? Are they the compulsory elements of happiness or only instead the social proof a visible ascension?

Social fulfillment has always been paramount in any society. Be the best hunter, the best warrior, the best farmer, climb the stairs of the religious/military/political ranks, accumulate money… That's what has motivated most people to succeed: recognition of success against peers. There is always a competitive need of recognition vis-à-vis of a neighbor or a peer. This will

probably never change. The problem of our age is that such recognition translates into the accumulation of throw-away products that are the direct result of our industrial/materialistic consumerist model. Consumers are encouraged to buy as much as they can afford to, products that they barely need at all. They keep replacing them as soon as a newer one comes out. I want an iPhone 12 – although I don't even know yet what it offers that my iPhone 11 doesn't.

It's a virtuous economic circle. It creates growth in consumer demand that fuels growth in offering. Given the scale of the mass production allowed by the industrial revolution together with the pace of new technologies, the race for peer recognition has turned into a self-perpetuating monster. Innovations make the latest product obsolete in a flash, sometimes by design. Anything digital has a life expectancy of a few months, two or three years at best. Then we throw it away.

We probably all know after all, that materialistic wealth is not the ultimate seal of a good life and is more the mirage of instant satisfaction. Yet, most of us are running for it. We are like insects coming to hit a lamp at night. As long as it is the norm of our society, we are all part of the problem and it's pretty hard to extract ourselves from such a mainstream behavior.

Before the industrial revolution, social peer pressure was much less impactful on the environment since the diversity and quantity of materials that wealth could buy had a totally different scale. Today, we individually burn tons of CO2 just playing our Western middle-class lifestyle – with the same house, cars and holidays as our neighbor. Had we been the same people two centuries ago, our carbon footprint would be a tiny fraction while we would look as socially elevated or happy as today. We would spend our money completely differently. Maybe money was less relevant in the first place… Business schools were not even invented to turn business into a science. There was no Amazon to deliver at home. Advertising was only word of mouth. *The majority of today's "indispensable" products did not even exist fifty years ago - many were only created in the last ten years. Still, we can barely imagine to be able to live without any of them…*

The need for constant economic growth, unintentionally fueled by enhanced technological capabilities, has taken us to a model of "always-more" at massive scale with no end at sight. Billions of new people are joining the feast. It's a self-regenerating engine and the indirect result of the expansionist capability made possible by our fossil-industrial-technology explosion.

This is how climate change got out of everyone's control. It's a very complex problem because consuming is the foundation of our current society. The economy is based on offering better products to constantly create more demand. Doing so, it employs more people to buy more products and generate more profits for investors to re-invest into more capacity to invent or produce more… In the meantime, everyone pays more taxes which fuel everything else. It's the virtuous cicle of the free-market economy. It has done a fabulous job to expand our overall wealth. It supports and pays for everything around us. It killed Communism which was based on a totally different assumption. If we stop buying, we all lose our jobs and nobody can pay for our pensions…

It is not about changing the economic model. It just works as an economic engine. There is no conceivable and proven alternative. The trick is: *how can we make the model fair and sustainable for our ecosystem?* How can we continue to look good to our neighbor, go to work to produce or

service something that justify a paycheck, make our company do well and pay taxes, while altogether we get pollution under control and emit less CO2?

The first nucleus of nations joining the *United Democratic States* must play the icebreaker and show the more sustainable path ahead. Emerging countries are trying to imitate rich countries to become rich as well. Are we offering them a sensible model since we know that we cannot sustain it altogether? Rich countries must set the tone for a sustainable society that offers quality of life without such a carbon footprint. Emerging will countries naturally follow the direction.

This can only happen through a clear political framework. The source of waste, pollution and gaz emissions must be attacked at the highest level, from where the free-market can take over. Politicians can only go that far.

On the demand side, we need a profound transformation of our consumption habits. "Fair consumption" must turn into a positive phenomenon of society and a genuine fashionable movement. On the offer side, there must be a penalty for the full carbon footprint of the final product. The cleanest and most durable product must become the business winner.

We see such trends with early adopters buying hybrid or electric cars. They associate consumption habits with responsibility on the environment. The beauty is that it also starts to look cool. Being frugal and zero-carbon conscious can be a lot of fun. It looks great on our neighbor too… There is nothing fancier than driving a Tesla these days – your neighbor's Suburban is passé.

Consumerist waste, made possible with fossil energy and past scientific innovation, has become immoral. We know from this point forward that such a waste will destroy the viability of Earth for our near descendants. We must put a stop to the damage that we continue to cause – now in full consciousness. The time has come to prepare for our second industrial revolution: global, clean and post-fossil. It goes hand-in-hand with universal political empowerment, because that is the only way we can shift the economic model everywhere.

Previous generations were unaware of their ecologic footprint and impact. We are the first ones to discover the universal crime that we commit. We are like smokers continuing to smoke even though they know it is killing them. We are doing the same to our children by throwing them into an ever-warming climate. Once involuntary, our crime is now intentional. *Now, we know.* We cannot justify any longer our inaction in pushing for the necessary means that a solution requires.

Think about our smoker's analogy. Smoking was trendy when we ignored the effect of tobacco on health. Playboys and starlets all smoked in movies until the eighties. Smoking was cool. Today, smoking has become tacky and while millions of people still smoke, they are nothing more than the tail end of a defunct phenomenon, dragged along by the inertia of the drug. Is a non-smoker less happy than a smoker? Tobacco will probably be prohibited one day. In the meantime, since banning tobacco is an unpopular move, it is penalized with higher taxes. Smoking will be a distant memory a century from now.

It will be the same with our fossil fuel society. Our problem is time. Tobacco finally reached its reversal after millions of deaths, decades of debates and powerful counter lobbying, until the

issue finally prevailed in the general collective conscience of developed societies. The harmfulness of smoking was denied for decades. Smoking was an easier problem though. The cost to the society was limited to medical care for smokers, a rather small thing and more of a question of individual rights. Non-smokers are only distantly harmed by smokers.

With global warming, everyone impacts everybody else and is directly at risk. It's a pandamia with a 100% contagion rate. It cannot be about individual rights or Freedom alone. One person's Freedom ends where another one begins. We live in the same closed universe in which all share the same resources, biodiversity, air and water… It's a single setting for us all to protect or waste.

Our execution plan

We have browsed a vision and two main strategies. The final step of our innovative journey is to paint their execution plan: a program for the first elected leadership team of the *United Democratic States*. The objective is to encompass the extraordinary possibilities which will open up for Humanity with the acquisition of unified governance. This program will take us through the next level of actions and demonstrate the magic effect of global decision-making. We will see how a single agenda can resolve in a fascinatingly way the problems confronting our fragmented planet.

Presume that this first grand plan is still in infancy. The materials have been developed by a think-tank that the *"Founding Fathers"* have put together, under the leadership of Barack Obama. Together, willing national leaders have reviewed it and blessed it. The program is articulated in eight chapters, one per priority. They are the recommendations that the *Founding Fathers* offer to the future universal government. Although intertwined, the priorities have been ranked by order of relative strategic importance.

"The Power of Global Governance"
Recommendations to the first government of the United Democratic States
Program prepared by the global think-tank, 06/2020

1. **Peace and Universal Rights**
2. **Zero-Carbon**
3. **Sustainable Development**
4. **Feed the Planet**
5. **Natality, Healthcare and Migrations**
6. **Green Economy**
7. **Universal Education and Information**
8. **Space Exploration and Colonization**

Before we dive into the program itself, let's inject some emotional context. Here is what could be the speech made by Barack Obama at the occasion of the public disclosure of the program. It sets the tone of the messaging that we want, to make a decisive impact on people's mind:

"People of the world, fellow citizens. I want to make today an important declaration which will surprise many of you. You haven't heard from me for a few years. I have been reflecting about what I want to do next, how I can make myself useful to a great cause and a difference in the world in which we live today."

"*Joe and I share a dream*: *we want to help Earth to be great again.* A dream for a universal and sustainable Peace. A dream in which Earth will ultimately become our single country. You remember Martin Luther King's last speech on March 31st. 1968 in Washington, DC. He challenged us to make three revolutions. First, we should develop a world perspective. Second, we should eradicate racism. Third, we should get rid of poverty. He pledged that *our world has become a neighborhood, and that we should learn, altogether, how to make it a brotherhood*."

"We are standing here today, more than fifty years later. On all fronts we have made huge progress. We know that there is still a lot more to be done. But these three revolutions are not only incomplete, they also face the risk of a counter-revolution. They face the risk of moving backward as universalization of mankind stands in the middle of a bridge. Our countries are hesitant. Do we move forward together or do we retreat to the apparent cocoon of our different identities?"

"Even more importantly: since 1968 *we have discovered the need for a fourth revolution*. Reverend King could not have foreseen it. The signs were not apparent at the time. We didn't know. We are the first generation to experience the impact of our dominance on Earth. We have discovered man-made climate change. A Great ecologic Wall is ahead of us, as we continue to deal with our consumerist frenzy and our independent nations compete for the finite resources of our planet. The time has come for our fourth revolution: the one of *sustainability for Humanity*."

"We need to deal with these four revolutions in parallel. They all come across each other right now. They are the opportunity of our new global civilization. We must succeed with these four revolutions to pass with responsibility a durable legacy to the generations coming after us."

"I believe that the time has come to unite our nations. This is a call for a global brotherhood and sisterhood. This is a call for solidarity - a promising future together on Earth. This is a call to build the federation of our countries under the banner of *the United Democratic States*".

"Like many of you, I have given all my soul and energy to my country, even more when I was president of the USA. I did my very best to try to solve the critical issues of our time. This is when I came to a big realization. I am being brutally honest with you right now, you can take this as a confession. Although I led the most powerful country in the world, I could not resolve any of the four issues facing America – the ones matching our needed global revolutions. I realized that when you lead a single nation among many others, you cannot develop solutions that match the level of these four revolutions. No nation alone can fix issues of worldwide scale. It takes all nations together to make Humanity succeed."

"Let me tell you more. I concluded that the sovereignty of countries blocks these four revolutions, despite the best individual intentions. The problem comes from the intrinsic definition of countries. They miss the global scale and empowerment that match the problems to be resolved.

Nobody can make a nation durably stronger in a derailing planet. We are all stuck in the same dilemma and are facing the biggest challenge that any generation before us has contemplated."

"I love my nation and I love Earth to which it belongs. When I look at the challenges at the level of our Blue Planet - well above each individual nation - I can see solutions. The impossible suddenly becomes possible. United altogether, we can solve for what competing nations cannot. We can transform the jump above the Wall in front of us. We can invent a great future. We can be the heroes of future generations."

"a promised land lays in front of us. We need to come altogether and give birth to a new era. People of the world, this is not about me. This has nothing to do with me. It's about us. I am responding to a popular movement, to many demands that I have received, which we hear and feel in so many places – *the immense desire for a global brotherhood.* Someone has got to take this flag forward, to lead the unification process of our global community."

"I am announcing today that I have decided to dedicate the rest of my life to the cause of a global country. Nations and Earth, war and Peace, rich and poor, identities and tolerance, purity and diversity, economic growth and sustainable society, local and global, opportunistic and strategic, Humanity and other beings… these are the balancing acts that we need to weight and balance as a global team. My offer to you is to help us all to build the country of the all people."

"I was granted the Nobel Peace Prize eleven years ago. What I have done so far to deserve such an honor was not to start any new war, which was pretty tough I must confess. What I am offering you today is to serve a cause that is more profound. We need a game changer. It is about building a new world for our children, one of durable Peace in a sustainable society with a fair economic model. We need to invent a better world, one in which we all share the power to build a great future for our children."

"Our survival and the moral progress of the revolutions put forth is not utopian any longer, nor is it a guaranteed success. It depends on us, citizens of Earth. We are the only actors in this endeavor. We can build a shared vision and save ourselves, or we can remain competing fools for as long as we last."

"One thing is for sure. To execute that vision, we must give ourselves the economic and political means necessary to make it happen."

"I need your help. Together, let's press the reset button and win a second life for Humanity."

"Earth our country"

Chapter Eight:

Priority One:
Peace and Universal Rights

1. Peace:

History of civilizations is paved with non-stop wars. Violence haunts the paths of power since the beginning of historic times – when nomads settled with territories and wealth to protect. Dark forces have moved so many times entire human societies into extreme violence, sometimes leading to genocides or even collective suicide. Nationalism has stimulated our aggressivity since the eve of civilizations. As a result, we take war for granted, as if it was an innate human and social mechanism. We typically believe that war is part of Humanity and that there will always be war. War is assumed to belong to our intrinsic genes and instincts.

Let's challenge this assumption. There is no proven evidence that war existed as an endemic pattern in pre-historic times or that mass-organized violence between men has an anthropological foundation. Instead, many pre-historic clues go in a different direction. Whereas it is difficult to assess precisely the degree of aggression between pre-historic nomadic clans, scientists have now generally concluded that primitive societies were not driven by war. There were conflicts between pre-historic people and there was violence, but typically these antagonisms only incidentally led to death. Humans fought like animals – to select a winner – then they quickly settled, without a social instinct for collective extermination. There is no clue to show that nomadic warriors lined up in the hundreds on a battle-field with an objective of mass-destruction. Bones indicate that most injuries did not kill and were healed after a while. This suggests that inter-tribal confrontations were specifically about justice, personal conflicts or food-fights instead of large-scale battles leading to systematic elimination of a tribe, multiple death sentences and mass graves.

Most recent findings advocate that war is not innate but rather the acquired behavior of our post-Neolithic, territory-based civilization. "Our research questions the idea that war was ever part of our ancestral past" declares Patrick Soderberg (*Abo Academy University*, Finland – published in the journal *Science*, July 2013). Abo's research was based on isolated tribes that were studied when they still existed over the last century. These tribes lived like our hunters-gatherers ancestors did 12,000 years ago. Out of the 148 violent men-inflicted deaths documented, very few were caused by war. Most were homicides led by personal motives and feuds and 85 percent took place within the same tribe. Abo concluded that hunter-gatherers – our natural state - did not naturally evolve as warriors. They were predators against other animals in order to feed themselves, not in the business of killing their siblings.

As hunters-gatherers transitioned to farming, groups became territorial. Their social structures isolated themselves from each other and wealth had to be protected or stolen. War became dominant as we now know it – in order to attack or defend properties, cities or "countries". Self-defense of individuals or small groups turned into conflicts of entire civilizations against each-other, at a totally different scale.

The first benefit of unifying ourselves under a single democratic federal country is to unlock the war-like curse of History. With only one country, there is no other one against which to fight. One country implies *universal Peace.* There can be internal and local incidents or unrest, but there is no case for mass slaughter any longer, no organized enemy or army. As country-based History disappears, so does war.

Rather than massing arms and preparing for war, member-states of the federation can instead articulate political programs and negotiate their specific interests through a democratic process at the inter-state and if needed federal level. The federation becomes our missing global peacekeeper. When countries turn into member-states of the same federal democratic country in which minorities are respected and protected, war becomes pointless. War becomes History. War is unnecessary and unacceptable, there is no case for it any longer.

Potential conflicts will be resolved as domestic affairs, managed through a legal and democratic process which federal justice will deal with. Of course, civil war – within the federation – remains theoretically possible. But war within the same political entity implies that the democratic and constitutional models are not sufficient to prevent it. It is possible but unlikely. If we look at democracies in History, civil wars are the exception while external wars are the rule. Instead of countries being instruments of war, the democratic global federation will be the universal instrument of Peace. The constitution should be designed accordingly.

The Union will be magnanimous and exist for the general interest of all men and women, not for the partisan benefit of a single group – ethnic, geographic or religious. Its first priority is to manage proactively the tensions between ex-nations and to organize legitimate and peaceful solutions at scale. The federation will be multi-ethnic, multi-religious and multi-cultural.

With one single country and no enemy, there is no need for a veritable army. Progressively, the armies of the world will re-assign their troops to civil duties such as public order, justice and internal security. Over time, only a light federal military force will be maintained in case of exceptional need, most likely to fight terrorism or to confront a unique internal security problem.

We recommend five priorities for a sustainable Peace, with an immediate focus on the Middle-East:

i) End the Israeli-Palestinian conflict:

A few million people are hostages of a situation that beyond themselves indefinitely holds the Peace of billions. Jerusalem can be turned into a universal protected sanctuary, an opened and international capital city. It could even be the future capital city of the *United Democratic States*. It will be so much easier for a global federation to decide if Israel and Palestine merge together as

a single, unified, multi-ethnic and secular peaceful state – or are being split into two separate states within the federation. The process can be managed totally differently under the protective wing of the federation. The "Peace of the wise" will have no winner or loser. Without this destructive conflict, the region is poised for a renaissance.

ii) Eradicate terrorist groups:

Al-Qaeda or the Islamic State have developed into global movements against the West. Like all terrorist groups, they draw their existence and heroism from popular support among religious radicals and survive with the help of private and secret public financing. We need a big reset. Rather than putting the whole Middle-East on fire, go to war against the region and demonize all its inhabitants, we must endeavor to make Jihad completely worthless. With the emergence of a world government, Muslims and all Arabs will be completely welcomed and integrated, with clear communication to make them feel that way.

Step one, national Muslim leaders will take a last chance to find a resolution with Al-Qaeda and Isis and convince them to dispose of their weapons and to rejoin mainstream. The UK showed us that such a process is possible, the IRA ended-up participating to the Irish democratic process. We are not being simplistic or naïve here – just fair. We will eliminate the case for terrorism, with a solution in Israel, programs of financial aid to the region and global tolerance. In parallel, we will make sure that their funding is being cut.

Yet, we anticipate that with some of them, only reinforced military action will prevail. Step two, after this initial call for wisdom and forgiveness, any remaining Al-Qaeda or Isis military loyalists will have to be eliminated by the federal intervention force.

The federation will have full tolerance for political activism but none for violence and terrorism. Terrorism won't have legitimacy any longer. One way or another, aggressive extremism will be eradicated, with no more capability for any nation to support directly or indirectly.

iii) Integrate totalitarian states:

Dealing with dictatorships in a divided world where one always finds a big brother is elusive. Russia for El-Assad in Syria and China for Kim-Jong-un in North Korea show that extreme despots can survive owing to external support. With one federation, despots can't be protected any longer. They will be instantly fragilized. Following the same logic of initial openness, we want the totalitarian and illegitimate leaders to pass the baton to their people and to allow their country to join the Union as part of a democratic process. They will understand that they are surrounded by the inevitable advance of global democracy.

We will be tolerant and merciful with the ones who chose a graceful exit and offer them a decent way out. We will put them in a position to say: "I have decided to abdicate, because the world is becoming one country, my role becomes unnecessary in a global democracy." Those who willingly resign won't be hunted. The priority will be on building a shared future and not on exorcising a painful past.

We won't repeat the shameful weakness of the Arab Spring though. People took the streets, calling for democratic change. Democracies let them down. The Founding Fathers of *the United Democratic States* extend their apologies to the people who stood up for Freedom and ended up fighting alone. From now on, with the Union they will have a home. Democrats will be family.

iv) Destroy military stockpiles:

As a first step, all armies in the federation will be unified under a central commandment when their country joins the founding group. Over time, as the full process gets finalized and only one country remains, weaponry and armies will become redundant. We will help the arms industry to re-focus on clean energy, civilian technologies and services. Military personnel will transition.

Nuclear warheads around the world will be centralized under the control of the president of the federation, then destroyed. A symbolic nuclear force will be maintained to keep control of the technology and for exceptional deployment in case of a threat to Humanity such as the re-emergence of a rogue state, an uncontrollable terrorist attack or an external risk from outer space - a meteorite for instance. It is impossible to be certain that a warhead cannot possibly be re-invented or hidden somewhere. Therefore we must keep a hand on the technology to react if needed. Nuclear weapons will be kept exclusively at a minimal maintenance mode to protect Humanity against any unforeseen risk or aggression.

v) Create a lean federal force of intervention:

We recommend to create a tiny global force of intervention of around 100,000 troops, passed the transitional global military wind down. There will be no other army on Earth – private or public. It will be an arm-free world. The use of this force will be limited to anti-terrorism and exceptional support against public catastrophes. This elite army will be multi-ethnic and multi-lingual, led by officers of diverse origins and will report directly to the president of the federation.

The total annual cost of wars and military spending altogether are huge, although hard to measure. They vary as a function of conflicts. We cannot quantify the price of the dead and wounded, of displaced populations, ruined economies, ecologic and material devastations and of their after-effects which can last for decades.

However, we can estimate the specific annual cost of actual weapons and military personnel around the world. This number alone is only a fraction of the total cost of wars, but is fairly well calibrated. In the last decade, it represented a *global annual military expenditure of around 1.5 trillion dollars per year* or about two percent of the world's GDP. This total includes very different spending levels by country.

Extraordinarily enough, this amount corresponds pretty much exactly to the annual investment that experts evaluate is necessary, realistic and possibly sufficient to halt climate warming. We are proposing to *shift the entire global military budget toward a global investment pool that will fund our accelerated transition to green economy*. The program will be based on the development and promotion of clean energies, industries and agricultural techniques.

It's a minblowing discovery. The elimination of military budgets alone can finance our new world. It is not so difficult to find the money that we need. We can dramatically accelerate the shift from fossil fuel which represents today more than eighty percent of our total energy consumption - through Peace. It's a humanist and economic bonanza altogether. Universal and permanent Peace will free-up the capacity that we need to finance our ecologic salvation and to pass the Great Wall. This is the basic formula of our new world, and our first priority.

2. Universal rights:

Universal federal law and rights will prevail over member-state laws. States will conserve their legacy jurisdiction as long as local laws do not contradict the fundamental rights inserted in the federal constitution, which will be designed to protect all citizens equally. We are working on a new constitution to document the fundamental rights of the *Homo sapiens Universalis:*

- One man, one woman, one vote: all citizens above the age of eighteen will have voting right regardless of gender or background.

- One man, one woman, one set of rights: all genders will have equal rights. Voluntary contraception will be authorized in support of women's rights and as an aid to impact birth rates. Members of all ethnicities and minorities will be treated equally. Positive discrimination may be necessary to ensure consistent education and work opportunities for all.

- School will be mandatory for all until the age of sixteen. English and universal History will be part of the curriculum. Children will not be allowed to work until the age of sixteen.

- Healthcare for all: the federation will support the development of medical infrastructure everywhere. The number one priority will be the battle against epidemics with massive vaccination campaigns, management of buffer stocks for tools of first necessity and the capability to exchange medical instruments and personnel across member-states as needed in case of crisis. We understand that climate change will accelerate the frequence of pandemias and will hit tropical areas the strongest. While economic disparities won't allow the same level of public and private medical care everywhere, the policy will be one of long-term global convergence, at least enforcing a minimum level of medicare everywhere.

- Justice for all: humans everywhere will share the right to be assumed innocent until proven guilty. All will have the right to appeal to the federal justice system when contradictions between state and federal laws surface. Nobody will be arrested without the involvement of a lawyer and length of custody will be limited. Special laws will apply against terrorism.

- Eradicate extreme poverty: our intention is for everyone in the federation to get out of extreme poverty as soon as economically achievable. We recognize the right for a decent global minimum income. Yet, we need time to model how this could possibly work and be financed. In the short-term, we do not see that the concept of a universal minimum income is manageable globally, given pre-existing variations in standard of living around the world. Today, *the difference between the wealthiest and the poorest countries measured in GDP per capita is over one hundred times.* Instead, our policy will be to drive pragmatic long-term convergence.

An immediate equalization, even at the scale of a single generation, is economically inconceivable. Our objective is to totally eliminate extreme poverty by 2050, as defined by the right to have at least a daily meal of 1,800 calories, access to clean water and a decent shelter.

We view these **human rights** as unalienable. Today they face constant arbitration and compromises between democracies and totalitarian states. Typically, economic priorities win. This subject has become almost taboo given our competitive trade relationships. Political forgiveness has led to extraordinary humanitarian tolerance from democracies. This will come to an end with the global federation. *Free-trade will take place between free people*.

The Union will place democratic values at the top of its constitution. We will only make temporary accomodations as a transition path, for countries willing to join-in and to prepare for it. We want to build a planet for the people, not to compromise with political Freedom. We make it loud and clear: democracy and Freedom come first. We will support and protect the despots who are willing to exit, but there will be no room for totalitarianism inside of the federation.

We want to share our pride for the world that we want to build and have composed a pledge of allegiance to inspire and stimulate a sense of belonging to our universal community:

"We pledge allegiance to the United Democratic States and to Earth for which it stands. One people, one country, indivisible with Peace, liberty, equality, brotherhood and justice for all."

Earth our country.

Chapter Nine:

Priority Two:
Zero-Carbon

With our first world government, we will create the level of capabilities that countries have been individually missing. Our federation will align all its available forces to undo the planetary crisis that is driving us to the Great ecologic Wall. Our priority is to shift Humanity's efforts toward a society that emits low enough volumes of green-house effect gases that the Earth ecosystem can re-absorb them and maintain its fragile climatic balance. This ecologic equilibrium level has been baptized "zero-carbon." *We aim for the invention of a zero-carbon society at scale.*

"A zero-carbon economy is both feasible and affordable. The issue is not feasibility but whether governments, industry and consumers are willing to take the required actions to get there" states Adair Turner, chair of the *UK Energy Transitions Commission*.

First of all, *we will stop subsidizing fossil fuels*. *The Overseas Development Institute (ODI)* estimates that rich countries are currently spending seven times more money supporting coal, oil and gas than they are to help poorer nations to fight climate change (*BBC Science and Environment*, Matt McGrath, Fall 2013). Fossil fuel subsidies are worth half a trillion dollars annually. They come from public funds of various sources, with financial aid provided to oil, coal and gas producers and their consumers, by local governments and even by international agencies. "This is a reckless use of public money at a time when people are very concerned about energy costs" says Kevin Watkins, executive director at the *ODI*. "Why are we spending 112 dollar per adult (per annum) in the *OECD* countries subsidizing an energy system that is driving us toward dangerous climate change when there are alternatives?"

Research from *the International Energy Agency (IEA)* also shows that these global subsidies for fossil fuels are six times higher than those for renewable energy. Another surprise: the *OECD* states that coal is subject to the lowest level of taxations of all energies while it is the highest polluter…

Our first recommendation to reach our zero-carbon global priority is simplistic: no more public support for the fossil economy. Lobby or not, jobs at stake or not, specific economies impacted or not – it's game over. This will give a clear message to start with.

At a higher level, intend to design a complete and cohesive framework to help the emergence of a zero-carbon society. We want to enable a model in which people of the federation can choose a lifestyle that is compatible with the sustainability of the environment. Individually, we will

continue with almost everything that we do today - but differently. We will learn and develop together *better* ways to live, eat, play, travel, produce and consume. *Better is our new growth…*

- *Better* stands for a responsible way to sustainability, end-to-end.
- *Better* forces us to reflect on the way we approach what we do every day.
- *Better* recognizes that we inextricably belong to the overall chain of life on Earth.
- *Better* acknowledges that resources are finite and we have to spare them.
- *Better* balances short-sighted financial benefits with a holistic societal perspective.
- *Better* revisits our attitude in front of peer-to-peer competition and the needs of our ego.
- *Better* demands that we reduce our waste and how we dispose of it.
- *Better* realizes that we do not have a future if we do not cherish Nature.
- *Better* starts from a profound new sense of individual and social responsibility.
- *Better* ultimately replaces *more.*
- *Better* means to handle to our children a world as promising as the one we found ourselves – or even *better*…

Each generation must leave behind a *better* Earth. To get to to such a place, we have to act together with everyone's support. Consumers and businesses need to consume and produce *better*.

As national leaders, we will work to resolve our endemic political governance problem and form the federation. Once this is done, the next challenge will be to define the allocation key to finance our new model. Experts estimate that the funding necessary to shift our civilization to zero-carbon fast enough equals one trillion dollars per year. It represents 1.2 percent of the annual GGP (Gross Global Product).

We will leverage the savings from universal Peace – 1.5 trillion dollars per year - to fund our zero-carbon initiative. Our plan is to reconvert military spending as follows:

- One trillion dollars will be invested in the direct acceleration of the green energy transition, including technology development, infrastructures and support for alternatives to fuel.
- 500 billion will be invested to finance the non-traumatic reconversion of the military industry and personnel, also toward green energy and associated products and services.

Also, we will review later the creation of a new global carbon tax. It will be directed to the member-states directly impacted by the energy transition, which today collect significant income from their oil and gas industry – such as the Middle-East, Russia, the USA, Venezuela, Norway… The Oil and Gas industry represented 3.3 trillion dollars of income in 2019 (*IBISWorld*) and will require this help to re-reposition itself faster on green energy segments.

The transfer of budget *from military to zero-carbon* will only constitute the public part of the total financing that we can leverage as a global team. The objective is to pull private investments toward the cause, so that free-market forces take over quickly. Public funding will act as a first stimulus to help green economy mature until it sustains itself with its virtuous business logic.

We want this all-out public stimulus to be the ignition key of the new model. Once the proof of long-term public commitment is demonstrated in regulatory and financial terms, full confidence

in the transformation will drive a defining economic shift. Private investments will follow. Public funding will generate a snowball effect. Public and private will then combine to amplify each other, until the need for public intervention disappears as new energies take over on their own rights.

Free-market forces alone cannot resolve this problem and would instead continue to steer with fossil energy for too long. Federal public money must act a booster of the clean alternative. If we only wait for the free-market transition, fossil fuels will have to disappear or be rare enough for their price to explode. With the vast discoveries of shale gas, it will take even longer. We cannot wait. We are not socialists fond of government spending. We prefer the market to lead when it can. But this is a truly critical exception. We have to strategically accelerate this inflexion so that free-market receives a framework in which the next wave of growth engines can follow.

After universal Peace, zero-carbon is our most important move. They go together. One will fund the other. The entire economy is waiting for this mutation. We all hear and see the effects of climate change but do not see much changing in what we do. We will drive this revolution which will only occur when we engage our unequivocal policy and resources on all fronts.

Private investors are waiting for a strong signal, having burned their fingers a couple of times already on the green sector. We are now cutting the ribbon to boost a tidal wave of investments never seen since the emergence of ICT (Information and Communication Technologies) in the eighties. Green will be cool and rewarding, we will help to demonstrate it. There won't be stop-and-go policies of local governments any longer. We do care about business. Green economy is the greatest business initiative ahead of us. It will impact all sectors, not only energy.

With the zero-carbon revolution, our objective is to create a new engine for the entire economy, the overall catalyst of our future development. We are starting the second industrial revolution – the zero-carbon revolution. Such inflexions are all about timing, curves of ramp-up and endorsement of new techniques and technologies.

Typically, technology cycles start with a *luminary phase* in which a lot of "seed" money is invested, with a promising but uncertain return. During this start-up phase, first users pioneer the benefits of the invention. They love innovation enough to accept the immaturity of its first implementation. For the new products that survive the first phase, the market finally takes off and goes into fast growth. In this second phase, success attracts new entrants. After a lot of growth comes a third phase: maturity. So many users and competitors have rallied the race that the solution commoditizes, prices go down and growth flattens. The maturity phase can last for a very long time, but ultimately turns into a plateau. Another new technology comes to disrupt the "old" one, which starts to wind down and is ultimately replaced. This is the full technology circle.

We live in an age where fossil fuel technologies have reached their full "maturity phase" for at least half a century while for the most part, newer cleaner technologies have barely been able to take off and to seriously reach competing mass-volume with fossil – except nuclear. They have remained somewhat economically immature, keeping us at the dawn of the clean revolution. In terms of life-cycle, they are still in their "luminary phase", only a few percent of consumers have shifted away from mainstream fossil. Electric plug-in cars only sell in thousands against fossil-powered cars still being bought in millions.

To better visualize the zero-carbon innovation lifecycle: it is as if we were at the end of the eighteenth century for the textile technology; in the middle of the nineteenth century for the fossil fuel industrial revolution; at the very beginning of the twentieth century for mass production techniques, at the beginning of the eighties for ICT, or at the turn of the century for the Internet. We are just at the beginning of the green learning curve. Green technologies should have already taken off ten or twenty years ago when fuel got more expensive and was seen as turning potentially rare. But more innovation took place for oil and gas extraction, shale gas discoveries kept coming and extraction and distribution remained relatively cheap. The natural free-market barrier to entry for green tech has not been crossed yet. Fuel is still cheaper and easier (extremely cheap as inventories are maxed out following the Coronavirus recession).

But here is the point: it is not only about business. It's about our impact on the planet and our own survival. Fossil fuel based activities (almost everything we do at scale) are the primary source of greenhouse emissions that engenders climate change. The energy sector cannot be looked as a normal business or technology, that should be governed by pure free-market rules. Its mass utilization/combustion derails our ecosystem. If we let the natural liberal business curve play alone, it may take another fifty years until green energies reach their maturity phase and truly challenge oil. By then, we may have turned into as an endangered species…

Fossil society we are. Fools we will be until we forcefully decide for a change and drive for the "un-natural" (accelerated) transition from the "cheaper" fossil free-market course. We want our world government to drive a massive commitment that initiates the virtuous spiral of the green economy transformation and anchors green economy – undisputedly – into mass adoption.

Though CO2 emissions are by far the principal source of global warming, they are not the only one. Methane comes next, with a risk of a brutal acceleration as the ices of the poles melt and release trapped gas. Also, black carbon, halocarbons, carbon monoxide, volatile organic compounds, nitric oxide and massive deforestation together create the necessity of a large front of actions, that that goes well beyond our fossil fuel energy consumption.

In the broadest sense, all the components of our lifestyle will be impacted to a slight degree in order to reach zero-carbon. Where we live, what we consume and eat, how we spend our time and even our natality will have to be calibrated with a *better* prism... Our civilization enters a new age. We will measure the quality of our lifestyle – our well-being – and its total impact on the environment, as opposed to only measuring the size and growth of our GDP. It is about making balancing acts with proper awareness of the end-to-end situation. There won't be a massive disruption, the society will continue to operate as a comprehensive ecosystem. Some of its components will morph – like oil and gas, fishing or meat production - but the economy will keep running at a stable speed during the transition – this is our firm intention.

We need a complete zero-carbon plan, one that is fully baked, quantified, articulated and financed. We are constructing this plan right now. We are bringing together the capacities of hands and brains from all countries. We believe that we can still turn the situation around, provided we act now with the financial commitment required by the challenge.

We have selected *four critical zero-carbon initiatives*. We will mix quasi-mature technologies - like nuclear - with emerging and yet unproven technologies - such as carbon sequestration - balancing life-cycle adoptions to achieve faster results:

1) Shift to renewable energies:

Our magic goal is to move from an energy consumption based on 80 percent of fossil fuel today to *80 percent of clean renewable energies before the middle of the century*. Given all the moving pieces, we can get delayed by an additional decade, but 2050 is recognized as the most aggressive realistic target. Fossil energy will be used only when no practical alternative exists.

The price of fossil fuels does not currently integrate a total cost to the society, including their resulting pollution. Fossil fuel price to the consumer only integrates the cost of research, extraction, transformation and distribution - not all the environmental impact that comes down the road when using it. As a result, fuel or gas look like they are much cheaper than their renewable energy competitors. The immense indirect costs of their consumption – in pollution and greenhouse effect – are not accounted for. Clean energies keep losing on price as they only compare with the direct cost of pure energy efficiency. They do not get any bonus – we should say societal equalization - for their cleanliness.

This has to totally change moving forward. Until renewable energies hit a sweet spot in usage where users stickiness compensate for their higher direct cost, their consumer price must compete fairly with a fossil "full true price" that includes its total cost of pollution. This is called a *carbon tax*. It will be implemented on the worldwide fossil energy consumption. As stated earlier, *this tax will be channeled to the oil producing countries so that they can manage their economic transition.*

Green/clean energies are not all created equals. There are disparities in cost and availability, mostly based on the degree of maturation of their extraction technology. Nuclear is the most competitive, followed by wind, with solar coming as a distant third. Nuclear has now reached its phase of industrial maturity, but remains challenging in terms of security. Solar, wind, geothermal and bio-energy are still emerging and not fully optimized. They offer tremendous room for further innovation and cost breakthrough. Their additional appeal will be stimulated with mass adoption and public/private investments to come. We are just at the eve of their adoption curve, with an amazing potential ahead:

- **Solar energy** is infinitely available and has benefitted from massive advances in technology, in particular owing to the progress achieved with photovoltaic panels where China now leads. However, this technology suffers from the constraint of an intermittent source. It is only available during daylight. We are only a few years from being able to compete in direct cost with fossil fuel energy, even without a carbon tax. In some countries the investments are already pulling the economic curve and advances in installation are rapid. National political support has been strong but… intermittent too.

With global warming underway, solar farms will flourish in the expanding deserts. We are looking at farms that could stretch over hundreds of miles, with distribution stations needed to move the energy toward the zones of consumption.

At a more distant horizon, a second generation of solar energy – not yet tested at scale – could rely on placing solar panels on geo-stationary satellites in space, where the sun is available twenty-four hours a day. Energy will emit to Earth via micro-waves, eliminating the issue of intermittence.

In the meantime, intermittence makes the storage of energy critical. The solution is the energy storage network, or "Grid" – the Internet of Energy. The "Grid" is a network of intelligent and interconnected energy reserves. Typically, energy comes to the Grid transformed into electricity. The Grid constantly moves electric energy into points of storage before being distributed.

- **Wind energy** also has enormous potential. The technology is in constant progress. Alone, it could provide all the energy that we need. Today's turbines have a technical capacity eight times larger than they had in 1990 and generate seventeen times more power. Still, because the business relies on public subsidies which come on and off, there is a chronic under-investment in research and development, which slows the potential price reduction curve. Yet, wind power has already managed to be the cheapest source among all renewable energies.

Like solar, it also suffers of its intermittent availability. The wind generally blows about 2,000 hours per year in the very best sites. It is critical to integrate wind power energy into the Grid as well, so that a ubiquitous storage system allows for constant distribution everywhere. There is a positive scale effect as well. With a growing number of turbines being installed and interconnected in distant enough places, the supply evens out as wind is always blowing up somewhere.

Many technologists think that the future of wind power is offshore. Wind farms of second-generation will be located on the ocean, with stations anchored into the sea. This approach is particularly promising because it limits noise and benefits from heavier winds on the ocean, typically much stronger and reliable than those on land.

Solar and wind powers are both perfectly clean and risk free. They share the heavy constraint of intermittence. They both need their electricity to be stored on the Grid, which directs power to consumers while temporarily storing unused electricity. Given the criticality of storage, a lot of innovation is expected to come from different storage technologies. We are starting to see such large hi-tech batteries in electric vehicles - maybe soon at home as well. Their manufacturing and disposal are a source of pollution by itself which we will have to monitor. A lot of potential for innovation remains untacked.

- **Geothermal energy** comes from the heat of the bowels of Earth. This power source is potentially unlimited and permanent. It qualifies as a principal source of energy for the future, since it could cover our total needs in theory. Yet, it is emerging and not well understood. Of course, there is already hot water directly accessible from the surface. But the promising longer-term future resides in the development of technologies that could harness the heat that is stored everywhere below us – under the Earth's crust all around the globe - and available at any time.

Industrialization evidently implies investments in resolving some heavy-duty challenges such as digging a few miles into the soil to reach an infinitely available heat – crossing the crust. The opportunity is to access a clean energy source that has no CO2 and is constantly available

everywhere. The challenge is that it comes at various depth levels because there are variations in the crust's thickness, with the thinnest areas being around the frictional points of the tectonic plates.

- **Bio-energy** is the conversion of biomass into energy, such as ethanol or bio-diesel. Despite the momentum that this industry has won in Brazil among other regions in the agricultural world, there are still questions about its long-term viability. Indeed, the carbon footprint of this source of energy is very high. Ethanol is already in full economic maturity in Brazil which sources 50 percent of its gas needs through the cultivation of sugarcane. The rest of the world remains quite hesitant due to the total net carbon footprint impact of the full cycle – from production to consumption.

Production consumes land and eliminates forests as space is needed for the crops, which are principally waste products from wood, sorghum, corn, sugarcane, Miscanthus (a hybrid dedicated specifically to energy), switch grass (the original bison grass in the plains of the US Midwest), soy, peanuts or sunflower. There are also many more associated hybrids being studied to increase yield and output. Overall, the process creates a great deal of competition between food needed for people or animals, with a technology that seeks to consume vegetation as well. Additionally, bio-energy uses a great deal of freshwater. Like any modern intensive farming, it weakens and pollutes the soil and generates massive quantities of methane. All in all, despite an initially promising start, bioenergy does not appear yet to be a mainstream viable alternative to fossil fuels.

- **Nuclear energy** represented historically our first real hope for cleaner electricity. It is technically infinitely available. However, the sector has had to constantly cope with debates and frankly genuine situations concerning its safety. Its trajectory toward acceptability was derailed with the 2011 Fukushima catastrophe. This tragedy made the already reluctant investors even more nervous about nuclear power. Put simply, it froze everything worldwide.

Nuclear energy production is in stagnation despite the relatively advanced maturity of the technology and only few new nuclear power stations have been created lately. The future of nuclear remains a question mark, it cumulates four principal handicaps:

i. Public fear - which paralyses democratic governments following accidents at Three Mile Island, Chernobyl and Fukushima;
ii. Uncertainty about stability and disposal of nuclear waste – although there has been great progress on this front;
iii. The costs involved in developing new safer nuclear power plants – 15 billion dollars for a pair of Vogtle reactors in Georgia;
iv. The risk of nuclear proliferation for military means - whereas a country could construct nuclear military weapons under the disguise of a civil program (all rogue states are currently trying as hard as they can).

Technological advances will continue to improve the safety of nuclear waste disposal and we can even imagine that in a few decades the Moon or the outer space become safe havens for waste disposals. Still, nuclear power remains a public safety dilemma for the new global government. We do not see a case for a nuclear renaissance. As we relook globally at our energy strategy, nuclear will certainly have a role to play, at least for existing installations and during our transition phase.

But making a long term bet on nuclear is unlikely. On the positive side, our new global governance will make us more comfortable with two of the four nuclear handicaps: the risk of proliferation for military means will disappear and the investment needed for new nuclear plants will benefit from the re-allocation of military budgets, including those for nuclear weapons. On the negative side, risks will never totally disappear. Given other promising safer alternatives at hand, it is hard to see nuclear energy as a global mainstream strategy long-term.

2) Reverse the deforestation trend:

Forests, together with oceans, are our natural air filters. Deforestation represents the second most prevalent cause of global warming after fossil fuels. Deforestation prevents the forests to compensate for about a fifth of man's total CO2 emissions. Since the end of Humanity's nomadic days, we have deforested to cultivate and to construct our villages and cities. We took down forests as if they were infinite, to get a safer open field, use or burn their precious wood and to make room for agricultural activities. Deforestation has been a major and meticulous human activity across History.

Today, *only a third of Earth's land acreage remains covered with forests*. Their footprint is reducing daily. The last primeval forests are found in Brazil, Indonesia and Africa where they are constantly under aggressive siege by those who would like to clear them for agriculture, pasturing of animals, mining, real estate or just to sell timber. Almost half of the current deforestation in the world is taking place in Brazil. In contrast and to a smaller scale, industrialized countries – where forests have become rare – are running campaigns to replant trees.

We will help the poorest states with financing to stop deforestation. Primitive forests will be transformed into federal sanctuaries of the original ecosystem. We will compensate member-states for the missed revenue that natural parks will impose on their economies – *versus* selling timber, increasing land for agriculture or collecting raw materials. Additionally, global reforestation will be encouraged through federal funds. By maximizing the green space around them, metropolitan areas will develop with a more sustainable urban planning approach.

3) **Preserve the soil with new agriculture**:

Mass-scale agriculture is not ecologically neutral. The soil is composed of fossil elements. It traps and holds a great deal of CO2 in its humus. This CO2 and other gases escape into the atmosphere following our massive soil disturbance. Agriculture has a big role to play in closing our green-house gas emissions gap. Additionally, agriculture weakens the soil and facilitates its erosion. Herbicides and pesticides pollute the water table and destroy fauna. Artificial fertilizers generate a variety of gases. Finally, crops consume vast quantities of freshwater which further contribute to its scarcity. The lack of efficiency in the current agricultural chain is a large source of extra-pollution and a key developer of CO2 and methane. Emissions from farming alone account for more than 10 percent of the total right now.

According to *the United Nations Environment Program (UNEP)*, simple changes in agricultural techniques could cut emissions by 4 giga-tons a year. "The potential is enormous" said Dr. Joseph Alcamo from *UNEP* to the *BBC*. "It is not with anything very exotic, it has to do with

the way we apply fertilizers to our fields. It has to do with conservative tillage so that you don't plough the fields so vigorously." New agricultural techniques that do not include the devastation of topsoil and the repetitive over-sowing of crops – no plowing and no direct plant seedlings – greatly reduce the problem. Conservation tillage includes leaving the previous year's crop residues on the fields to help protect the soils.

Techniques for a more sustainable agriculture are being used more and more in advanced regions like the US, Brazil and Canada. These techniques already represent a twentieth of the cultivated surfaces in the world. We want to encourage their accelerated pervasiveness. We will directly sponsor their implementation with the federal agricultural plan, at least in poor areas where agriculture has deteriorated the environment through accelerated erosion and desertification.

Additionally, it is estimated that continuingly raising temperatures will impact between 20 to 50 percent of current agricultural outputs. There will be an increased demand for freshwater to compensate for the heat, making freshwater even more scarce.

A new agricultural revolution is necessary and strategic – both for our ecologic protection and for beefing up our capacity to feed our increasing number of citizens. We definitely plan to make a major investment in the development and promotion of these technologies. The priorities of this program will be to minimize the CO2 and methane impact, reduce the consumption of water for crops, adapt production to climatic constraints and to rebalance farming zones between the warming North (turning more fertile) and the heating South (turning more desertic).

4) Develop carbon sequestration:

Still at an embryonic stage of development and lacking large-scale tests, carbon sequestration can be very promising. This technology aims to capture widespread carbon in the atmosphere and to store it within pockets, buried in the Earth's crust. Therefore, it traps CO2 and eliminates its environmentally destructive properties and potential greenhouse gas effect. This approach would allow us to reduce the impact of our future emissions – of which the excess can be stored underground. Even more importantly, in theory we could return to CO2 levels not seen since the days of the pre-industrial revolution and reduce the CO2 currently in the atmosphere.

If this possibility becomes a mass-scale reality, we could right the wrong that has been committed by the last generations and transmit a revitalized planet to our children… except for a few big gas bubbles lying underground. We want to evaluate this project at scale. It offers the extraordinary opportunity to continue to emit gases during our transition while we re-trap them in parallel. Such a flexibility would greatly improve our chances to hit a net zero-carbon footprint overall. This unique appeal will make the technology extremely attractive if stabilized.

We will focus our investments on these four priorities to execute our zero-carbon strategy. Such a broad program has a solid chance to hit the goal of at least stabilizing the climate impact to around 2 degrees above pre-industrial levels. We may do a little better with carbon sequestration.

Our assessment of the technologies available clearly concludes that *our future is predominantly electric*. The majority of the new energy sources will be transformed into electricity which will be stored and distributed through the energy Grid.

Exponential electric production already supports the growth of our ever-expanding information society which is a voracious consumer of energy. Today, professional computing farms – private and public clouds – already consume over 5 percent of the total electric output. This does not include TV screens or the many other electronic devices in existence such as phones, tablets and IOT devices. If we add them all up, our total consumption of electricity for electronic tools reaches nearly 10 percent of our grand total energy consumption.

The next horizon of our clean energy revolution – the upcoming wave of clean/electric consumption - stands out in transportation methods. Electric cars – first hybrids and then completely electric – will reinforce electric demand and drive further advances in battery storage, themselves part of the Grid. Battery technology will continue to make breakthroughs in terms of capacity, weight and cost, accelerating the spread of electricity as the principal energy vehicle. Storage is the critical pass. Battery innovation is essential because these issues have long been a major burden to the wider use of portable electricity-powered devices. Lithium has turned as a foremost strategic material. Battery production is not clean though – it's an area for improvement.

This is only a snapshot of what technology will make possible. We will support and further accelerate the green revolution. We will be fully engaged, but we need you above anything else. We will allow you to consume *better*. We will help you to "prime the pump". We will simulate the true full cost of energy to the society for your own wallet.

But beyond the artificial and temporary carbon tax, we are recommending to all responsible citizens to favor clean consumption on their own. You should learn to estimate the total ecologic impact of what you consume and make educated decisions. We are asking you to make pollution footprint the driving factor of your preferences. For this to happen, we owe you access to realistic and transparent information. We are preparing carbon footprint assessment toolkits. Consumers will be informed well beyond the opacity that prevails today.

Our zero-carbon plan will be a balancing act between a reduced level of carbon emissions (using clean sources) and our ability to sequester carbon (through seas, forests or underground) since our carbon emissions themselves cannot be down to zero in any scenario.

Our plan will include the regeneration of forests – especially around large urban centers – and the modernization of our agricultural techniques as we will see later. Given the uneven dispersion of energy resources on the planet, only a global solution can fix the problem. Within thirty or fourty years, we can reach a zero-carbon civilization, because for the first time ever, we will have the political and economic power to put these policies in place, everywhere.

Earth our country.

Chapter Ten:

Priority Three:
Sustainable Development

Zero-carbon is our objective to stop the warming of the atmosphere. It is a crisis management approach, dealing with the rapidly changing climatic conditions at stake. We hope to yield fast results in reducing the level of emissions. However, once that priority is on track, we want to drive an even more profound and long-term strategic plan, aimed at anchoring the sustainability of our species for the centuries to come. We can't ignore that the way we won the domination of our planet has to end, if we want billions of us to co-exist for much longer in our finite world. Zero-carbon is the most critical and urgent achievement, but we must attack other dimensions that relate to the broader necessity to re-integrate Humanity in harmony with its natural setting.

Beyond the immediate horizon of the warming crisis, we want to build a society that is both durable and better balanced. We will drive a paradigm change in the relationship that we have with our environment – so that we can evolve together in a cohesive and compatible way. *We are part of Nature. Nature is not just a resource; we belong to it. We cannot only extract, transform, consume and reject again and again indefinitely. We need to think differently.*

We recommend three main axes to achieve our sustainable development:

1) Protect biodiversity:

i. *Bio-diversity on land*:

We want to find a durable way to cohabit with all remaining species on Earth. Non-human life must survive our own development – animals and plants. Our complete ecosystem must be able to continue to exist, evolve and re-generate in parallel to human existence. This is not the case right now, we need a U-turn and an ecologic renaissance. We will develop large areas of protected wilderness – natural sanctuaries at the scale of the planet - where a natural stand-alone ecosystem for can be protected for the "wild" species which have withstood our bio-diversity crunch.

These "universal sanctuaries" will be the scaled-up equivalent of national parks. Their locations will be negotiated with the member-states concerned. We will try to preserve a representative panel of the diversity of our ecosystems. Some sanctuaries will be developed close to megalopolises. There will be a dual benefit: these parks will act as zones of ecologic memory and regeneration for all living beings, but also become huge "climate lungs", nesting immense forests. We are envisioning parks covering thousand of square miles, vast enough for Nature to

stabilize age-old ecosystems, where our children can observe and learn how the chain of life looked like in its primeval form. There will be no hunting, mining or agriculture – just pristine Nature.

Almost everywhere, animals in their natural setting have become endangered due to their extermination or the elimination of their natural habitat. So many species have already disappeared under the pressure of the human predator. It is too late to bring them back, unless their DNA allows their recreation in the future. At least, these sanctuaries will stop the erosion of the diversity of life.

ii. *Marine bio-diversity*:

There is a need for a radical re-thinking of our relationship with the marine ecosystem. The inexorable and accelerated destruction of the greatest realm of life on our planet continues at an alarming pace. No individual nation can police international waters. Nobody owns the oceans and everybody can fish. Fish are harvested at a savage rate and cannot reconstitute their population any longer. Survival of more species is at stake. Tuna for instance is fished two to three times faster than its rate of reproduction. Its's fishing has increased 1,000% over the past 60 years, to six million tons per year, a rate that "risks to bring tuna populations to unsustainable levels and possible extinctions" (Angie Coulter, *Fisheries Research*, January 2020).

Domestic fish farming is the alternative and sees rapid growth, now at almost 100 million tons per year – representing half of our total fish consumption. However, it remains the least of two evils. First, most fish do not adapt to domestication. While the number of species compatible with farming is growing, it is primarily limited to salmon, shrimp, sea bream and trout. Wild fish are like wild land animals – they struggle with captivity. Second, the industry is immature and far from having a neutral impact on the environment. Breeding millions of fish in small spaces concentrates an enormous amount of rejects and facilitates epidemics. Getting fish to survive and be healthy enough for consumption necessitates massive chemical treatments that are rejected in the sea. These issues and their resulting pollution have not been controlled properly yet, as fish farming is new and current techniques embryonic. The full fish farming production chain today is unefficient, should be revisited and dramatically optimized. Notwithstanding its pollution impact, ecologic yields are poor. It currently takes five pounds of anchovies to feed one pound of farmed salmon. If we are successful in domesticating tuna, it will take ten pounds of feed for one pound of tuna. We have work to do before we can bring fish farming to an even bigger scale.

Any kind of serious fishing limitation and regulation is currently impossible to enforce. Countries are involved in fishing "competition". Maritime borders are questioned and interests diverge nationally. Oceans essentially remain a zone without statute, which cannot be protected or developed in our current political fragmentation. The global government will take ownership. We will have a central authority for the protection of oceans and the management of their resources. Unrestrained industrial fishing will be greatly diminished and severely controlled. Smaller quotas will enable the marine ecosystem to re-generate. The "industrial" model of fishing is obsolete. It perpetuates the anachronistic model of mass hunting, which disappeared on land long ago by default of preys. Seas will be depleted the same way if we do not put an end to it.

We will take three key actions. First, we will create large marine sanctuaries as well - where species can get re-populated without industrial fishing. Second, we will concentrate innovation on

farming techniques that are much more efficient than today. Third, we will keep investing in more sustainable alternatives to seafood as sources of proteins.

2) Optimize our rarefying freshwater:

Availability of clean freshwater is a big problem that deserves our strategic focus. Already today, over a billion people do not have access to drinkable water. It is going to get worse due to climate change and pollution:

- Global warming will accelerate the evaporation of freshwater and increase desertification, while large freshwater reserves at the poles – ice - will melt faster than ever before. Ice will pour out into the oceans and become salty. The great lakes will evaporate more quickly and the average volume of streams and rivers will continue to decrease, adding pressure to reservoirs and increasing irrigation needs.
- Chemical agriculture is polluting underground water tables. With permanent pressure on food demand, "pure" freshwater will be increasingly rare.

Struggle for water in a fragmented political system will sooner or later generate a major military conflict. We are dealing with a time bomb for countries most affected by warming and desertification. Water flows and doesn't know borders. Here as well, global governance will make a big difference and help us to agree on ways to increase available freshwater while improving its fair distribution across current country lines. If no international mapping and planning is decided, countries residing downstream will see their rivers emptied with the construction of reservoirs upstream, leaving them to accelerated desertification.

Desalinization techniques of ocean water continue to progress for human consumption. That's probably what they are good for – probably not for a full replacement of fresh water. The cost of artificially freshened water for agricultural irrigation will remain exorbitant for a long time, if not forever. More importantly, the industrial process of desalinization is no panacea for the environment and leads to significant chemical pollution.

From now on, we will treat freshwater as a rare commodity. Limited availability of pure freshwater makes it precious and strategic. We see it as one of our critical international pain points for the future. We have to stop treating freshwater as an endless commodity. Water needs to be protected. We will implement policies to improve waste control and optimize its useage in agricultural, industrial and domestic consumption. A world water strategy is necessary. It will integrate a geographic balance between populations and available local aquifers. The presence of sufficient water will be an essential criterion for the sustainable development of a community.

3) Align populations with natural capacity and infrastructures:

- **Re-align our geographic presence with natural disparities:**

Looking at currently available natural resources, mankind has spread out surprisingly inequitably on the surface of Earth. This is the result of History. Borders have shaped up when population densities were so different from today. With an ever-increasing number of people, the

economic catch up of entire new regions and the transformation of our environment due to climate change, the necessity to re-think and to more logically influence the zoning of our human footprint is paramount. The assessment of the "capacity" of a local natural ecosystem to welcome a massive number of humans is critical to the optimization of our sustainable footprint. Some areas have the capacity to host many more of us – like Siberia – while others are being already ecologically saturated or asphyxiated – like most of China.

Migrations caused by climate change will make the situation worse. The *UN* estimates that already 20 million people have been displaced by the impact of climate change. Some analysts forecast that the number of climate refugees will climb to 200 million by 2050 – as many as the total number of migrants today. New research positions the case for a billion people by the end of the century, attempting to model sea-level rise and desertification. The federal government will build scenarios in anticipation, acknowledge the risks and define solutions accordingly.

There are a few critical levers that we can use to help align human density over time with what the environment can cope with. First, we need to raise awareness of *natality self-control* and impact the population curve. Second, we must *manage mass-migrations* strategically. These two key strategies will be covered in our Priority Five (Natality, Migrations, Identities and Healthcare). Third, we have to *optimize the chain of agricultural products*, which we will address in Priority Four (Feed the Planet). Fourth, we need *large-scale infrastructure improvements* in the most under-developed areas, to even out geographic disparities, as per Priority Seven (Green Economy).

- **Anticipate further increase in urban density with many megalopolises:**

The irremediable urbanization of our society has now pervaded everywhere, with alarming pollution levels. Concerns are rising about the ecologic viability of megalopolises. They concentrate tens of millions of people within a few square miles. Two thirds of us will live in cities, so we must have a plan to make megalopolises sustainable. Today, many inhabitants of large urban and suburban areas are living in increasingly difficult conditions. The ecosystem around them deteriorates proportionally to anarchic urban developments.

Beyond the caché of an historic center, the horizontal expansion of suburbs is endless, with ghettos and shanty-towns dotting the landscape of ever-increasing new worlds on their own right. This explosion leads to Dantésque levels of road maintenance and millions of hours of traffic jams that leave the air toxic with a sick smog, taking an immense toll on the inhabitants and natural resources at their vicinity.

Gigantic cities used to be the exception. They are now becoming the norm and act as a magnet for growing or migrating populations in developing and emerging countries. This is where we must concentrate our effort of optimization. The re-invention of our ecologic footprint with coordinated planning – the "smart city of the future" – will have the biggest impact. Concentration allows to develop advanced optimized infrastructures at scale. If well re-designed, these gigantic cities have the potential to reach a much better environmental balance. Megalopolises could evolve from environmental monsters to a privileged solution for managing global over-population. They can be optimized for the lowest footprint of pollution per capita.

Experts foresee that if cities were re-worked with better management of their space – with constructions that are made more efficient in energy use - they would permit a considerable carbon footprint reduction. Their thesis intends to demonstrate that second-generation megalopolises could achieve the lowest possible individual ecologic impact per inhabitant – less than any other form of human habitat. Utilities would be specifically designed and optimized for optimal concentration, more efficiently than suburban or dispersed housing. Basically, they assert that an apartment in a tower is much more efficient than a stand-alone house.

Al Gore already explained that a New-Yorker is three times less harmful to the environment than the average American. He or she is much more likely to take public transportation, walk in the street, share his heating system and live in a smaller surface. Yet, this is not the case for the immense New York suburbs, where automobiles and individual housing are the norm and the pollution footprint very high. Having less and cleaner cars owing to safe and comfortable public transportation is critical for suburbia.

Smart-city futurists are promoting vertical expansion, which they prefer to our current anarchic suburban spread. They envision an urban perimeter ideally concentrated, surrounded with enormous green spaces that filter the air. Humans would live in concentrated bubbles designed like human islands, carefully immersed in pristine Nature. In such ecologically conscious megalopolises, lifestyles would foreshadow those to come in future space colonies. They project urban clusters optimized for social life, comfortable, energy efficient and self-contained. They apply the concept of enormous ocean liners in the middle of the sea, with their integrated power and trash treatment facilities. Their ecologic footprint per inhabitant will be multiple times better than the one of millions of small boats, anchored everywhere and forcing Nature to deal with the anarchic release of their dirty waters and waste.

We are tempted to support the best ecologic footprint for the maximum number of people. But quality of life matters. Respecting the Freedom of a preferred lifestyle won't be ignored. We have no intention to resolve for the highest possible number of humans that Earth can accommodate – be it in bubbles. Management of natality is a wiser path than locking us all into extreme megalopolises until we experience the limit of how many of us the planet can bear.

- **Control rural and suburban ecologic footprint:**

The image of a few dozen huge cruise liners versus the one of millions of small boats scattered around the seas highlights one of the most difficult problems for us to deal with as a global team in the future. We will have to manage a balancing act between the benefits of optimizing and planning for the best infrastructures while ensuring individual Freedom of lifestyle. It's a question of individual and collective responsibility. How can we find ways together to satisfy multiple responsible lifestyles not harming everyone else? We need to steer innovation for both paths in parallel: smarter-cities (megalopolises) and smarter-homes (individual habitat).

To achieve this duality, single family homes will have to be greatly improved, because their carbon footprint is currently the highest by a factor two or more. For instance, we will have to find ways to insert them into the energy Grid – use their individual solar panels as mini-power plants and storage units. There will be more inventions and new solutions.

It is up to us to adapt our lifestyle to reach collective harmony with our finite environment, while also protecting what gives a meaningful sense to our individual life. We want to live a "good life" and also pass an even better baton to our descendants.

Sustainability starts from each and all of us. We have the individual duty to behave as informed, mature and responsible adults who can draw by themselves the implications of the battle against climate change – what we buy, burn, use, waste and how and where we live. We are the actors of this play, not the spectators. Passivity is our enemy as much as denial.

Each of us influences the big picture as a consequence of how we choose to define the impact of our life:

- How we eat and limit waste – less red meat, less wild fish and consume our food before it's out of date;
- How we buy and limit waste – durable products that we need versus so many throw-away's;
- How we travel – favor public transportation, buy or share low-energy vehicles, be selective for long-distance travel;
- How we work – when possible work from home and optimize un-necessary commuting;
- How we live – wisely use domestic utilities such as of air-conditioning, heating, electricity and fresh water, invest in insulation and self-sufficient energy production when applicable;
- How we relate to Nature – act responsibly with our environment, in particular treat living beings as peers not resources;
- How we relate to each other – behave as one people and demonstrate solidarity;
- How we learn – discover, be curious about our fascinating world, be engaged with a point of view on things that matter, recognize the need for change and be an active citizen;
- How we behave – cultivate a moral compass, fight ignorance, passivity and intolerance.

We are the first generation to know. We are endowed with the responsibility to save and to regenerate what we have unconsciously damaged. Our lack of sustainability is our discovery.

We, the leaders of your nations, are not taking such a risk ligthly. It is our duty to help all of us through these peculiar times. You have elected us to be responsible, as unconvenient as our recommendations may sound to some of you. The power of a unified global team will make a paradigm change to engage and win this crusade. Now we have the empowerment needed to get us all back on track.

Earth our country.

Chapter Eleven:

Priority Four:
Feed the Planet

Nearly 10 billion humans will have to be fed by 2050. Their majority – from emerging countries – will benefit from an increase in living standards, which will boost their individual consumption. With their enhanced lifestyle, they will discover and afford more sophisticated desires in food quantity, variety and quality. This is a puzzling dimension.

At the same time, climate warming threatens our net global agricultural production. The risk is a 30 to 50 percent impact on global agricultural yields.

Pandemic's recovery adds a third dimension.

The world risks widespread famines of "biblical proportions" just warned David Beasley, head of the *World Food Programme* at the *UN*. A report estimates that the number suffering from hunger could go from 135 million today to over 250 million post Covid-19. He added: "the truth is we do not have time on our side (…), 30 million people, and possibly more, could die in a matter of months (…). One way or another, the world will pay for this."

Modern agriculture is already the second source of pollution and greenhouse gas – mainly CO2 and methane. We need a much bigger output. How can this happen while avoiding further ecologic escalation?

Demand for food and agricultural products in general will rise by around 70 percent in this century. The conjunction of this jump in demand and of the additional stress on productivity due to the climate impact will create a perfect storm. The stress on the agricultural and food chains makes them strategic again. Innovation is needed to avoid a deep crisis.

Regions will develop large variations and tensions on their own supply chain, depending on their respective levels of population growth, GDP growth, localized climate change and the aftermath of the pandemia. Adding to the global challenge, we anticipate that regional difficulties will become more critical in tropical and subtropical zones. They will be first to face the impossibility of agricultural independence; provoking famines, conflicts and climate migrations.

A study just published by *PNAS (US National Academy of Sciences)* shows that for the past 6,000 years the majority of mankind has lived in regions where the average temperature was

between 11 and 15 degrees Celcius (52 and 59 Fahrenheit). The study adds: "future climate change will affect this average temperature and at its most extreme would mean that *3.5 billion people would be outside their current climate niche (in 2070)*. In fact, one of three of us would experience annual average temperatures of more than 29 degrees (84 Farhenheit) – a climate currently experienced by humans in only a handful of the hottest desert settlements".

The constraints that will burden the agricultural sector will provoke short-term shortages and price explosions. They will lead to a *strategic dilemma: more food or more environmental sustainability.*

Today, 75% of the world's food is still generated from the same 12 plant and five animal species that were domesticated at the invention of agriculture 12,000 years ago (source: *PNAS*).

The first approach is laissez-faire, letting supply and demand work themselves out. We think that this will lead to extreme tensions within twenty years or less, given the short-term complications of Coronavirus.

We recommend instead a very strategic reaction. We will prepare for the second modern agricultural revolution, after a stagnation in productivity that followed the first revolution in the mid nineteeth to twenteeth centuries. We will bridge critical supply with increasing demand in the context of their inherent environmental limitations. We will monitor the challenge of a global moving target in crop types and yields, as climate continues to evolve.

In order to feed the planet in a sustainable way, we have to overcome five key difficulties:

- *Available soils will become scarce.*

  We should avoid clearing more land for farming. We need more forests. There must be a halt to de-forestation and an acceleration of re-forestation. Additionally, we will face increasing desertification which will take over our existing agricultural land faster than new de-frosted lands can compensate. The time needed for the permafrost to melt-down and for the buildup of green-field infrastructures are still hard to predict.

- *Soil quality will further deteriorate.*

  Soils have been severely damaged over the last century of intensive agriculture, with deep mechanical plowing techniques and the systematic addition of chemical fertilizers and pesticides. There has been a 50 percent decline in soil's natural fertility already in the industrialized nations since the 1800's because of reduced CO2 in the soil – which has been released in the atmosphere… Under an even deeper agricultural pressure, we will face a soil capacity challenge.

- *Fresh water will become even scarcer.*

  Due to the joint effects of pollution, increased consumption and higher average temperatures, access to clean fresh water will become a struggle, in particular in tropical areas.

- *Proliferation of microbes and bacteria.*

Heat will augment agricultural diseases. Insects will become more active transmitters. Insects are the living organisms on the planet that will profit the most from climate warming. We already see an acceleration of pandemics with palmtrees, olive trees and more.

- *Increase in the acidity of the oceans.*
  Acidity will surge in the oceans as they absorb more CO2. It will intensify pressure on marine animals, already in danger of being overfished and destabilize the ocean food chain, weakening the formation of plankton and shells of small mollusks that are the base of marine life.

Our counsel to the future federal government is a radical reform of food production. This includes breeding, agriculture, fishing and sea farming. Collecting food from the soil or from the oceans represents our most direct exchange with Nature. We need to make this trade very carefully as it defines our predatory relationship with the rest of the chain of life.

The framework of this program should be flexible. We will deal with huge swings and uncertainties. It is difficult to know how many people Earth can support and feed. A population of 5 billion of well-fed people is probably a maximum level of safety given our anticipated climate scenario. Dealing with 10 billion people in a couple of decades will be extremely challenging. Population growth becomes a headache when also trying to reduce our agricultural CO2 and methane impact. Besides natality, we will have to lever global food efficiency, technical innovation, stringent waste management and a step function in supply chain capabilities.

We have identified five principles for future breakthrough:

1. Plan for food demand and production at global scale:

A comprehensive plan must take a global view, as there are inter-related moving pieces everywhere. Agricultural resources should be analyzed and planned for globally and strategically. We acknowledge the benefit of local supply and logistical constraints for fresh products. But we need to think beyond the traditional loop of local-production-consumption. Production has to take place where it is most efficiently done, without the sole mind-set of national food supply independence. The trade-off between home-made and global productivity with enhanced environmental footprint must be addressed.

If the prevalent model of national food production independence continues, it is almost certain that billions will die of hunger this century, igniting major international tensions.

Considering the lack of freshwater, poor subtropical countries will be condemned. If we maintain our dominant food supply model in which people live close to where their essential food is being produced (the same country), we can anticipate migrations that will create strong reactions. We have to accept that millions of people will die from hunger where they are forced to live.

Thus, agriculture must be looked at with a global lens. We must stimulate production where it can reach the most efficient yields with the least damage to the environment, together with logistics and infrastructures that can extend the geographic reach of freshness. Ultimately, we need to be able to provide food to people almost anywhere they live. It will prevent us from a scenario in

which one poor local harvest due to widespread drought forces millions of people to escape an area in search of food – or die.

This mind-set will be applied to the entire agricultural chain of production and distribution:

- Starting upstream, from *planting to harvesting* in the most efficient manner; selecting soils offering the best productivity with a diversification of crops adapted to their environment. We will see later how new techniques can make a difference.

- Continuing downstream with the *logistics of distribution* to consumers; moving products fast at lower cost and waste and investing in a sophisticated international infrastructure. Widespread food availability at a more even cost should help poor countries, which have typically the lowest yields, to move away from the inefficient production that harasses their soils. Anachronic agricultural systems should gradually disappear while farmers refocus on the most successful products for their soil and climate. We will help them to export with a world-class logistics chain expanding everywhere.

- Finally, we must put an end to the endemic *end-to-end waste* in food production and supply. A major effort has to take place in efficiency of operations and commercial practices of agricultural markets, reducing the *unsustainable 30 percent waste* of this sector. Waste from production to final consumption will be measured, traced and penalized. Current waste levels are un unacceptable price to pay, given the enormous ecologic footprint of the sector and the penury that we will have to deal with.

2. Invest in technologies that will transform production methods:

As we saw earlier, the challenge will be to respond by 2050 to a potential demand that could climb by 70 percent, to feed our 10 billion siblings.

Such a jump in productivity has been achieved before – even exceeded – during the first modern agricultural revolution. This was the result of extensive use of chemical fertilizers and of clearing large new lots of land with automated or mechanized irrigation, plowing and harvesting. Until the sixties, we saw formidable yield improvements, doubling the output over the course of twenty years with 3 to 5 percent annual increase in yields as new methods were being implemented. After that, investments and innovation plummeted and we remained in stagnation mode.

The first low hanging fruit is *waste reduction* throughout the whole chain. If we can get down from a 30 percent overall waste end-to-end to 10 percent, we “only” have to yield a 50 percent overall increase in production at a flat carbon footprint level - instead of 70 percent.

It remains a huge challenge that shows the physical limit that we are reaching with the scale of our population and consumption, but with a global plan that fosters innovation across the chain, the objective may possibly be achieved. If not, we will need to enforce a population reduction scheme. It is hard to conceive how we can continue to feed decently more than ten billion people while managing the full regeneration of the ecosystem - soil, water, carbon emissions.

Yet, we see great opportunities to reach efficiency gains, so we take the challenge with a maximum of a 10 billion people population at sight. We recommend a threefolded approach to our strategic food production policy –more to come as discoveries uncover new opportunities:

- *Stimulate the selection and production of crops that use less water and have a lighter carbon footprint*. We will promote the use of crops that match the capability of their surroundings. For example, rice cultivation consumes an enormous amount of water and should be centralized in zones that are the wettest. Cultivating rice in dry climates just for the sake of delighting local people with local rice is an ecologic madness. Also, we support the careful evaluation of genetically modified seeds, focusing on crops more frugal in water consumption and carbon footprint, insisting on agricultural species better adapted to arid climates. To limit popular fear about genetic transformation and guarantee safety, public certification will be very active.

- *Launch a governmental incentive for regenerative agriculture, to protect and revitalize soils for the long-term*. We will offer incentives to farmers when they accelerate the cyclical rotation of crops. It is essential to allow soils to regenerate rather than exhausting already weakened ones. Chemical fertilizers will be gradually replaced by proven organic technologies like bio-chip. In an approach similar to the one we have recommended for fossil fuels, we are looking at ways to pass the full cost of agricultural products to the consumer, including their ecologic impact. The ones causing the greatest carbon/methane/water footprint will be price-equalized, to promote products less damaging to the environment.

- *Encourage the deployment of new technologies of drip irrigation and plowing-free sowing*. There is a variety of emerging water and soil management technologies, some of which have already been proven effective, but not yet widely used outside of the Americas. They allow for optimal water useage and soil management. Water is distributed drop-by-drop. The soil is not plowed or turned over by huge tractors that are also consumers of fossil fuels. It allows to better conserve moisture and to keep more carbon in the the humus layer.

3. Influence consumers to learn and enjoy vegetarian diets:

This will happen by spreading information and educating consumers' taste, raising awareness about environmental issues related to beef production and overfishing carnivorous fish like tuna.

This is not our most popular chapter. Most of you love red meat and wild fish. Still, our role is to be transparent with what we know. In all likelihood, demand for beef will double in the coming forty years. We should find ways to avoid to force supply to match such a growth in demand.

Most people enjoy the taste of red meat but ignore its environmental cost. The beef industry has a major impact on greenhouse gases and on freshwater consumption. Poultry production has a much less negative footprint. Al Gore explains that it takes nearly 5,000 gallons of water and 15 pounds of vegetable protein to produce 1 pound of red meat, in addition to the diesel used at the farm. Another study asserts that this same pound of red meat exhausts the equivalent of 15 to 30 pounds of CO_2 depending on its mode of breeding.

Industrial cattle production represents a huge ecologic waste. We should be careful not to let it grow even further. According to the 2006 UN climate report, *meat production is responsible for 18 percent of total greenhouse gases emissions*, with the majority coming from beef.

Many in the meat industry are frightened with such realities and fear future beef production quotas. Proactively, they have made proposals for alternative ways to produce beef. They offer to return to more natural pasturing systems in which cattle is rotated around larger grassy fields, allowing the soil to regenerate. This alternative imposes the use of even more land and additional de-forestation. If we have to trade between grass and forest, it would be ecologically beneficial to replant trees or to keep existing trees rather than opening new immense pastures.

The entrenched Western beef culture gets copied all over the world - the big fat juicy steak, hamburger or barbecue. Millions of cows are sacrificed every year to finish in our plate. We can learn better from other cultures. We are getting fatter with higher cholesterol and higher likelihood of cardiovascular diseases. Our health will only benefit if we learn to reduce our modern appetite for red steaks and their derivatives. We advise you all to move toward a healthier diet. Try less beef, more chicken, farmed fish and vegetables. We will start with education on healthy and sustainable food diets at school. Taste is mostly acquired, we can learn better being curious. Most Asians – Indians in particular – are showing the way with their delicious vegetarian cuisine.

4. Prohibit industrial fishing:

Already overfished, oceans must also deal with growing acidification, due to higher levels of CO2, with an anticipated increase of up to 170 percent by 2100. Oceans have already swallowed so much of the CO2 rejected since the industrial revolution – hiding its full climatic effects – that acidity impacts plankton in a major way. The rarefaction of plankton endangers the entire marine food chain. The increase in acidity has reduced marine bio-diversity by 30 percent already. The holistic way to address the problem is to reduce CO2 in the atmosphere – our zero-carbon plan.

In parallel, the low hanging fruit that we can immediately address is to stop mass fishing. Since the world government will be for the first time in History empowered to manage the free zone of the oceans, we can finally ensure that more stringent industrial fishing quotas are finally enforced.

Fish farming is not a panacea either for the environment. Far from being truly "clean," it leaves a heavy pollution footprint and the majority of fish species do not fare well in the overcrowded lakes or cages required for production, while those that survive transmit diseases that must be treated with always more chemicals or antibiotics.

Because fish farming only took off thirty years ago as an industry, techniques are still in infancy, not even approaching the scale and expertise of our multi-millennium land farming. We should give it more time to mature and foster innovation. There are possibilities for optimization with new hybrid species at the horizon. The farming of algae is a promising opportunity to pursue.

All in all, seas cover most of the planet and offer a formidable potential for sustainable food supply, assuming that we take a cohesive approach. We will launch a program of global investment

to reposition our management of the marine ecosystem. We will improve fish farming techniques, accelerate the re-population of wild fish and minimize overall industrial wild fishing.

5. Sponsor nutritional innovation – including synthetic food technology:

Artificial meat is a clone to ocean and terrestrial animal muscle tissue. Although still futuristic and at an early stage, its proponents anticipate a more efficient ecologic yield than natural meat as technology matures. The yield is measured by the capacity to feed divided by its carbon footprint.

For whoever cares – some of us do – it also presents the philosophical advantage of avoiding to kill feeling animals. *Sentient Media* has calculated that 72 billion land animals and over 1.2 trillion aquatic animals are killed for human food around the world every year.

The world's first hamburger-like steak prototype - lab-grown from beef stem cells - was offered for tasting to two food journalists at a news conference in London in August 2013, with great hype. Both said that it tasted pretty good. Yet, the steak "prototype" cost was… 300,000 dollars. Since then, these technologies are starting to translate into more economical solutions. *Beyond Meat* for instance is now offering hamburger steaks at 10 dollars per pound… Their gustatory difference will take time to get used to, but they offer a serious future response to the impact of a changing climate and to its most pessimistic pressures on Humanity. We could someday depend on this form of nutrition – temporarily, regionally or *even in space*.

Indeed, we so have many tools at our disposal to feed our human planet. Let's run this play as we have run computer technology – make it rewarding and fast-paced. Within the range of our possible future scenarios, we must take a forceful, strategic and global approach. The actions will not always be popular and some will challenge entrenched culinary taboos. But they will prepare us to feed Humanity in a durable way. This is such a critical issue. Its resolution will define our capability to survive and to rebound even if the higher end of our environmental risk materializes.

The capacity of the food chain to transform itself in front of this challenge will dictate the number of people that Earth can continue to support. If billions of us are to survive long-term even in the most extreme climate scenarios, the number of survivors will directly depend on the speed at which we can adapt our agriculture end-to-end as well as our diet.

We must start today to embrace our second agricultural revolution. It will help us to avoid the potential risk of what could be the great famine of the twenty-first century.

Earth our country.

Chapter Twelve:

Priority Five:
Natality, Migrations, Identities and Healthcare

Policies and rights for natality, migrations, identities and healthcare will be sensitive issues in our new world since they relate to the core moral values of a globalizing civilization.

- What is the maximimum number of humans that Earth can sustain and the implications?
- What is a manageable process to handle mass-migrations?
- What is fair blend of universal values and local identities in a universal society?
- What is the desired minimum healthcare for everyone?

1. Natality:

Since the nineteenth century, our model has led us to constant increase in population and standard of living. This formula has promoted economic growth as the engine of our society.

We were 1 billion people on Earth in 1800, 1.6 billion in 1900, 3.5 billion in 1960, more than 6.5 billion in 2010 and *we expect approximately 10 billion people in 2050* - maybe 11 billion by the end of the century. There has never been such a rapid expansion of our species at this scale. Such a growth, aggravated by the multiplying effect of our consumerist appetite, is the direct cause of the climate situation that confronts us today. The *GIEC* has reconfirmed that we are the direct cause of climate warming, with a 95 percent probability.

We can demonstrate the direct relationship between human population growth and climate change, putting a set of parallel numbers representing CO2 emitted into the atmosphere, measured in tons/year. CO2 emissions were 150 times higher in 2011 that they were in 1850. We emitted a marginally low number in 1800, 2 billion tons in 1900, 9 billion in 1960, 25 billion in 2000, 30 billion in 2010, over 35 billion in 2017 and the prediction for the second half of the century is anyone's best guess. As we compare these two sets of numbers – human headcount *versus* CO2 generated – we can clearly see the intimate correlation and the proof of our responsibility.

The geographic origin of population increase further darkens the picture. Additional population comes entirely from poor countries – in tropical areas where Nature is more sterile. In regions that are already fragile, this will intensify pressure on natural resources, especially freshwater.

We acknowledge that (i) the number of human beings on Earth now represents a real stretch to our environment and (ii) more stress is coming with everyone aspiring to an American way of life. Here are the rounded GGP (Gross Global Product) numbers adjusted for inflation in 2011 US dollars according to *The World Bank* and *Madison* in 2017: 1 trillion in 1800, 3.4 in 1900, 8 in 1940, 14 in 1960, 35 in 1980, 50 in 1990, 60 in 2000, 95 in 2010 and over 100 today. *We basically grew our economic output by a factor 100 in two centuries – in direct correlation with our consumption.*

We cannot sustain ourselves if we continue to multiply our population and consumption as we have over the last two centuries. Unless we manage a superb turnaround, we are over-populating our golden cage. "Something" – peaceful or not – has got to stop this trend. If we don't put a brake to natality and control qualitatively our total consumption, a Great Wall is coming right at us.

It is not trivial to anticipate how many people Earth can support in harmony and for how long, because it depends on many variables: a changing climate, the adaptability of our agriculture and our collective human intelligence to manage ourselves. We only have one statistical evidence: *since 1800 when our population exceeded its first billion and became consumerist, we have started to impact the climate of our planet*. The whole human machine got itself into a "growth syndrome". Growth of the economy, of people, in standard of living – everything has grown and keeps growing. Growth *is* the panacea, the recipe for any betterment of our future. *We have to grow to survive. Unfortunately, our planet is not growing and never will*… How to we put the brakes?

Facing similar circumstances at the national level, the Chinese long ago implemented forcefully their unpopular "one-child policy." The method was morally unacceptable but strategically justified. China put a brutal stop to one dimension of "growth" – population – in order to focus on the fight against poverty. As democratic Founding Fathers, we have morale reservations regarding the approach, but the objective was right. We are not going that far just yet. We want to try softer ways first and see if they can achieve a similar result. Preventing parents to have several children by law is an extreme limitation to individual Freedom.

Outside of China in industrialized societies, for the first time in History women have access to conscious birth control. Women can decide how many children they want rather than systematically producing babies under male and family pressure, with their biology as the only capacity limit. Pervasiveness of female workers, broader acceptance of contraception and gay culture further magnifie this trend. This is all good news and is moving us in the right direction – but *not quickly enough*.

Also, we are starting to observe some first historical decreases in global birthrates. The global natality curve shows a slowdown, not only in industrialized nations but lately in developing countries as well. When families become more affluent, they want to be smaller. Such a turning point took a century in industrialized countries. It is now happening in less than three decades (one single generation) in developing countries. *The Economist* even anticipates that between 2020 and 2050 the rate of global fertility could fall below the rate of replacement of the species - 2.1 children per family. Such an inflexion point would stabilize the population or even reduce it for the first time in centuries, after a peak that is anticipated to be reached in 2050. This is a best-case scenario.

Still today, an African woman has five children in average... We can't just bet on a positive natural outcome. If we do nothing, a stabilization in the global population curve will not happen before 2050 and we risk to reach 10 billion people during this century. To make it worse, most recent analysis deny "optimistic" forecasts and project a continued growth in population with over 10 billion by the middle of the century and 11 billion by 2100. We really need to act instead of "hoping", waiting to see what happens with a natural pace.

There is no "bonus" for mankind to continue to grow its population. It is the other way around. We need to get our headcount back in control. Countries themselves have driven the opposite, in order to individually compete better, with more people. More people mean more power. A global federation has no need for that. We only care about global harmony, not local dominance. The smaller our population we will be, the easier we will manage sustainable global solutions. Local policies promoting high birthrates – stimulated by traditional, nationalistic or religiously beliefs – must be stopped and considered harmful to Humanity as a whole.

We need to find an ethical and moral way to self-regulate the size of our population. We have certainly reached a maximum bearable size for Humanity. It's hard to see with confidence how we can get above that number and offer to each of us a chance to succeed in life, while also ensuring our common sustainability.

Our world government will have to scope a cohesive plan with morally acceptable mechanisms that get us to an objective of less than 8 billion people by 2050 and 5 billion by 2100 – half of the current projection. It will be so much easier to be 5 billion of well-fed humans, who can function in harmony with their planet, even if a smaller population comes at the cost of an aging one.

We need a global strategy of voluntary fertility reduction, with the goal to fall below the 2:1 global replacement rate as early as possible. We will focus on geographic areas where birthrates are the highest – because over *90 percent of infants today are born in poor countries.* We will start to articulate policies of birth control driven by humanism and not a systematic one-child policy. Here are some of the low-hanging fruits that we want to pursue:

- Strengthen the education of women in the poorest countries and most remote villages. They must learn about sexual protection, contraception, economic opportunities if they work;
- Establish a global system that totally supports protection and contraception. We anticipate tensions with anti-abortion lobbies, but there is no way out;
- Offer a health system that reassures women that their children will definitely survive, alleviate the need for multiple children to guarantee that at least a few attain adulthood;
- Create fiscal incentives for having less children – tax families with a high number of children as opposed to granting them credits for a higher number;
- Support gay rights globally. Gradually shift the post-historic society to a mind-set in which homosexual or heterosexual love-and-life loyalty does not require to build a large family with many children. It's about enabling successful children, not the number of them.

The aim of these initiatives is to try to avoid an edicted one-child policy, while reaching a similar result. However, if our efforts to fight global warming prove unsufficient and we need to

accelerate the reduction of our global population to cope with growingly adverse circumstances, we will have to be pragmatically prepared for a more restrictive solution.

2. Migrations and climate refugees:

There is no global policy or regulation that takes care of migrations today. By definition, migrations are people leaving one country for another - therefore each host country must decide who to accept or not and each migrant takes a bet on where to go. With the recent increase in economically motivated migrations, over 200 million people have left their home country to work elsewhere. What was an exception – leaving home – has turned into a new norm. Looking forward, numbers will get higher and will be further amplified with climate refugees.

We are getting used to see desperate people drowning every day, trying their luck crossing the Mediterranean on minuscule boats, packed in the hundreds with a bag and their children. Some others try to cross the wall between Mexico and the US. There are no rules or regulations to deal with such people; they have abandoned their own country – so they have lost any right. Until another country eventually provides them with an official asylum, they are nobody, and nobody's problem or solution. Only a country's citizenship or visa offers a seal of legal existence.

Immigration at the right pace and with an efficient policy of integration can be a bonus, both economically and socially. In theory, it relieves the country of origin from the pain of its excessive natality and provides hands and brains to the host countries in need. It gives the immigrant a chance for a future that he or she deems better. Societies enrich themselves with diversity. This has been demonstrated over the course of History.

However, the recent scale of immigration, primarily focused on two continents toward a handful of target countries in two others, has created the opposite effect: saturation and rejection, particularly in Europe and to a lesser degree in the US. Numbers exceed the capacity of reception and willingness to welcome more people at destination.

We see two intertwined root causes:

- *The endless stream of migrants toward the same destinations surpasses their capacity of integration*. Host countries do not have the economic means any more to afford the additional infrastructure needed. They lack jobs to satisfy so many newcomers. The importation of a very different culture at such a pace and scale destabilizes the one in place. Frustration and anger explode on both sides – immigrants and hosts – creating a source of social and civic tension.

  The pressure exacerbates xenophobia in the destination countries and makes integration more and more difficult. Once a minority, paranoid and nationalistic parties suddenly win adherence with the mainstream society. Populists find a golden case to justify their traditional xenophobia and to win political obedience, even forcing tolerant parties to adapt.

- *The attitude of a minority of migrants is incompatible with their integration*. They remain distant to the culture of the welcoming country. There is enough of them at destination to insulate themselves. They join "the ghetto" of their fellow citizens who arrived just before

them. Insiduously, they create a reduction of their original country in the new one – challenging the host society's secular integrity as a whole. They bring with them a cultural and religious baggage that they still cherish above all and intentionally marginalize themselves.

An encompassing migration policy must equally address these two dimensions. They go together and one single side of the equation does not solve alone. We are recommending a much more strategic approach to migrations. The federal government will be equipped to assist member states and migrants - on both ends.

We recommend the following pivotal moves:

i. **Map migrations according to a *Population Density Map*.**

Our first change: we want to influence the choice of the destination. We must be able to help candidates for departure to be channeled to places where there is a need and room for them, so that they can be positively integrated. Right now, migrants are just moving to the closest border, which happens to be swamped. Moving from Mexico to the US or from Africa to West Europe is all that millions of people left to themselves can do. They are in bare survival mode and can only take the easiest and cheapest way. Geography alone dictates the destination. It does not mean that it is the right door for them, rather the contrary. The same cause that is pushing them to attempt this migration has pushed tens of millions before them on the very same road. There is saturation. The road is paved with walls, temporary camps, policemen, soldiers or unsafe crossings. If they had a choice, there are so many other places where they could go, but they don't have this luxury.

Understanding and rationalizing the real integration capacity of each potential host country/state will be the critical element of this new policy. We should gate immigration to destinations already saturated and replace them with destinations offering increased potential. We want to re-organize the current chaos. Candidates to emigration deserve a decent opportunity for success. We must guide them to a place that needs them, where they will have a positive and virtuous impact. We want to prevent them from landing in a country/state that doesn't want them in the first place, where they will fail to find a better life and to ultimately integrate. In simple terms: we need a strategy to channel the flux of migrants. There is absolutely none today…

We will take into consideration the concentration of people in an area, its economic capabilities and environmental capacity. The objective is to gradually tune an optimal balance between population density, local infrastructure and resources that a given place can offer. This will totally minimize the stress on people on both ends and on the natural environment. It will help to optimally re-distribute mankind's density over time, based on economic and ecologic capacities.

We plan to design a new tool: the *"Population Density Map"*. In conjunction with member states, we will assess population densities with their logical capabilities for further growth or reduction. As simplistic as it sounds, we think that it can resolve the whole issue. It will allow to move people where they are needed, use immigration as a virtuous valve. Why hasn't it been done before? We can only implement such a process with an overarching global governance. This is by definition impossible in a country-based system.

Let's look at the example of Northern Canada and Siberia. Each territory will be able to receive up to 100 million additional migrants over the next ten years. Western Europe is already saturated. The US is quasi-saturated, with potential in some states. On the other side of the equation, China for instance would probably be better if it was reducing its population – with Chinese people moving to Eastern Siberia?

Clearly, Africa is our burning challenge. The continent must be our focus, handled with a fourfold approach: (i) management of natality, (ii) development of local infrastructures, (iii) modernized food chain and (iv) channeling its outbound migrations.

We want the map to be reviewed and agreed between the states and the federation annually. It will enable the states to predict and to organize their flow of migrants as a virtuous cycle for their own positive development - inbound and outbound. The federation's role will be to oversee and to coordinate the process. More importantly, the Union will help to finance infrastructures for those states planning to receive the highest volume of immigrants.

The next issue is about the migrants themselves. We propose that candidates to immigration follow a formal and proactive process, organized globally. Instead of jumping secretly at night in a tiny boat or run across wired fences in a life-threatening experience as if they were criminals, they will legally apply to the local federal immigration office for a list of preferred destinations, according to availabilities on *the Population Density Map*. Based on their individual wishes, skills and cultural affinities, they will be offered choices. The process will be a coordinated in a rational, safe, legitimate and drama-free way.

In parallel, we will assist member states to achieve a dynamic balance between available jobs, resources, infrastructures and population density. An emigrant will only go to a place where he or she is needed and truly welcomed. The host state will have the means and the infrastructure to invest in the appropriate integration effort, which will drastically reduce tensions.

Fiscal advantages will be offered to enterprises that invest in zones of programmed immigration. Federal financial contributions will help local authorities in zones targeted for heavy immigration, to cover associated costs. They will have the means to proactively equip themselves with public services and housing, to cope with the level of expected influx. Fiscal advantages will be offered to enterprises that invest in zones of programmed immigration.

ii. **Reduce the need for economic migrations**.

We also want to address the source of mass migrations, acknowledging that this will be a long pole in the tent. If the country of origin – typically a poor member-state – was offering a decent living at home, its people would not have to leave in mass to survive. There are too many places where the only way for a young person to see a future is to migrate. The fundamental problem is the scale of economic the wealth between countries. *The richest countries have a GDP per capita one hundred times higher than the poorest*. It makes the temptation to migrate enormous – rich countries act as magnets. This is what we need to address over time.

Where situations are so miserable and lacking any hope for a better future, entire national populations share the dream of leaving, projecting their country into the expatriation business and money repatrition from abroad. This is the root cause that we must combat. The current scale is unbearable. They are hundreds of millions of people who can only think of surviving if they migrate. Some dare to try and others don't. The ones who "make it safely" turn into heroes at home. It shouldn't be that way, emigration should be an option and a choice. If the process is structured and organized early enough, crisis and chaos will disappear and the whole event will turn into a well-managed and sustainable "normal" process.

Attacking the root cause implies being able to offer jobs, health services and food wherever people live. If the region is condemned to permanent misery due to a desertic natural environment, then its natality must be controlled and the migration of the inhabitants organized logically and decently. Everyone must have the chance for a fair future, or is better not to be born in the first place. People must have a chance to live well where they are or to get help to relocate humanely.

The federation will help the poorest states to get in better economic shape and to converge over time with the richest. A decent life at home will kill the case for emigration for most. It is a wise investment for the richer states to make. Also, the insertion of poor countries in the federation will equip them with a more solid political system. The federation will inject its support when needed to allow all citizens to be able to join the road of development.

More homogeneous infrastructures around the globe are needed to enhance the general development of the most destitute zones and to balance more evenly the access to communication and resources. Such investments will offer a short-term economic stimulus as well for under-privileged zones. We believe that improving infrastructures in poor areas - from where people are now trying to escape - will limit migrations and create long-term competitive economies.

We want to initially focus infrastructure improvements on Africa. Africa needs an irrigation policy with drainage and canals and construction of dams, a decent road system, the modernization and extension of the rail network and a step function in availability of modern airports, hospitals, schools and universities. Latin America will come next in line.

We will then invest in the upper North to prepare new land and space for people leaving the warming South. The ice and permafrost are currently melting in Greenland, Siberia, the Canadian North, Alaska and Antartica.

Projects of infrastructure sponsored by the federal government will create jobs. Enhanced communications will unlock local economies and open their access to global markets. Connecting remote places with mainstream activities will accelerate their integration. *We will fund this program with up to 500 billion dollars annually, redirecting our current public fossil fuel subsidies.*

The reduction of economic migrations from the South will provide another advantage. As they pause their immigration toll, the saturated countries - Europe and US - will have the chance to "recover". First, they will do a better job of integrating their last wave of immigrants. Secondly, they will take the time to rebuild a fabric for their new diverse society, with a reduced pressure.

iii. **Establish a *Universal Charter of Migrations***.

Additionally, we want to define a *Universal Charter of Migrations*, to clarify the current vacuum of international rules and regulations for the millions of cross-nationals currently living in an unchartered territory in terms of rights, laws and duties. We have to define the *rights* of immigrants and also *their duties* in the *Charter*. It will align the behavior of migrants, between their individual desire to move to another place and the duty to offer a benefit to the community receiving them. The *Charter* will define well-understood actions to be taken against abuse on either side. It will guide the proper attitudes and draw for the first time a definition of the true meaning of worldwide supra-nationality, which will be super-imposed to our existing national citizenship.

The *Charter* will regulate the rights and obligations of both individuals and host-states. It will create a framework of mutual understanding, a modus operandi and a way to manage conflicts. Conflictual issues unresolved at the state level will be escalated to the federal jurisdiction.

Successful mass-immigration starts from *the migrants' willingness to integrate*. The *Charter* will require candidates to be formally assessed about their commitment to accomplish their integration duties. We have in mind a lighter version of what is done today in most places to acquire a new citizenship: immigration is pre-citizenship and should be treated accordingly.

The pre-immigration "test" will be defined and calibrated globally. It will assess the emigrant's proficiency in the language of the host country, or at least a commitment to learn and to be re-tested a year later. English proficiency will be recognized as a transition path. The test is more to validate the will and acceptance of the candidate than an exam by itself. We want the migrants to symbolically confirm their allegiance to the duties listed in the *Charter*. They commit to be willing to learn and to adopt the culture of their destination.

We have acquired enough experience already on issues created by mass-migrations to understand the associated risks and dangers. A small minority of migrants who disregard the laws and customs of their destination can create enough tension to spoil the entire process of integration for all others. Societies stressed and fragilized by the speed and volume of immigration on their soil will easily confuse bad and good apples. The problem has become vivid in Europe, with small groups of extremists who place a radicalized form of religion above the laws of the host country.

We need to make sure that the *Charter* turns into a clear antidote against divisive manners, on both fronts. In a world where migrating will be a vital part of our survival and future, positive attitudes and proactive tolerance must become the rule.

iv. **Prepare proactively for climate refugees**.

As we learn to deal better with mass-migrations, we need to anticipate the future wave of climate refugees. The Charter will address policies to prepare the world to deal with this new human flow, which will be different in nature and maybe in dimension and form as well. An entire country may become uninhabitable and will have to find a new nest for its people and culture.

We will learn together with an open mind, since we have no experience of such a form of migration. The objective is to minimize emotions and to avoid fear, surprise and panic typical of such situations. With the transparency and predictability of annual forecasts of capacity by area, *the Population Density Map* will be a determinant planning tool. It will adjust the flows with the infrastructures. It will prepare local populations for a move if it cannot be avoided.

The most comparable situation - with a very different cause - has been the re-creation of Israel. We have learned a lesson: migrating all people from the same origin to a single destination as an implant in the middle of other cultures is not the path of least resistance. We will have to deal very carefully with the extreme but possible case that the territory of an entire nation-state – the geographic sanctuary of an ethnic or cultural group – is condemned to disappear. For example, if populations of sea-level areas like the Maldives, Bangladesh or the Bahamas have to leave their homeland, we will have to assess if it is possible to re-create their country/state elsewhere – in Siberia or Northern Canada – or easier to diffuse the migrants to several destinations. In making such a call with all involved parties, we will be consistent with our principle of diversity. We will offer adequate destinations, with a thorough preparation, transparency and dialogue.

The exodus of climate refugees may only number in the tens of million under the most positive scenarios, or up to over a billion if half of the landmass of the planet becomes uninhabitable in the next century. We do not know yet, it is all about risk management and planning. The process should continue to be based on pragmatic anticipation, with a global view and organization, all-encompassing and peaceful. Only a system of global governance can deal with the situation ahead.

We are entering a world where people are on the move. Mass-migrations will continue and even accelerate as people learn to cross borders and become growingly flexible and compatible with a more convergent, universal and tolerant culture. In parallel, a much warmer climate will turn entire areas hostile and others will become inhabitable. It is an irremediable happening at this point. We cannot let the floodgate opened without an overarching global control.

3. Respect of all identities and religions.

In a world where migrations are accelerating and economies and cultures continue to globalize, how to respect identities and religions and protect them if need be? Are we at risk to lose our soul and to be all crushed into a global magma? What sort of cultural blend do we want?

- *Should one universal size fit all* and even-out cultures and traditions into one?
  or
- *Should we respect our plurality* under the harmony of a common roof?

Our vote is for the latter. We want a universal foundation, a common ground of tolerance and Freedom for all. We also want a society in which the wealth of all our cultures, inherited from our extraordinary diversity, continues to cohabit and to enrich each other. Our roots and traditions will not go away. It's a balancing act led by tolerance and solidarity.

We come from a pure identity-based History, which is now rapidly universalizing. However, we continue to be profoundly attached to the wonderful diversity of our numerous legacy cultures.

The project that we recommend leverages three pillars: the past, the present and the future. *The civilization that we want to build will integrate and respect the positive weight of the past, accelerate the convergence of the present and sponsor a multi-cultural future based on our universal melting pot. We are universal mutants in the making, with "glo-cal" roots.*

The future of Humanity is both multi-cultural and universal. We will not turn away from our diversity. We want to stimulate tolerance, respect and harmony within the wealth of our disparity. We will always respect that our cultural mix is made profoundly richer by its diversity.

4. Universal Health.

In some parts of the world, talking about healthcare is like firing up a religious debate. We know that in the US, Medicare remains highly controversial. In a global perspective, the issue is made even more complex, given the inequities between people and nations around the world. We face extreme disparities in healthcare leading to extreme inequalities. Some people pay several thousand dollars for a consultation of a few minutes and others will die, not having afforded basic acces to a hospital or to a vaccination.

Let's put a stick in the ground: we want to reach minimal medical support everywhere. At the same time, we do recognize the economic imbalances that we have to deal with. There is no immediate fix. "Global Medicare" cannot surface overnight with a single set of rights for all, effective immediately. It has to be a policy of long-term convergence, step-by-step, with the objective of a minimum level of medical care for everyone. Basic healthcare will be a fundamental human right, everywhere in the new federation. Implementation levels will differ state by state and evolve as local economic capabilities improve.

The federal government will help to reinforce the admirable actions already taken by the *UN*, development banks, individuals, government donations and charitable organizations at an international level. Here is our clear philosophical and moral line:

We think that birth self-control is morally acceptable in order to reduce the size of our global population. There are already too many of us to remain sustainable as a species. However, we consider that letting people already born die from lack of food or basic healthcare is a crime that we plan to prevent, everywhere.

The sooner we can improve health systems in poor countries, the less temptation there will be to have multiple children or to emigrate. Despite the financing of global health programs and the initiatives of a multitude of public and private intervention groups, diseases and epidemics continue to spread and create a profound divide between human beings. The global federation will set up a global healthcare system that shares a global medical infrastructure and resources.

We have societal debates about contraception everywhere. Some believe that killing embryos is an unacceptable act. We totally respect their concern while we also cherish the Freedom of women to decide by themselves if they want this child or not.

There is another critical argument. We link contraception with population growth. Voluntary contraception is one of the few tools that we have to allow willing women to control our natality. Given the Wall ahead of us and the overpopulation of the planet, we cannot let anyone force an unwilling woman to give birth. We are dealing with a situation where the genuine horror is to kill millions of innocents because we cannot feed or care for them after they are born. Despite the international injection of 25 billion dollars annually to complement the budgets of the poor states via various channels and organizations, *more than 10 million children die every year before the age of five, from malnutrition or illnesses that could have been avoided with access to basic modern medical care.* If these children were not born, they would not have died. Once they are alive, it is our duty as human beings to help them as best as we can.

The policy of universal health will bring together the global efforts and resources of the entire medical and pharmaceutical system, to offer minimal but decent care to everyone. We will invest in infrastructures and hospitals, increase access to treatments and vaccinations. There is also a great opportunity for training and rotation of qualified medical personnel around the world.

The first objective will be to eradicate endemic global illnesses with widespread vaccination campaigns – epidemics such as AIDS, tuberculosis, malaria and lately Coronavirus. We will also deal with the new health challenges related to climate transformation, such as the proliferation of viruses. We will push forward intensive research on tropical and endemic diseases.

As we put together this plan in June 2020 we do not know the sequel of the Coronavirus outbreak but we can already draw some first lessons:

- Rich countries, supposedly with the best healthcare system, have been hit hard in the first wave. They were totally unprepared and didn't share data among themselves.
- A pandemic issue alone – even with a relatively low mortality - was able to derail the global economy. Its effect could be deeper than anything we have seen in recent times.
- There has been little solidarity among countries. Worse, countries have competed to steal rescue packs from each other. Global supply chains have been disrupted. Multinationals lost control of their own products as local authories took over.
- Totalitarian approaches have won. Immediate forceful lockdowns have prevailed over softer balanced steps. China, while opaque and probably blindsiding the rest of the world, seems to be coming out with a minor impact while unintentionally hurting everybody else.
- Poor countries are only the next wave and have not yet gone through the full circle. We fear so much for Africa and Latin America, but it is too early to tell.

The punchline is twofolds:

- Firstly, in times of panic there is something much more important than the economy: the survival of human beings. When put under immediate stress, everything falls back into place. The society prevails over business – even if for a short while.
- Secondly, we leave in an anarchic world. Everything else is fake. It is only when survival is at stake that the masks come down… There has been no international solidarity and no joint course of action. It has demonstrated the intrinsic weakness and inadaptation of the whole global system in front of the emergency of a global issue impacting everyone.

The world got on its knees within a month. We don't know what happened next as we write these lines. At least, we all learned a big lesson beyond the Covid-19 itself – we have no pilot…

We want to be prepared for such pandemics at the global level. Outbreaks will be identified and escalated early and a global contingency plan will be activated with phased levels. Care supplies will be already disseminated in critical locations and additional global production allocated surgically to whoever need them. We have all seen the Coronavirus mess. Hundreds of thousands of lives could have been spared with a coordinated global response.

In summary, the capacity of a world government to reverse the growth of our global population and to organize their migrations, cohabitation and healthcare will make a massive difference to our sustainability and to the improvement of our lives in the future. Cohesive global policies for natality and migrations are critical to allow us to approach climate change scenarios with maximum adaptability.

Earth our country.

Chapter Thirteen:

Priority Six:
Green Economy

The economy is the core engine of our society. Intentionally, we have not positioned this chapter as priority one. We first wanted to prioritize the sustainable destination of our society, so that the economy can come next and serve it – not the other way around. This is the shift in mindset needed to move from a growth-based materialistic society to a durable one. Society comes first. We do not discount the significance of the economy by any means. What we are saying is that the economy has won too much prominence and rules everything else. It has become priority number one factor ten for all "successful" countries. *Our collective obsession for economic growth has created the ecologic Great Wall*.

The importance of a flourishing and stable economy remains paramount. We totally understand that the economy is a vital function of any developed society – with businesses of all kinds large and small. It provides employment and creates wealth. We support our liberal economic model as our core engine. We are pro-business and opened to free-trade and fair liberal economics. However, first comes first: we privilege sustainability over short-term profits. We believe that the economy needs "help" from the government from time to time to pass an inflexion point and to better serve the society in a broader long-term context, such as turning green and achiving systemic global stability. Current circumstances represent one of these rare occasions where more "help" is needed.

The extraordinary global economic success of the last three decades has led us to a paradox without precedent. The economy completely governs the world. It has become our singular pillar, though an unstable and shaky one as the crisis of 2008 demonstrated. The economy drives us with "more growth, more profits thus higher stock price".

Beyond growth, employment and profits, nothing channels the indisputable force of the free-market toward a durable outcome for Humanity. The three metrics of economic success – growth/profits/employment – are an end destination by themselves, and are assumed to naturally materialize any kind of general and higher-level benefit for the society as a whole. Ultra-liberals argue: "never challenge the Freedom of the enterprise. The economy has got to be totally free. Government regulations kill Capitalism. Business growth makes people deliver their best to achieve maximum profits which in return fuel the society."

We promote liberalism when it assists a strategy of sustainability and stability for the society and benefits everyone. Some would call this "progressive and fair liberalism." Somebody's infinite Freedom for everything in a finite world hits all others. We believe in workers rights and

healthy competition that benefits to all players in the value chain – not the dominance of a few. We want a direction of long-term consistency for the liberal framework of global free-trade. Freedom of making profit for one group cannot hurt everybody else. The "land of the free" does not mean anarchy. Sustainable Freedom comes together with strategic cohesiveness.

Our economic strategy is centered on *progressive global liberalism*. It intends to achieve two primary objectives:

1. We must find mechanisms of global governance to *improve economic stability* and cushion the near-chaos of the rein-free global financial system. It takes a global governance.
2. We must ensure that growth, jobs and profits match an overarching goal for our society – its *sustainability*. It takes a huge green stimulation.

Our current lack of governance is racked with cycles that lead us from bubble to bubble and from growth to recession. It amplifies imbalances between countries – those with record debt and those who are their guarantors. Finally, the main economic actors – multinational corporations – are by definition spread out globally but still centrally governed nationally in case of crisis, although they sometimes barely contribute to their homeland taxation.

Given our political fragmentation, no one is able to define or to monitor any form of global direction. As the whole system heats up, some imbalances have become so wide that the risk they constantly carry challenges the very foundation of our global economic "miracle" - commonly called "globalization" (standing for economic-only globalization, not full globalization). Free exchange and economic-globalization are under threat by their own making. In other words, we see a growing risk that *economic globalization goes backward*, not because it has not succeeded – it has delivered and shared more wealth faster than any other model in History – but *because its own lack of global policing has turned it into a roller coaster*.

Most national governments are now fragilized by a global imbalance, following the 2008 crisis and now Coronavirus – with their effects on unemployment, tax evasion, transfer of wealth from continent to continent, currencies speculation and national debt. They are attempting to take control again of their local economic assets and to try to find ways to re-channel their economic forces to their national benefit. If they succeed, they will rebuild a fragmented economic world. Their efforts will take us back in time. To succeed in stabilizing the economy and turn it into the agent of our sustainability, *we must globalize the entire society* – not only the economy.

A) The great imbalances of *economic globalization in a national society*:

A grand economic initiative will be designed to resolve the four endemic imbalances of our current "semi-globalized" economic model:

- **Imbalance number one:**
  Overall sustainability should guide the society instead of economic growth alone.

Given our ecologic challenges, sustainability is our number one priority. The economy is the tool to serve our goal, not an end goal; it has to assist our vision for mankind. Currently, the

economy is the number one priority for most governments. The necessary national quest for economic success has become excessive. Economic growth has becomed the stand-alone objective of success. It is primarily a mind-set issue. It drives everything in the pursuit of constant growth. *We want an economic model that fully aligns with our metamorphosis into a green society.* We want an economy that serves the greatest cause that Humanity has ever combated: to re-build the symbiosis with our environment and make our footprint durable. We want to turn this crisis into the opportunity to propel us toward a new phase of human civilization. We can seize the chance to construct a new long-term economic momentum, one that is stable and based on sustainability.

- **Imbalance number two:**
  The economy is now global, but the economic authorities are still national.

Maintaining a stable economic balance has become more and more difficult due to the national fragmentation of our economic authorities, leaving the overall system in a random navigation mode and clearly without a pilot. No country alone is powerful enough to police the system any longer. The US used to, until it turned protectionist and isolationist four years ago.

First things first, let's take a look at some key numbers to appreciate the full effects of the 2008 crisis, which was largely self-inflicted by the financial system itself. Between 2007 and the end of 2009, we accumulated 1.5 trillion dollars of new public debt – one hundred times more than the Marshall Plan. Sixty million people became jobless. One hundred thousand companies filed for bankruptcy in the industrialized nations and eighty countries plunged into recession in 2009. Five years after the crisis by the end of 2013, debt levels were still at a record high. The US had the largest debt at 17 trillion dollars which was roughly its annual economic output, Japan followed with 11 trillion dollars which was the double of its economic output, Italy, the UK, France and Canada also had debt levels that exceeded their annual GDP. Even Germany hit a 80 percent debt/GDP ratio. These numbers were already completely mind-blowing, but they kept increasing since then. The US alone had a net debt of 24 trillion dollars just before the Coronavirus outbreak.

Post-Coronavirus, it is hard to predict by which order of magnitude these debts will further expand, as governements are all into a spending spree on healthcare, testing and aid to households and businesses. According to the Congressional Budget Office, the US federal budget deficit will nearly quadruple in 2020, skyrocketing at 3.7 billion dollars. Serving debt interest is turning into an endless handicap in many countries and will act as a constant factor of destabilization. The US said on May 4th. 2020 that it wants to borrow a record three trillion dollars in the second quarter 2020 as Coronavirus rescue packages blow up the budget. The sum is more than five times the previous quarterly record set at the height of the 2008 crisis. More discussions are under way for further debt raising to assist the economy in the second half year...

This enormous debt burden could be explained if it was the result of the third world war with everyone borrowing to build weapons or to compensate for bombarded factories – but it is not. Until Coronavirus, it came up nas the natural outcome of thirty years of semi-economic globalization. Before Coronavirus, there was no extraordinary external cause to the financial community to justify the result. To put everything into perspective: the additional US spending for Coronavirus will be 3 trillion dollars, only 11 percent of its total debt pile (as of June 2020).

Are most countries going to default? They would probably fail to bailout their major banks again as they did in 2008. *The risk in case of a "double dip" would be to destroy the system of global free-trade* - more countries retrenching and stopping to pay their debts. We have entered into an era of financial unstability and of chronic uncertainty that challenges the whole economic eco-system. No-one is able to act as the pacemaker of the global financial system any longer – the US itself is both unwilling and heavily indebted itself.

How was such a turn of events even possible in a globalized economy with mechanisms so sophisticated, powerful and methodically polished by our biggest brains? What are the fundamental causes that we need to eradicate?

1. **The fragmentation of the world's national central banks** is the first challenge to global economic governance. Central banks are independent, sovereign and have no ties between each other. They serve the interest of the country to which they belong.

The central banks are the primary actors who define the parameters that influence their national monetary policy, via interest rates, open market operations and reserve requirements. Each country's policy is designed for its direct benefit and the sum of the all these policies becomes the policy for all. Unfortunately, the sum of individual policies doesn't usually end up to yield the best global outcome, rather the contrary. We are living through the consequences right now and no one has the means nor the political willpower to resolve this anarchy.

Each country runs its independent monetary policy, with the exception of the Eurozone, where a group of brave countries decided to unify their economic currency, led by a central European bank. Deep in their heart though, Europeans know that this will be only temporary – a common currency will only survive through a common fiscal policy and further political unification.

2. **With a weakening US, international organizations struggle to be our pacemaker.**

International organizations are not empowered or equipped to fulfill their role of central governance and the national agendas on which they have to rely on are incompatible. The *G20* definitely offers the potential of a sufficiently representative group – its members represent 85 percent of the world's GDP – but it never reached a unanimous decision on anything.

We are experiencing a crisis of global economic leadership. After thirty years of stellar expansion, free-trade and globalization have started to take the toll of the dual impact of the 2008 and 2020 recessions. Countries or clusters of countries are and will, at various paces, start to find excuses to retrench behind traditional national economic policies.

Western economies first discovered that they were part of a single ecosystem during the crisis of 1929. They had become inter-dependent, their individual actions intertwined. Since then, this Western ecosystem has more or less progressed with some cohesiveness owing to the leadership of the United States. It expanded geographically to most of the world in the 1990's after the collapse of Communism. Almost a century later, the US is still number one economically, geopolitically and militarily, but its leadership and the power of its currency have eroded. China is now a strong counter-power, aiming at world influence while the US denies its own. More than

ever, the world needs someone to truly lead the multi-lateral economy and trade. The lack of global free-trade leadership leads us to protectionism. The model of free-exchange that is truly universal and that we had known since the fall of the Berlin Wall is under immediate threat. The new federation will definitely take over this most-needed role and deploy a unified economic policy.

3. **The conflicting American and Chinese policies have destabilized our relative world balance and impacted the fragile European construction.**

US and China together represent half of the world economy. Their discordant policies have caused constant economic anxiety for over a decade. Initially, cheap imports from China artificially boosted the US economy, freeing up US consumer spending for real estate and financial products. It created a bubble in the US which burst in 2008. This trade imbalance created a record level of debt for the US and a pile of cash for China. The US deficit peaked at its highest level since 1946 as a result – the same for other Western powers.

1946 was a different situation though. The US deficit was the direct result of the exceptional spending of the Second World War. After the war, the country got itself out of it by growing its economy faster than its debt. It reduced its debt ratio through post-war reconstruction growth, also engaging itself in the control of state deficits and accepting tax increases. The post-war period created a strong economic momentum with US exports fueling the liberated world, boosted by the Marshall Plan. This time, the US deficit is not coming from a war, it's a systemic one. The US has only spent a trillion dollars on the wars in Iraq and Afghanistan, no more than 4 percent of its debt.

China on the other hand has accumulated 4 trillion dollars of monetary reserves – one sixth of the American debt and by far the largest pile of money anywhere – as it became the factory of the world. China's exports have been worth in average 100 billion dollars per month. China's expansionist monetary policy was partly based on a delusion. The yuan was inconvertible, in fact fluctuated within narrow boundaries at an arbitrary rate set by the Communist Party. During its ramp-up, China used an artificially low monetary value, unilaterally calculated and non-convertible, to make its products cheaper. The "war of the yuan" exacerbated the US-China antagonism and was fought with aggressive quantitative easing from the Fed. The US and Europe implored China for years without success to put their rate of exchange at a level less damaging to their economy and the rest of the world. Only recently did China finally start to engage into relative re-evaluations. The Chinese monetary policy has been a one-way street that twisted global free-exchange to the long-term benefit of China.

This collusion led to the 2008 crisis. In the middle of it, indebted Europe turned into a castle of cards, as illustrated by the Greek rescue. The impact of 2008 on Europe was huge, because its monetary union was still fragile. It questioned the fresh edifice of the euro which was still "work-in-progress", awaiting to evolve into a more complete political construction. The public indebtedness of 2009 proved to be its Achilles's heel – a currency without the basic economic and political tools of regulation, shared by sovereign countries with very different levels of intrinsic competitiveness. China and America are both stakeholders in a possible solution. They are not responsible for the rickety construction of the euro, but the wave effect of their awkward relationship has led the EU to its existential crisis. Yet, a failure of Europe would directly impact them, since Europe is still the number one world economy.

4. **The lack of global governance and leadership provokes systemic cyclical bubbles.**

These cycles are due to an inherent characteristic of global trade, built on the permanent disequilibrium of the imbalance between countries with trade-deficit (like the US and most of Europe) and surplus (like China). The global economy behaves like a grand economic sinusoid, a yo-yo moving up and down…

The game of dominos - in which the US buble bursts after overheating, pulling Europe and Asia and then the US recovers and others follow - has reproduced itself regularly as a systemic cycle in modern times economics. The only question posed after each crisis was the timing and predictability of the next unannounced earthquake rather than the risk of another big one.

The emergence of China changes the game. China is a new dominant totalitarian economic power that uses directive monetary and political tools to maintain its own growth, regardless of the ups and downs experienced by the free-trading West. Specifically, we have seen against all odds that China didn't blow up in 2008. The free-market "crash" was politically incorrect and authoritatively prevented. It is hard to read the mid-term impact of the Coronavirus on the Chinese economy beyond an immediate recession. If the party cannot quickly get back to full employment, it could lead to political implications.

- **Imbalance number three:**
  Multinationals operate globally with no parallel governance or taxation system.

Multinational companies – including banks – serve directly the interests of their shareholders and very indirectly the one of their government of origin (their HQ). Their global playground offers almost total geographic Freedom. They approach the world with their own internal regulations. They define internal transfer prices, have the flexibility of where to surface profits, where to pay or avoid taxes, where to produce or import goods from, where to create or eliminate jobs, where to sell and at which price. The politically fragmented world grants them a magic sandbox – while every other social actor in the society is national or local.

This agility has enhanced their global wealth creation. Many have turned into giants. For instance, the market capitalization of the *GAFAM (Google, Amazon, Facebook, Apple* and *Microsoft)* – only 5 companies – represent 6 trillion dollars or 50% of the total value of the *NASDAQ*, 20% of the SP500, one third of the total US GDP, half of the GDP of China, more than the total GDP of Japan at less than 5 trillion dollars or of Germany's at 4.

By virtue of their financial power and independence, multinationals have become not only economic actors but also political agents, because of their capacity to impact the political fate of the countries in which they operate. From "micro-economic" actors they have turned into "macro-economic" influencers. Some of them are individually big enough compared with national public authorities that they have turned into equal players, acting as "global economic countries" of their own. They have the power to decide where to invest, where to shutdown local operations, where to employ, where to pay taxes... It puts them in the position of being courted by multiple countries

in competition to benefit from their presence on their soil. Their market capitalization can be higher than the total GDP of countries in which they operate.

Countries depend on the economic power of multinationals. Multinational corporations operate inside of their borders but are guided by foreign leadership. It's a tricky relationship on both ends. Although they operate locally, these giant players are taking orders from somewhere else, directing their business to achieve a global goal. While they are legally inclusive of the social constraints of the host country and play a tremendous and positive economic and social role wherever they do business, their objective remains to produce the most efficient global end-to-end financial outcome for the shareholders back home. This situation can create tensions and imbalances. It is not always easy to see who is the master and the slave, how "fair" is the transaction between the parties.

Taxation is probably the most peculiar hole in the system. Countries only live from taxes paid by their citizens and enterprises. Multinationals are not necessarily taxed in the country where their wealth is generated. Enterprises have learned to legally optimize their taxes internationally, as a normal business practice. They leverage – in good faith – the lack of international jurisdiction to their advantage, as they would leverage any other component of their activity. Internal transfer prices allow to minimize local taxes and to maximize overall profits. The objective is to concentrate their earnings where the local taxes are the lowest.

The art has turned into a science. American Congress estimates that the US annual corporate tax revenue loss due to offshore tax "evasion" is around 100 billion dollars a year. Given that *sixty percent of the total international trade occur through internal revenue transfer within multinational groups*, the potential for tax evaporation is enormous. According to a study by *Le Monde* in 2010, *global corporate tax evasion represents up to 80 percent of the countries' consolidated tax collection gap*.

Countries struggle to implement remedies. They compete globally themselves. If one country imposes a regulation on multinationals, it just makes neighboring countries more enticing to such corporations. The "tax cop" loses business immediately. The need for a global solution is evident. Local bravado only can only act as a business repellent to multinational firms.

Since only the economy is global, multinationals have learned to leverage political fragmentation to their own advantage. They are the only empowered global actors, so there is no surprise they have turned into world experts to benefit from our political anarchy. As a result, *while the global economic machine steers the world, no one can steer the machine and we miss the opportunity to capture more value for the society as a whole.* The enormous wealth generated by global enterprises doesn't match the taxes paid to the countries in which they generate their income. Western countries with a traditionally high taxation model - financing high-end infrastructures and welfare - fail to recover proportional corporate taxes from multinationals operating on their soil. They can only compensate with more deficit and debt…

This perfectly legal corporate tax evasion system makes the political fragmentation problem even bigger. It impacts local country/state budgets and wealth redistribution in a massive way. It amplifies our international economic fragility and justifies the risk of protectionism. It's not the fault of multinationals: their business is to optimize the global ecosystem they have access to.

When a game lacks rules and rulers, you cannot accuse the players of not playing by them, if they are missing in the first place. Semi-globalization has turned the fragmentation of local tax regulations that fund the countries obsolete. The countries are incapable of taxing the value that is being generated on their soil. Multinationals are only leveraging our political anachronism.

Notwithstanding their tax ingeniosity, multinationals are a critical asset for our universal future. They are the global pioneers, they are first to get all our people to work together, as one team. They create wealth and jobs in places where the local market would not justify them. They stimulate and develop smart people wherever they are. They are the glue and the engine of the global economy and act as the operational link which is otherwise missing between countries. They embody global trade. They train millions of employees to the universal market and to technology sharing. They train their employees as global citizens. In return, such talents make them more powerful, innovative and extremely adaptable. *We cherish multinational firms as the proof that going global is the winning factor. We want our political construction to be multinational as well…*

- **Imbalance number four:**
  Pure market forces resist to the emergence of a zero-carbon society.

As we saw earlier, fossil fuel will continue to lead without the true financial inclusion of its environmental impact. Its direct cost is and will remain cheaper for a long time. Only a global political alteration of the model can drive the preference for clean energies, not the sole effect of market forces. *The full cost of fossil fuel including its ecologic footprint will be reflected in its price, using a "carbon-tax". This tax will be redistributed to oil and gas countries to help them manage their clean energy transition.*

Our industries, services, lifestyles and society as a whole are based on the consumption of fossil fuel energy. Fossil fuel is the path of least resistance when considered independently of its pollution, in the pure economic sense. There is no cost-effective alternative just yet if direct cost is the only factor. It's a viscious circle though, fuel is mainstream so investments keep going there and it makes it harder for alternatives to catch up. The entire economy depends on fossil fuel and for an enterprise or an individual to decide to use an alternative source requires a start-up investment if not the expectation of a higher running cost.

Some countries have been trying to alleviate this bare reality. They have established a "carbon tax" that reflects the total price of fossil fuel including its total cost of pollution cost to the society. But the fragmention of political powers make individual national initiatives rather risky – they have to remain globally competitive. In our current framework, with full Freedom of economic agents, the transformation to a clean economy will be too slow.

Our needed acceleration to the phase of mass-transition phase of clean energies cannot be only voluntary and led by free-market logics. We need a clear public stimulus to lead and ignite the green economy explosion. Much of the technology has already reached industrial credibility, if not yet economic maturity. During the transition phase, the federation will find vehicles to compensate the cost differential with interventionist taxation or stimulation – stick or carrot will both work.

The fantastic progress enabled by the globalization of the economy of the last thirty years hits a ceiling. Protectionism is back, justified by the current fragility, endemic crisis and intrinsic imbalances of the economic semi-globalization. What's been missing is the *full globalization of the society*, with the insertion of a full end-to-end consistency, stability and sustainability. Global institutions and regulations will be put in place to reduce dangerous imbalances. The new federal government will lead this initiative and stabilize the overheating economic machine for the long-term and to serve our greater political purpose – make it the engine of our green revolution.

B) The Grand Economic Initiative – *a fully globalized economic model*:

We want to elevate our economic governance to the level of the global federation. Federal financial and monetary organizations will be empowered and replace the economic sovereignty of member-states. The federation will align its economic rules, regulations and policies globally, with a model similar to the US but expanded to the perimeter of *the United Democratic States.*

Beyond the structure of global governance and its stabilizing effects, we have the immediate ambition to take us out of recession and to stimulate the zero-carbon economy. We will support the development of clean technologies and lift up the infrastructures of the poorest countries to a minimum acceptable level, that will allow them to participate to the new global prosperity, with a reasonable carbon footprint. All will act as an economic recovery engine.

The plan that we are preparing is articulated around five main levers:

1. Design a global economic governance:

We will raise the economic institutions that are today national to the federal level, permitting a simplified structure and a harmonized policy and regulation of the economy at the planetary level – in a concerted, stable and sustainable way. This will be achieved with four critical moves:

i. Elevate the economic and monetary levers at the federal level.

The federal government will set guidelines for the general economic policy and assign budgets for its implementation. Federalism implies a two-dimensional sharing of decision-making power, between the federation and its and member-states. Overall taxation will be reduced substantially owing to the scale effect of global public expenditure. A new federal tax system will be defined, to come on top of the member states tax system. State taxes will finance local affairs and federal taxes will cover federal expenses, with a separation of duties similar to the US federal model.

We anticipate major public cost synergies through a much more efficient centralization of the operations at the federal level, streamlining of the public workforce and the digitization of core administrative processes. Globally, there will be major cost savings in public administration, a lot of duplications can be avoided. According to *the World Bank*, current public spending worldwide (general government final consumption expenditure) total 14 trillion dollars or 17% of our global GDP - pre-Coronavirus. This number represents the addition of all country budgets. With increased scale and efficiency, we anticipate to to drive significant rebalancings and savings altogether.

A federal carbon tax will counter-balance the cost of pollution of fossil energy. Tax proceeds will be re-channeled to the countries producing oil and gas, to help them transition their industry.

A key benefit of the federal tax system will be to allow for re-distribution of funds across member-states and ensure enhanced fiscal solidarity at a planetary level. It will help to anticipate and avert the failure of the most fragile states, supervising their policies and expenditures – ultimately being their warrant.

While regulating migrations that coincide with targeted population density zones, the federation will finance a major wave of aid to Africa and later to Latin America, through large projects managed at the federal level. This "Global New Deal" will create employment and stimulate developing economies. We want these future member states to reach quickly a modern level of infrastructure in communication, transportation, healthcare, education and housing.

Finally, the federation will support two strategic programs: the creation of ecologic sanctuaries – federal parks – and space colonization – our very long-term safety net.

ii. Create a global currency.

Once political, fiscal and monetary systems are unified, we have the conditions to enable a single global currency. What Europe struggles to do successfully because it maintained separate political systems, we can achieve globally under the umbrella of *the United Democratic States*.

We are proposing to baptize our currency "*Core"*, standing for *"Currency Of Republic Earth"*. The "Core" will replace all other currencies within the federation. A single currency is indispensable to the solidification of a homogenous economic entity. It allows for a unified monetary policy including money supply, interest rates and the control of inflation.

The single currency will be endorsed by a unified monetary policy. There will be no more currency fluctuation and problem of inconvertibility - like the yo-yo game we have seen between the dollar, the euro and the yuan. The *"Core"* will avoid the battle that occurs when economic blocks artificially value their money as a competitive tool. It will eliminate unproductive currency speculation. The currency fluctuation game, a big cause of instability, will suddenly turn obsolete.

A single currency will offer an extraordinary tool for transparency and ongoing convergence across the economies of the world. It will enable global alignment of prices and costs. We will all use the same calculator with the same unit of measurement.

Finally, the "*Core"* will act as the stabilizing factor of the global economy that we have been missing. With federal fiscal laws that are the same for everyone, a global interest rate, central public debt management and cohesive rules of conduct; bubbles and cycles will disappear, by lack of opportunistic speculation, artificial exchange rates or disconnected interest rates.

iii. Empower a global federal bank to manage the single currency.

A global central bank will be created to articulate the world's monetary policy and to manage the global currency. Its main objective will be to harmonize all the economies of the federation. The federal bank will manage the *"Core"* (money supply and reserve) and the global interest rate, autonomous from the political power, to ensure proper check and balances.

This sovereign global institution will be empowered as the equivalent of a "*Global Fed*"" – the "*G-Fed*'"– and drive a responsible monetary policy aiming at the overall stability of the economy.

iv. Globalize stock exchanges.

With a single currency and monetary policy, the equity ownership of multinationals will continue to globalize and to ultimately mirror the spread of their activities around the world. The pool of their shareholders will match their governance which will be aligned with the globality of their operations. Federal and state laws and taxes will correspond to the span of their business. They will be integrated at all levels with the society and pay their fair taxes wherever they operate.

Any individual will be able to buy goods and services anywhere with the single currency. The same will happen with equity investments, there will no longer be a risk of dissuasive exchange rates for an investor. Shares of all public firms of the world will be traded on a global stock market and valued in *Core*. Stock exchange institutions – like the *NYSE, NASDAQ, Euronext, Shanghai, Tokyo or London stock exchanges* – will globalize as well. The access to the global stock market will be opened to companies of any origin. The regulation of the market will be ensured by a global agency, *the "G-SEC" (Global Securities and Exchange Commission).*

2. Develop a *fair* liberal economic model:

With its capacity to stimulate and to bring together the creative, ambitious and competitive characteristics of human nature, the free liberal economic model has proven its capability to drive progress. Freedom of the enterprise and of the money market stimulate performance and success. While it was thought to be historically more of an Anglo-Saxon cultural trait, it has become the engine of globalization and during the last decades has been endorsed and even mastered by almost all economies. This is officially true, although at face value, countries have turned into experts to influence or buffer the impact of bare natural outcomes on their economy. In reality, it is hard to know how "free" the market is in some places, but at least a common official principle prevails.

The federal government will support a fair liberal model and endorse global economic Freedom. To ensure stability and sustainability, we will add the missing governance and regulations browsed earlier. Free-trade and free-enterprise will be inalienable constitutional rights.

Capitalism can be criticized for its propensity to create inequality. However, it stimulates individual motivation to exceed expectations and to aspire to economic progress, rather than the apathy of egalitarian and enclosed systems in which initiative and human drive remain pointless.

Yet, pure Capitalism lacks boundaries when totally rein-free. Global governance is our missing rein. While we do not see any better alternative to Capitalism, we want to make it "fair". We want to inject its missing ingredient: a global governance ensuring the support of the society.

Capitalism and governance are not antinomic. We will enable a *virtuous balance between Freedom and fairness*. Fairness for the sustainability of the society overall, fairness for the weakest individuals or states or minorities must be carefully injected into the free-trade model. Both Freedom and fairness will be protected. We are liberals who want a free economy *that is also fair*.

3. Launch an aggressive economic recovery policy:

Our strategy is (i) to stabilize the economic landscape (debt management), (ii) take the economy out of recession while shifting away from fossil (green stimulation) and (iii) help the weakest geographies to get out of poverty and isolation (solidarity):

i. Stabilize the cyclical economic growth/depression curves – deal with the debt.

Anyone looking at financial stability starts with debt management. The current global debt burden creates an immense risk – of not being able to pay back principal and even interests, when the repayment gets exhorbitant against the capabilities of economies in recession. Systemic national defaults – possible if not probable - would create a financial crisis like never seen before. Debt has become our critical issue – it is out of anyone's control. We have created a time bomb for ourselves, with indebtness levels worth more than a year of GDP for most following Coronavirus. It hard to see how it will be repayed. Nobody can afford to. National budgets can't even out any longer with the added debt burden. Those who still can afford to pay back will be caught by the ones who can't in a global economy. Austerity mesures to sustain repayments will prevent countries to recover from recession – so they probably won't pay.

We have to make an exceptional bold move and eradicate the debt issue once for all – a big reset. This is the way to allow all member-states of the federation to re-start on a healthy footing.

We intend to free up member-states from their public debt when they join the federation. We will take the debt at the central federal level. New member-states will be debt-free out of the gate. The federation will deal with the consolidated debt owing to its single currency and its money supply capability. The federation is its own creditor and debitor. This is only made possible through the consolidation into one country – it's the same account.

This remedy comes with two effects: first, it reinvigorates the agility of new member-states which suddenly have a fair chance of becoming competitive again; second, it acts as a huge motivator for them to join the federation. The historic deficits of the first wave of member-states will be absorbed centrally on day one. All member-states will start on a robust and equal playing field. This will also act as a magnet for hesitant members – if they join, they turn debt-free.

The debt coming from a public debtor to a public creditor within the federation will be written off by the federation itself. If the debt is from outside of the federation when temporarily some countries have not joined and are creditors, there will be a negotiation – which acts as a stimulus for this country to join.

ii. Take the economy out of recession - ramp-up Green Economy.

We will ignite a formidable green leverage for the global economy. The "Clean-tech" stimulus – both for the industry and agriculture - will force old fossil-fuel sectors to transform rapidly.

We will leverage two kind of stimulation tools – carrots and sticks.

- Carrots: we will drive direct public investments as well as tax reliefs on new clean products;
- Sticks: we implement a zero-carbon tax on all fossil-powered products and associated services.

The potential number of jobs that can be created by green economy in the US alone is between 16 and 37 million (*L'Expansion*, 2012). *Green jobs could make for a total headcount that can replace or even exceed the total number of jobs eliminated by the Coronavirus recession.* It is a totally new paradigm, a new frontier of economic innovation that can carry the transition between the old and the new without an economic trauma, provided proper political focus is applied.

To accelerate the "green wave," the government will prepare a pool of initiatives, welcoming private funding and finding ways for the oil and gas industry to recycle itself. These funds will come from the transfer of military budgets. They will create an economic stimulus of a magnitude never equaled before, the long-awaited economic zero-carbon revolution electroshock.

iii. **Develop a global program of infrastructures focusing on poor states – our act of solidarity with Middle-East and Africa and Latin America later on.**

Do we remember the "New Deal" of the thirties? Let's now take it at a global scale. We need global solidarity and more of us to be able to access our global market. We want to solve for the challenge of eliminating "poverty" by the middle of the century.

First, we will look at *a massive investment in infrastructure in poor countries*. We must even out over time the wealth imbalance across geographies, through the convergence of financial and social strategies. We want to take a path that is no longer just philanthropic (*NGO*'s and wealthy individuals like Bill Gates) or voluntary (by richer states). We will be systemic and will institutionalize economic solidarity at the level of the federation.

Second, we want to build a global "brotherhood". One that leverages the following strategies:

a) Solidarity for employment and benefits:

It is not realistic to try to equalize our social benefits system at the global level – not for at least another few decades. Economic variances in standards of living are enormous. Also cultural differences and perceptions about the role of the government – between a generic protector and a necessary evil – are all too disparate. It's impossible to merge all systems into one for the foreseeable future. Equal social benefits are not financially feasible nor politically desired soon.

We are looking for mid-term convergence. The harmonization of workers' rights will happen over time. We are planning for a common destination, with a single framework. We will begin with some low hanging fruits, such as the prohibition of child labor; the establishment of a maximum

number of working hours per week; the affirmation of equal opportunity employment regardless of gender, ethnicity, or religion; the right to a safe working environment; the access to basic preventive healthcare and finally universal minimal unemployment benefits.

Our objective is to make the various national systems compatible, well before they can be financially comparable. A truly homogeneous system will take another one or two generations. In the meantime, we target a common minimum level – the universally acceptable.

b) Solidarity for healthcare:

The federal government will support basic healthcare programs focusing on the poor member-states, with three priorities: (i) dissemination of basic healthcare support, (ii) the creation of a taskforce for humanitarian assistance and (iii) the systemic preemptive management of epidemics.

(i) Regarding basic medicine for all, we will focus on children. We want to systematically combat extreme misery, hunger and the illnesses that today affect more than a billion children. Half of the children of the globe is not well. They would better not be born. We know that local corruption has been a critical issue to channel humanitarian funds. We will concentrate our efforts on poor member-states showing evidence of a transparent democratic political structure. As a side benefit, our financial support will act as another magnet for poor populations outside of the federation to push their rulers to join in. *The dream of joining the federation may replace the need to emigrate*…

(ii) Next, we want to create a *Federal Taskforce of Medical and Humanitarian Intervention*, funded directly by the federal budget. The taskforce will dispense humanitarian assistance across the federation – directly, or indirectly when leveraging existing *NGO*'s. The taskforce will act in situations of epidemic crisis, emergency or endemic misery so that everyone in the federation can get basic access to food and specific medical care.

(iii) Epidemics that require systematic testing and vaccinations will be centrally monitored to ensure proper preventive control, to limit spreading of the desease and to ensure buffer stocks and availibity of critical drugs and equipments. Coronavirus has been a lesson…

4. Ensure consistent governance for global enterprises:

Anywhere in the federation, companies will be governed by the same pool of rules and regulations, using the *IFRS (International Financing Reporting Standards)* as a common language for business. All companies will compete on equal global footing: shareholders base, financial regulations, tax contributions, available markets without incoming duties and employees pool.

Unification of enterprise governance will have direct implication on companies' leadership, strategies, behaviors and culture. With the universe of business leaders and employees globalizing faster than the rest of the society, multinationals will continue to spearhead universal culture. International careers will become the norm and a preferred passage to success. Few companies of substantial size will remain contained to the borders of their member-state. Access to the world

market will be much easier than today. The opening of borders will further reinforce the reality of free-exchange of goods and the diversity of employees and leadership.

We want enterprises to operate with complete Freedom and to be motivated by market-led objectives. However, as we proposed earlier we will ensure as well that the "market" channels the strategic causes of the society. We will work on such an alignment through corporate fiscal simulation, so that businesses have a chance to lead the future design of our sustainable society.

Companies will be fiscally motivated to contribute to the key strategies prioritized earlier:

- Construction of a sustainable society, with tax-free investments in sustainable technologies (carrots) and carbon taxes on fossil utilization (sticks) to accelerate their green transformation;
- Participation to the construction of infrastructures for the poor member-states (carrot);
- Development of zones of future population growth as of the *Population Density Map* to stimulate job creation where mostly needed and attract immigrants (carrot).

We will give clarity to the market. We want to guide the government with a simple mind-set too: we are open for business. We are business friendly and fully supportive of all the economic actors. We know that businesses are the fiber of society.

Business people are the friends of globalization. They have carried it so far. They have understood long ago that the biggest opportunities lie across and beyond their legacy borders, which have become irrelevant to them other than for the fragmented rules imposed by local governments. The business community knows - yet unconsciously - that we must globalize our political institutions as well to create a comprehensive solution that avoids the come back of protectionism. Business leaders already see the risks of semi-globalization. With clear and trustful messages, these critical actors are easy to engage. Above everything else, we must help them to anticipate the future with new offerings to their markets. With a positive attitude and a global government seen as a determined supporter of business, the private-public partnership will drive an all-new economic momentum: "*Stable, Green and South"*.

Big transformations bring forth new generations of entrepreneurs and fuel a reinvigorated sense of creativity and energy. Building the global green economy is a superb chance – both for the society and for the economy. It will not only anchor our sustainable future, but also stimulate a wave of re-development and fairness.

Earth our country.

Chapter Fourteen:

Priority Seven:
Universal Education and Information

Our human brain acts as a sponge. The first few years are critical as we receive the most profound influence from our family and direct environment. Education at school during childhood and later for young adults provide the framework of a lifetime. Following this foundation, life continues as a constant communication experience at work and socially – with friends, colleagues and with a broad access to the information that connects us all as a society.

Access to universal education and information will be an inalterable right. We will protect the right to learn and to be informed for every citizen of the federation. In a democracy, the level of popular understanding of the issues at hand is directly proportional to the level of enlighted engagement of citizens. Uneducated people make room for populism or totalitarianism. Ignorants elect politicians who manipulate them or despots to take control.

For democracy to operate properly, citizens must have a point of view on the key challenges their society has to deal with. Citizens who do not know or care put democracy at risk. It does not matter if an elite "gets it" and comes with all the "right" answers. It is essential to have a majority of people with an educated point of view to support them. One can argue that it is impossible for the masses to be capable of grabbing the complexity necessary to govern and it is preferable for the elite to guide them, because the hyper-educated and informed elite knows better. We all know the consistent excesses of such an "enlightened despotic" approach across History. It may work well for China today in some dimensions, but such a system totally lacks checks and balances. The elite ends up working for the elite and creates a class of its own – aristocracy or single-party membership – who rejects any alternative thinking that could threaten its dominance.

We, the founding fathers of *the United Democratic States*, believe in democracy. The model is far from perfect but there is nothing more powerful than empowering people. To make it durable and strong, people who vote must truly know why they vote for whom. For our democracy to function well, education and information have to be wide and deep, so that most citizens are enlightened themselves. We need (i) intensive education for every child – both universal and local – and (ii) broad access to communication of transparent and diverse information for everyone.

What is already hard enough for a democracy at a minuscule scale – be it antique Athens or a Swiss canton – becomes a much greater difficulty for a large nation state and a challenge never tested before for a world democratic federation of 5 to 10 billion people. We can see the current rise of national populism. In a democracy that reaches a planetary dimension, there is an even

greater necessity for citizens to keep pace with the diversity and quantity of information available. Getting education and communication tools to everyone is critically important.

The elevation of key issues at the global level provides more readability than the fragmentation of uncomplete and competing national agendas. The global level is where the problems that Humanity face belong to, must be understood and resolved. Climate change is global, migrations are global, epidemics are global, the economy is global. The planetary level brings *global simplicity and clarity*.

- *Global…*

Some of the greatest obstacles to the current engagement of citizens in our national democracies are nationalist parasites and insolvable ethnic separations. In many places, all local political energies are spent fighting ethnic issues. This will be removed from the system. Diversity will be the norm and minorities will be protected without the need for jails or machine guns.

- *…Simplicity and clarity*

The planetary dimension will bring clarity and simplicity. The issues for resolution on the global table are vivid problems that common good sense can resolve. A national solution adds complexity with problems relative to one group over another or resulting from conflicting national constraints or interests.

People get lost with multiple currencies going up and down, economic crises coming out of nowhere, mass-immigration supposedly taking their jobs… Lack of understanding create fears. If politicians succeed in educating more people with the issues that we raise and intend to resolve in this programme, we create a new paradigm for democracy. We can make a quantum leap improvement in simplicity and clarity. If we can deserve to be trusted, democracy will win.

It will take some time to watch how this all plays out. We can see a scenario where global democracy will engender a phenomenal interest and engagement from most, bring an exciting change in the political game everywhere and *reenergize the "res publica"* - the public cause. The case for a global agenda has the potential to offset the passivity and disinterest that pervades our most solid democracies lately.

Free citizens unfortunately take their Freedom and democracy for granted. They tend to forget that *they* are the democracy. They see with disappointment politicians stuck into issues bigger than their sphere of influence, incapable of taking the big decisions needed to resolve the challenges that really matter and pushing the "fault" on the outside world: on the Chinese, on the EU, on the Americans, on the immigrants… It's easier to find a scape goat than taking ownership. Citizens in democracies own the outcome. To be re-engaged, they must have their own point of view.

The first task for global leaders is to re-energize citizens around a vibrant global agenda. It will take a while for national prejudices to disappear. The first global leaders must be irreproachable role models. Trust for great leadership will transcend the borders of their national origin. A new

generation of global leaders will emerge. We need leaders with a diverse background, who lived in several places, who can lead for the good of all, not only for their national fellow citizen.

Barack Obama himself, if ultimately candidate and elected to lead *the United Democratic States*, will have a compelling and emblematic task. It takes enormous courage and faith in mankind. He will have to surround himself with exceptional men and women whose impartiality embodies the message of the new civilization that we want to create, with integrity and transparency. We want great educators and communicators, courageous leaders who drive forcefully for the right decisions. For the government to successfully manage the radical transformation that the federation will bring, we must win popular support. Our people's lowest denominator – knowledge or ignorance – will impact everyone else.

Universal education and information are the foundation of our new planetary civilization, the link between our cultures and generations. A shared knowledge will bring us closer together and open us up to the new realities that we must resolve as a global team.

1. Right to information.

The future is now. It all went at light's speed. Digital technologies have ignited a true total revolution of communications. It is universal. We are even complaining to be overly informed due to the quantity of data that assail us – from paper to radio or television, from our phone to our tablet or computer. We probably are not far from having a chip implanted under our skin as the ultimate portable electronic device. The speed of change is absolutely extraordinary. Internet applications pop up every day and suddenly become the norm for millions of people around the world. After humans, objects are now connecting to the Internet of Things (IOT) as well.

The Internet is now so evident and irremediable that we take it for granted – like democracy. In reality, it remains a fragile edifice that nobody quite manages, its Freedom challenges national boundaries and independence. The Internet relies on a long chain of willing players to exist. It has emerged as the only universal soft power. The strength of its Freedom is its Achilles's heel. Nations are trying to control it, rogue users to pollute it and *GAFAM*'s to manage it. Nobody should "govern" the Internet, as long as it can continue to flourish without formal governance. It is a difficult thing to do in our fragmented world though. Big cracks are challenging the model. We will step up to ensure that the Internet free of censorship or influences and universally accessible.

A. Freedom of the Internet.

The roles of *ICANN (The International Corporation for Assigned Names and Numbers)* and *ISOC (The Internet Society)* should be reinforced as official representative bodies of the Internet. We want them to work together in defining a global "*Charter of the Internet*" which will help to police it internationally. Behind their specialized coordination, the global government will act as the overarching protector of the Freedom of the Internet – the most strategic intellectual utility for the federation. The *Charter of the Internet* will aim at globally clarifying four critical principles:

i. Freedom of access:

The extraordinary capabilities of the Internet and its role as our universal communication link make access inequalities much harder to tolerate. We want its access to become a right – the right to information – everywhere for everyone. The Internet is the facilitator of a more universal and egalitarian culture. It is not only the vehicle but also the symbol of our emerging society. It transports everything everywhere, is interactive, constant, immediate, global, educational and democratic. It facilitates cooperation and satisfies almost every curiosity. It has turned into a major economic actor as well and now even into a global political vehicle... *Tweets* replace speeches…

With the Internet as the porthole of our universal knowledge, it is quickly becoming impossible to live a modern and engaged life not being on-line almost every hour in any location. The federal government will secure its functionality and universal access as with other utilities and public services. We recognize access to the Internet as a fundamental universal right - "The Internet is for Everyone" (*The Internet Society*).

The implications are multiple in terms of ensuring that the Internet "works" for all. It includes the creation of infrastructures – underwater cables, satellites and basic connections to homes or wireless spots – to warrant that the service is easily accessible from everywhere. Poor countries are greatly under-privileged with only 10 percent of African households having access to a connection despite a recent doubling. *There are two classes in our world: the connected and the unconnected. Its is called the digital divide. We must close this gap.* The government will make certain that the needed infrastructure is in place encouraging private funding.

ii. Freedom of contents:

It is not a coincidence if the Arab Spring in the Middle-East, the Yellow Jackets in France or the Hong Kong protests have been galvanized and even made possible owing to social networks. Internet blogs have replaced and re-enabled street protests. Internet spies have replaced and re-empowered intelligence agents. Two million Chinese spies are dedicated to censoring the usage of the Internet in China so that the government there can "protect" itself. The Internet is a threat for totalitarian governments and at the same time their privileged source of intelligence.

Control and censorship of information in non-democratic regimes cannot handle a borderless communication vehicle that is so universal and pervasive. Instead of banning the Internet, China, Iran and Russia among others are successfully controling it by blocking thousands of sites and organizing a policing system. They even pay fake Internet users to influence debates taking place online. Despite its censorship, the Internet is a force of liberation for citizens of autocratic regimes. These rumblings further demonstrate its importance as a universal democratic tool.

iii. Taxation and copyrights:

For a long time, global e-business players have been allowed – as a tolerance or an afterthought – to "surf" above local taxations, not only like other multinational firms with corporate tax but even avoiding local VAT. They have gained an unfair competitive advantage against local brick-and-mortar competitors avoiding local tax contributions. Also, most e-players have historically failed to fairly compensate authors and publishers for their rights, impacting the capability of authors to make a living. As the Internet becomes the main business and distribution actor, we

must resolve this problem. The federation will ensure that mechanisms of self-policing are managed on a global basis as it is nobody's role right now to arbitrate these issues internationally.

iv. Illegal use:

It is our duty to clean-up the Internet as we want it to be our universal communication tool. Any strength comes with its weakness and its anonymous Freedom has a downside: anybody can do anything on-line anywhere. It gives ground to spam and perverse or dishonest practices – some that touch children, who can see everything on-line. Child e-abuse and e-pornography can hardly be fought across borders because the source and the receiver are often in different countries. There is a vacuum of global governance on these issues, made even more critical with the time children are now spending online. Cleaning the Internet against valid rules and policies defined globally is currently unachievable with our fragmented political framework. The extended jurisdiction of the Union will enable us to enforce the needed ethics with borderless surveillance.

Now the most strategic ubiquitous utility and certainly an integral agent of the global society, the Internet needs clear policies to continue to develop. While we think that its genetic self-policing mode should be protected as much as possible, there is so much at stake that the federal government commits to step up as the ultimate overarching warrant of its Freedom, ethics and access.

B. Global mass media:

Mass media are going through their own revolution due to the multitude of new technologies available and the insatiable appetite of their audiences. "Old" media are finally leveraging the benefits of the Internet, after a period of destabilization. Channels have multiplied throughout industrialized countries and are also exploding in emerging countries where new waves of consumers are hungry for contents that they can now access too. Tens of thousands of channels are now available throughout the world.

Even in developing areas where cables are still absent and the local state-sponsored channels lack in quality and non-propaganda programming, balconies and rooftops are covered with thousands of little white dishes. Television operators are transcending borders - *CNN, BBC, Al-Jazeera, Telemundo, CGTN, TV5*… They contribute to universal expression and help to build new perspectives, beyond people's immediate horizon. Information is growingly universal, accessible and affordable, with contents being shared around the world. It's a profound cultural change.

C. From paper to digital:

Newspapers and books have transported our knowledge from generation to generation. They have been the traditional vehicles of our recorded information for over half a millennium. Their legacy model is now shifting toward digital sources. Nostalgia aside, we are leaving the Gutenberg civilization at the speed of light, to join the digital civilization. Although difficult for most of us emotionally, we think that it is a good thing.

The carbon footprint of the printing industry is hard to accept in a sustainable society. Paper manufacturing generates 700 pounds of CO2 per ton of paper. The paper industry has vast

environmental repercussions impacting a wide spectrum of natural resources. Its fiber requires trees, its manufacturing requires oil and its recycling after use emits a multitude of greenhouse gases, including methane. *Subak and Graighill* estimate that the emissions linked to paper production taken as a whole from all over the world are higher than total emissions of the entire country of Australia, which is the number one emitter of polluting gases per inhabitant. Even if it was possible to stabilize paper manufacturing emissions to their current level, it would require a 2.5 percent increase in reforestation, just to compensate for their climatic effect. This represents an immense waste, now that we can use digital publishing. A world that uses almost no paper is conceivable, but the intellectual protection of journalists and writers should be greatly reinforced.

The new government should act as a role model and operate paper free – *a federal administration that is entirely paperless* – and encourage the private sector to follow the same path. New personal devices and related technologies now make this possible. An entire library can be made available on a tiny personal device that weighs just a few ounces, not to mention the possibilities made available by the "cloud." Everything can already be done paperless on a technology viewpoint; all of these services already exist and are fully ready for widespread use. The federal government will sponsor systematic digital pervasiveness.

2. Right to universal education.

Education will be a universal right and duty within the federation. If at all possible, everyone will at least graduate from high-school. We want to inject a core of universal contents to national curriculums, so that everyone receives a common coherent base of global integrative knowledge, on top of traditional identity-related materials.

With the increase in living standards, education is already mandatory in most parts of the world. Societies view education as a tool for the future progress of their country as a whole. In rich countries, university-level studies are now the norm for a majority. In developing geographies, providing a basic education to most children remains a huge challenge and commitment. Education can represent up to one-third of the national budget of a poor country.

We think that providing schooling and education should remain the authority of member states. However, we encourage the federal government to support and enhance their overall effort. The federation will provide a global framework and support the poor states. We recommend five initiatives to improve the education of our global citizens:

i. Education for everyone:

Despite commendable efforts of the *UN* and the *UNESCO* with their *EFA (Education for All)* program, trying to provide access to education for everyone continues to be an overwhelming task. We need to leverage the new capabilities of the federation to ensure that education is provided to all children everywhere, in particular to girls, traditionally more challenged in certain cultures. There are still a billion illiterate adults. It a huge number. Half of the world's population is adult, so almost one adult out of four is illiterate – worse for women.

There is a lot of progress already made throughout the world, with many countries understanding the importance of educating their citizens in a more complex society and in which technology has become a greater force. But we cannot claim victory. It's a huge issue that we want to attack forcefully with the power of our new global governance.

Africa has the youngest population. Nearly half of sub-Saharan Africans are under the age of fifteen. Despite an exponential increase in scholarly instruction over the past few years, the barriers remain high, both for girls and for the poorest ethnic minorities. In many places, the culture surrounding girls is a roadblock in their long-term education and secular traditions confine them at home – literally in their house. In particular there is a taboo around menstruation and a lack of sanitary products, with a cultural desire to keep girls hidden away to protect their virginity, until they are of marrying age. There is also an economic dimension. Children – boys and girls – are indispensable workers and a source of income for parents who have not been educated themselves. Keeping them away from school ensures the survival of the family.

We will be all over this. The federal government will stimulate state education systems to help the generations of illiterate young and older adults. Families will be supported economically, girls will be protected outside of their house. It is a systemic issue that must be handled in the context of local cultures and indigeneous constraints. However, it is a global problem for each state to address specifically. We will accept various local solutions that cope with identitarian ideologies, but the target of universal education will remain in force.

ii. Global and modern education:

It is not realistic to impose a common curriculum to all the children of the world. The current dispersion in starting points between various countries, profound differences between educational models, attendance levels and teaching materials are too far off. One global size does not fit all. It will be a long journey to ultimately allow all people to share similar learnings and perspectives.

Reciprocally, the cultivation of extreme differences does not make sense either. We should find ways to leave behind us the rigidity of traditional educational models that are exclusive, ancestral and often xenophobic. Most of them rely on the idealization of a nationalistic or religious past that conventional teachers judge indispensable to a solid identity-based education.

The truth is in the middle. We have to play along a fine line as we transition from a purely identitarian History toward a blend of universal diversity. It is all about convergence and timing.

The objective of universal education is to open the mind-set of our children to the unity of the world. While we want to help them to discover and understand the "rest of the world" - with its differences and similarities - we also must build intellectual bridges for our joint destiny. The core curriculum of global education will focus on what brings us together rather that what divides us.

Our children are better served if they learn the History of mankind as a whole. Today, they are exclusively taught about the glorification of the identity of their nation. They study national writers and the one-sided History of their nationalism – a winner or a martyre against the rest of the world.

Such parochial views distort one's judgement for a lifetime. They perpetuate the idea that a country is a world by itself.

What we want is to inspire that *the "world is our country",* instead of *"our country is our world standing against others."* Right now, we teach with an insidious national bias, perpetuated by all educational systems. This slows down the common realization of our unity, because it weighs so profoundly on how we look at the world as adults.

The federation must change this. National language, History, geography and authors of our literature are all great subjects. But we need to inject a multi-faceted universal dimension as well. Universal history, geography and culture should prevail, within intertwined dimensions. Lectures should be about how local cultures have influenced each other, everything being positioned within a holistic and evolutionary context, instead of primarily celebrating the remembrance of wars, battles and victories against the archrival neighbor. "We won this war that day and we lost this city to these awful invaders". This is most of what we learn, how and why we are the nations that we are. National History is assumed to be a national treasure, pretty much everywhere.

Outside of scientific or higher-level education, everything is about national culture and its indigenous authors. In any national curriculum, local education is "primary" while foreign cultures are a distant add-on. We need a paradigm change. It should be the other way around: "global" should be mainstream and "state-level" secondary. Today we "learn local" before we eventually learn "global" - if we manage to go to University. Most people only learn "local" because they don't reach the next level, which is reserved to the elite which succeeds to get there.

The challenge ahead of us is to mix a truly "glo-cal" experience for all of our children, so that they have an intellectual appetite for both dimensions and learn to facet their mindset with a balanced perception of the world, even if they don't manage to go beyond high school.

The first change will come from the way we study language(s). Today, we almost exclusively study our mother tongue and dive deep in its grammatical structures that are infinitely complex. Instead, we should balance our extreme mastery of one single language with bi-lingual education, starting at a very young age. Every child should at least communicate and *think* in two languages – one of them being English. *We should not learn English – we should learn "in" English.*

Modern education will have to be the link between old and new realities. It will feed itself with the ambivalence of the past, present and future, along our voyage to the *Homo sapiens Universalis.* It's a dynamic learning, from where we are coming from to where we are all going. This is so important. Our educational system is our foundation. It is the ferment of our community's behavior. It should be valued strategically and considered as our priviledged integration tool.

iii. The importance of teaching:

We need teachers who are engaged and committed to see their students succeed in a society undergoing an accelerated metamorphosis and feel respected and rewarded for the importance of their role. *Each time the society takes a quantum leap in its development, teachers take the front seat* – like sciences and techniques during the industrial revolution. Together, the federal

government and member-states will support a widespread program for hiring, training and compensating qualified teachers with a diverse set of origins. Teachers will be encouraged to pursue their career across borders and to embody the grooming global village.

iv. English as our universal language:

The long-lasting linguistic barrier that we face is driven by the unconscious protection of national or ethnic identity at school. The majority of governments encourage the education in their own language and support the inertia of their educational system, that is built around that language. Consciously or not, they make the learning of foreign languages much harder than it should be.

The federation will use a single language. To become a brotherhood, we need to pick one language. It can only be English, which has won an international edge against other languages.

The basic mastery of English will be indispensable to those who want to travel, live outside of their home state or develop regional or global responsibilities. English is the principal universal language in all domains, from culture to politics and from business to education. *We will make English the official language of the federation and the mandatory second language.*

All schools will be at least bilingual. In English-speaking states, children will be required to learn a second language as well – like Spanish in the US, French in Canada, Chinese in Australia or Hindi in the UK. The systematic understanding of at least two languages – of which one must be English – will open up all individuals to our multi-cultural evolution.

Language education should be transformed. Each school will offer its entire curriculum in at least two languages, as opposed to "teaching a new language". English will be inserted as one of the communication vehicles from a young age. Courses will be taught "in English" *versus* having "English" as a course by itself. This is a powerful approach used by international schools today. They make the language a tool as opposed to a "subject" by itself. Suddenly English turns into a live language of communication in the children's daily routines, not a separate discipline.

Multi-linguism will be omni-present, not only at school. From movies to traffic signs, public notices and official documentation – all will be spoken or written in the local language and English.

With such an approach, we believe that within only one generation we can all become multi-lingual. By the second half of the century, everyone will be able to read an article, write an e-mail or text a message, understand a speech and have a basic telephone conversation – in English.

We appreciate that "English for everyone" feels like an insurmountable objective to someone who speaks only one language today. It should not block our vision of what is truly possible. It will take another generation and we will get there. Our children will succeed if we haven't yet. Children are like linguistic sponges. When fully immersed, they can learn another language in just a few months as opposed to the years needed by an adult. We need a generation to transition - one generation is enough if we apply the adequate approach.

v. International mobility for students and teachers:

Half of mankind is not even of adult age yet. Young people are the forefront of society. They must be the ones pioneering the discovery of universalism, together with their teachers and professors. The accelerated mobility of our young brains across member-states and geographies will vivify our global village. Students will be first to assimilate the communities that they join.

University level studies form the leadership minds, they make the biggest difference. A conjunction of public and private initiatives will encourage and fund out-of-state studies. We will make it easier and affordable for students to join universities in several member states, help them with diploma equivalences across the union.

Scholarships and grants will incentivate out-of-state curriculums and help to maximize the number of students with an opportunity to study elsewhere. Geographic mobility for advanced students will become the rule, much like it is between states in the US today. The objective is for future elites to leave home at least once and discover an alternative culture. Experiencing what it is to be part of a minority will help them understand how it feels to be a migrant. Teachers will also be financially motivated to pursue an out-of-state career.

The permanent motto along History has been: *"good fences make good neighbors"*. We will turn it to: *"brothers don't need fences."* Educated men and women will aspire to become engaged actors and engineers of the universal and sustainable society that we all hope for. The long-term salvation of our species depends on our ability to spread the word and to educate the multitude.

Earth our country.

Chapter Fifteen:

Priority Eight:
Space Exploration and Science

1. Space exploration.

Space exploration is a priority that bears a different dimension. It addresses another horizon – further in the future. It doesn't bring an immediate resolution to our crisis, although we may lack a destiny without it. It is a risk contingency that takes a long preparation. It envisions our logical evolution and our next destination as a species. *After the Homo sapiens Universalis will come the Homo sapiens Galacticus…*

Once upon a time, we had a big dream for a space odyssey and went to the Moon. Yet, our economic constraints anchored us on Earth. Nothing really happened on the front of space exploration for the last forty years, else than putting a space station in orbit. Human business is on Earth and the cost of space exploration beyond the reach of a single country. *We intent to launch an ambitious space exploration program*. It will leverage the decupled capability of the federation.

The strategy is primarily one of risk management: we must design a long-term option for the sustainability of the human species out in space. We think that the possibility of colonizing space can be a lifeline for Humanity, given the proven sensitivity of the Earth's ecosystem. Humans can only live on Earth – it's a huge contingency. As a result, we only have one bullet in our gun. What if we can't control extreme climate change after all? What if/when a large meteorite hits us again - can we be smarter than the dinosaurs and anticipate a survival plan?

There is another dimension that plays for the selection of this priority. Human beings have a genetic desire for discovery and adventure. We don't want our fragile and diminished planet with a stable and wise governance to become too boring, with no new territory left to conquer, no new mountain to climb, no new ocean to cross, no new alien to meet with.

We wonder if the human species can survive endlessly and in harmony for several more centuries or millenia, with the ecologic stress that billions of humans will continue to inflict to our planet and to our governance, even if we do well with the grand plan that we are developing here. It's just a profound thought. We have always been on the go, with a conquest at sight. How well will we cope with a plan for "retirement and wisdom" on a well governed tiny planet? We don't know, but it's an interesting consideration. Soldiers hate Peace…

Recent studies show that the Sun is heating up. It is estimated that life in its entirety will totally disappear from Earth in around 2.5 billion years and that in less than a billion years, conditions on Earth will not support human life any more.

Stephen Hawkins, the immense British physicist made famous with *A Brief History of Time,* was much more dramatic. Thinking about the impact on our ecosystem, he though that *"humans will not survive another thousand years without escaping beyond our fragile planet."* He urged the continuation of space exploration for Humanity's sake. "If man is to ultimately survive, it will be due to the colonization of space – at which point the sky literally becomes his only limit" (*Huffpost Science*, April 11, 2013).

Most recent scientific hypothesis claim that life did not originate from Earth, but from Mars. Professor Steven Benner proposed that 3 billion years ago, when life was supposed to have started its first evolution, conditions on Earth did not match the equation for the seeds of life to erupt out of the chemical world. The first ingredient needed in the chain of life is RNA (ribonucleic acid). RNA is created in a chemical reaction in which it is "coaxed" with certain minerals that "template" their atoms at their crystalline surface. The research argues that such minerals would have dissolved in the oceans that completely covered our early Earth, while at the same time Earth did not have enough oxygen. Mars was much drier at the time, with more oxygen and had minerals such as boron and molybdenum in abundance. The Red Planet presented much better conditions for prebiotic life to happen. Benner's thesis is that life was eventually created on Mars and then transported to Earth via a meteorite. "The evidence seems to be building that we are actually all Martians; that life started on Mars and came to Earth on a rock," commented Professor Benner (*Goldschmidt meeting*, Florence, Italy, August 2013). While landing on Earth, life found great conditions over time to evolve to where we are today, while on Mars after billions of years life was disappearing due to worsening natural conditions.

True or not, we are bringing this theory because it illustrates the idea that life can potentially migrate from a planet to another. If we originated from Mars, then flourished on Earth - she doesn't have to be our golden cage forever. Notwithstanding our existential risk on Earth, should we forever be condemned to only live here? Or, on the contrary, should we search for a passage, like the pioneers of the Renaissance aboard the *Nina*, toward another flourishing land - but this time above and beyond the Blue Planet?

Our compatibility with Earth is a necessary condition - not a sufficient one for the very long-term survival of mankind. The evolution of our planet is largely beyond our control, now that we have created the post-industrial conditions that derailed it from its normal path. Maybe Earth will marvelously realign itself again, once we reach our zero-carbon goal. It is also possible that we are already too late, that the damages of the enormous machine of human natality and consumption have already initiated irreparable consequences. For example, the permafrost melt could release an unknown amount of methane in the atmosphere and start an out-of-control spiral much too difficult to anticipate and to model.

If there is such a risk ahead, we need an option for life elsewhere; we need to invest in a plan for space colonization that will ensure the future of man beyond planet Earth.

While it is existential, we are positioning this objective at the end of the priority list. Its outcome will not make a meaningful difference for generations to come. But it represents the next big step of our quest for sustainability – the horizon behind with we are just starting to engage. It can ensure the universal and eventually eternal vocation of Humanity. *Sooner or later, Earth will be our limit and someone could make the case that it already is.*

We must prepare for a parallel path in space to the one of trying to "fix" Earth. We need a space exploration strategy to find alternative settings. Eventually, we will colonize one day an area outside of our atmosphere, to ensure our evolution and survival. Or simply, we will excite our pioneering spirit for the unknown - from "go West young man" to "go Space young woman".

If we successfully overcome the immediate ecologic Great Wall on Earth, the risks weighing on the stability of our planet over time will still remain. We are tiny mosquito-like beings living on the thin terrestrial crust of a lonely planet among billions of others. We are still ignorant of most of the dynamics happening behind her crust – deep inside. Outside of Earth, we are only protected from space by a finite and fragile atmosphere – thin air – already damaged by our human proliferation. How can we ignore the space that surrounds us and forms the totality of our universe? Space is not something outside of our living realm – *what we call "space" is everything around us, of which we are only an extremely tiny piece.*

Our ecosystem is a dynamic and unpredictable chemical magma of universal processes and laws of Nature: the composition of the planet's atmosphere, the biological evolution of life, the time dimension, chance or God… These factors do not ensure that mankind can wisely anticipate to remain comfortably ensconced into the cocoon of its planet for eternity – even if we finally learn how to cherish and protect our tiny Earth.

Statistically, we can bet on the inevitability that some external event will disrupt our comfy nest, sooner or later. The evolution of life on Earth is marked by numerous catastrophes, whether comets or asteroids and these random occurrences have permitted new life-forms to develop while they dictated the extinction of others – it can be us. Every 200 to 300 hundred million years, a natural cataclysm has occured and perturbed the slow and patiently fashioned evolution of life. 65 million years ago, a meteorite measuring about 60 miles wide accidentally bumped into Earth in Mexico. It provoked the extinction of the dinosaurs and gave an opportunity to our mammalian ancestors to prosper and succeed. Here we are, as their indirect consequence. Next time, it could be the other way around – insects could be the next winners… Catastrophes will happen again as a statistical truth. Our species, if only terrestrial, is condemned to exist for a minuscule duration in the overall timescale of the universe. As Stephen Hawking anticipated: "*the future of Humanity lies in space, if Humanity wants to have a long-term future".* It is an irremediable evidence.

Our space discovery is in infancy. The enormous cost of space exploration hasn't got much of an economic outcome, except communication satellites rolling in near orbit which we have now mastered for several decades. Commercial space technology puts satellites in orbit and is indispensable to our communications and GPS. It is treated as an end instead of a means to something greater. The last colossal US program is at its end of life and an official successor to the International Space Station has been lagging. To date, the station has cost near 200 billion dollars.

But what has been its benefit if the space program is going to be cut short, without a vision for a more ambitious destination point supported by political continuity?

The great political stimulus behind space exploration has disappeared since the end of the nationalistic struggle between Americans and Russians. The Chinese are attempting to reactivate the game but their program remains very much at inception stage. They will possibly get someone on the Moon soon and Americans are thinking about eventually going to Mars. At the eve of the twenty-first century, after the excitement of walking on the Moon sixty years ago, the space programs are quietly vegetating with their meager allowance, in some kind of bare minimal cruise speed. Astronauts' greatest problem to solve these days is their own unemployment.

International or regional pools like the *European Space Agency (ESA)* also exist on top of individual national financing. Even private entrepreneurs are planning to take commercial flights to space. *NASA* is desperately waiting for an American president that fantasizes about a manned spacecraft to Mars and pays for it. They agitate the idea that within ten years China will use space as a superb communication tool and build up technological superiority over the rest of the world.

These days of national competition over such a global project will hopefully be gone soon, with *the United Democratic States* pooling everyone's effort. We will make sure that the new federal government unifies and converges all public space and science agencies under one single banner and finally articulates the ambitious global space plan that mankind deserves. *NASA, ESA* and others will merge into the *"GSA" - the Global Space Agency*.

Given the enormous amounts of funds that could be burned with no return in such intangible adventures, we propose a pragmatic step-by-step approach, with three clear objectives:

A. Colonize the Moon:

Despite its desertic terrain, extreme temperatures, the absence of atmosphere and life, the Moon presents an immense advantage for space colonization: its proximity to Earth. It stands a light-second away from us – just a few days of travel with our current technology. It allows almost live communication. Moon ice, which could be transformed into water, was recently discovered under a dusty layer in the Cabeus crater near the South Pole. It could represent the basic resource necessary to a permanent future station.

The Moon is not as sexy as Mars for scientists or governments, because we have already been there and anyone with a hefty wallet could do it again. We know that it does not carry indigenous life and we still dream that Mars might do. The Moon is now only a tactical target in a scientific perspective. A Mars inhabited mission is seen as the next big scientific challenge.

The Moon is much more important to us than what scientists in quest of the next frontier can value. Strategically for the federation, we regard the Moon as the easiest candidate for our first extra-terrestrial colony. The Moon is our primary strategic target for outer space conquest.

With Mars being so far away given our existing technologies, the Moon appears to be the most logical destination for the second permanent implantation of the human species – unless some

exceptional advantages for a settlement are being discovered on Mars in the meantime, which would have to compensate for the immensely higher technological challenges implied by its distance. It is not about "discoveries" to be made on the Moon but about the important applications for the extension of Humanity on an alien soil.

From the Moon, we can learn everything that will later apply to the colonization of other planets - including Mars. The Moon is our pragmatic first step in the outer space. It can act as our first inter-planetary hub. We can practice how to build a stand-alone bubble in the outer space and later duplicate it on other planets. It has resources like hydrogen and oxygen that can fuel rockets. It rich in lithium and cobalt.

To make the best of our planet's only satellite out of the gate, we should prepare to grant it member-state status in our federation, with a leadership team responsible for its future colonization and the mission of beta-testing future life in space. There is a wide range of possibilities. The opportunities on the Moon are of such scale that they can keep our "*GSA – Global Space Agency*" busy for the generations to come, with some extremely exciting practical projects.

For instance, we need to learn how to build a permanent settlement in outer space. It can only be on the Moon. From what we can learn from current prospective studies, the first inhabited station on the Moon should be embedded in an underground trench to protect it from meteorites, at least until we can implement an impact detection and falling objects diverting system. A suitable location on the Moon has already been identified. The station would be supplied with abundant electricity through solar energy which is available in infinite amounts. By locating the station near the underground ice deposits at a pole, the colonizers will learn to generate a micro-atmosphere within the trench. Using this humidity, they will cultivate fresh products of primary necessity, eventually recreating an artificial ecosystem within a giant underground bubble.

After the confirmation of the viability of the first station, others can follow. A wave of pioneer life can see its day on the Moon – as it happened on Earth when a new island or continent was being discovered. There will be migrants, then babies will be born there and experimental stations will turn into future villages and cities. With the quite notable exception of a natural atmosphere, one can imagine an alternative life there – ultimately as exciting as on Earth.

The Moon is much less fragile than Earth because it is already a desolate terrain due to its lack of atmosphere. Notwithstanding transportation cost, it can be economically valuable in the medium-term as the "Earth mine and factory," as well as a repository for excess pollution from the Blue Planet. We could concentrate the majority of our polluting activities there, as an offshore location. We could do to the Moon what we did to China – the factory and mine of the world - and turn Earth pristine again.

The Moon could be our landfill site, in particular for radioactive waste. This may not sound very enticing, but the logic is convincing. We can use our desolate and nearby satellite to clean up those things too degrading for our original planet. It is a practical and tangible project that could be brought to fruition within a few decades. We already possess all the necessary technology. It is all about strategic political focus and financial means dedicated to the preservation of Earth and the preparation of a next horizon for mankind's expansion.

We can imagine a "colonial" model in which the core of indigenous worker-bees are made up of electric robots that work on the surface and are powered by the Sun, while humans live protected from the "elements" within the bubble of their station or underground. It makes for a very realistic science fiction tale.

We can get there soon enough. We recommend that the federal government redirects its first wave of global space efforts in this practical direction. The Moon can become the factory of Earth and its galactical hub. It can generate jobs for qualified engineers and curious adventurers who want to be the new peaceful conquistadors. Moon can turn into a nice buffer, to further protect the fragility of our own original planet. We can shield Earth from the most damaging effects of our heavy industry, mining and waste.

In summary, our plan is:

- First, make the Moon instrumental to our sustainability project, as a direct industrial and economic partner. We will integrate our satellite to our globalized model through a balanced Moon-Earth relationship.
- Second, develop the Moon as a large base and hub for further exploration, including Mars first. It will be a life-scale laboratory, under true space conditions, to help to prepare for more distant expeditions and facilitate further understanding of the possibilities of space.

In our mind, the moment to colonize the Moon has arrived. It is a perfect time for the first global government to take ownership. With our global funding, we can afford such a bold strategy.

B. Find a sister planet:

Finding a sister planet may be a futuristic dream, but such research continues to mobilize astronomers and should as well stimulate the visionary interest of the federation. If we find a second Earth, wouldn't it make things easier after what we've learned with the first one?

As of April 2020, there were 4,144 identified exoplanets (outside of our own solar system) and 5,000 potential ones. They are mostly massive gas giants larger than Earth and probably unlikely to sustain any life similar to our own, in particular because the gravity from their mass would crush us. Additionally, their temperatures are so extreme that they would be unable to support life. It will be a long and arduous task to confirm signs of theorical compatibility with life - of which signature elements are size, temperature, the presence of water, oxygen, ozone or methane. But there is no reason to think that among the billions of planets out there, one does not exist.

Currently, scientists have listed a total catalogue of 55 potentially habitable exoplanets. All are hundreds or thousands of light-years away. The technology that it takes to visit them won't be at reach for many generations or centuries. Identifying a planet just like our own, perfectly sized and perfectly sunny so that life can emerge, is still dubious. We support the hunt though, even if with a marginal chance to find something like our sister planet. It is worth the continued effort. Our vision for Humanity is universal, not just on Earth. Finding a path beyond Earth is truly relevant.

2. Science and innovation:

Science comes at the end of our programme as a final statement, because it enables our next capabilities as a society. Science is our future, innovation is our differentiation from all other beings. From the infinitely small to the infinitely large, the better we understand the mechanisms of life and of the universe, the easier we can cope with our environment. We reject the demonization of science and technology. They are often accused of being the cause of our ecologic derangement and the enablers of our consumerist society. To the contrary, we see science and its discoveries as the translation of human's curiosity, which will be nurtured and valued as the main catalyst of the future evolution of Humanity.

Mass consumerism is the outcome of the fossil industrial revolution, which was a scientific breakthrough. We now know the price to pay for this extreme, the society went too far. It doesn't mean that science should be limited in the pace of its innovation. Instead, the society which channels its creations must be regulated from time to time, when a higher-level impact is at stake. With more inventions to come - beyond our expectations, for sure - science will continue to be our driver of change. Science will create opportunities for the society to adopt - or not. Some will be awesome, others not to be pursued. Innovation is an endless process. Censoring science is the dumbest idea. We want a renaissance, not the middle-ages.

The federation has a critical role to play in sponsoring science and technology. We must use public money to steer scientific efforts in directions that benefit and serve the vision of the society. We want science to master greener and cleaner technologies. Science's number one priority is to invent a sustainable replacement to our industrial fossil civilization. Put bluntly: public science should now focus on repairing the excesses of the last century and lead our quest for sustainability. Public research should emulate private developments with a culture of innovation and creativity.

We would love to spread the successful model of the Silicon Valley all over the world, with its entrepreneurial Freedom, risk taking and quest for innovative business creation. There is no doubt that the twenty-first century will exceed the extraordinary scientific creativity of the twentieth.

We want the globalization of the scientific community to continue. Scientists are willing to share findings and projects across borders. Hopefully, a lot of research is already shared internationally and many programs – private and public - transcend countries. Universal research – including the one funded by the federation - will offer scientists and researchers equal working conditions throughout the world. Engineers will have more chances to participate to the most exciting projects and it will be easier to pool the best experts, wherever they come from.

Science and innovation allow the extraordinary chance of a better future. Using the same intelligence that brought about our excesses, we can bring forth new solutions. We didn't know what we now know. Henry Ford invented mass mobility – not mass pollution. What we need is to channel our efforts to repair the damage that was done without the conscience of it. It is already well in progress on the scientific front. Our future is in space anyway…

Earth our country.

Chapter Sixteen:

Challenging the Establishment

Here ends the draft of "*The Power of Global Governance –The Eight Priorities*".

Let us rewind the movie and come back to the time when the nations were still running Earth.

We are back to June 2020. We have frontiers. We read puzzling national news as Coronavirus unfolds. We are entering into a global recession as a result of our mass confinement and our national governments are telling us to go back to work and not to worry. In any circumstance, they will pay. How - with more debt? How will they repay the debt? Tomorrow is another day.

Make no mistake. The Great Wall is ahead of us. We are still politically divided and fragmented. We have no Founding Fathers. The US election is scheduled for November 3rd. if Donald Trump doesn't move the date to attempt re-election. Joe Biden is the only alternative candidate as of now. 2020 started as an amazing year, it will let its trace on History. Will it be another 1929? Or rather a 1945? It's already more than 2008…

Meanwhile, we are nested in the cabins of our blue cruise liner. We move steadily in the darkness of the galactic ocean, maybe less unaware that we don't have a global captain at the helm… Coronavirus made it more obvious than ever. Our governments - although warned by their medical and intelligence services for quite some time - have been at loss to properly anticipate and to manage a crisis of such global dimensions.

We are still unconscious of an alternative, that Earth can be one country with one leadership to take us forward. Yet, we saw a symptom of our global anarchy that nobody can ignore.

Under panic, the immediate popular temptation appears to be the return to protectionism.

It is time to take a break in our rush for madness. Are we going to act differently to cope with the gloomy years ahead of us? Are we getting into a Wall even earlier than we thought, yet unprepared to deal with it as a cohesive team?

The unsettling truth is that nothing challenges the established order of nation states. Countries are knitted as the fabrics of our human political construction and this is all there is. Very little has been done to anticipate the ecologic impasse that is coming and endangers the fragile ecosystem that enabled the emergence of our species. Nothing has been done to anticipate such a pandemic. Our divisions continue to blind us to the possibility of a holistic solution to our sustainability.

You can be the seed. You made the effort to get to this page and to complete a small journey of universal enlightment – humility set aside. *Believe it or not, despite all the reservations that you have accumulated along your read, you are now a Homo sapiens Universalis. You would not have gone so far otherwise. You would have thrown away this manifesto many pages ago, had you not felt that there is something here to think about.*

Together, we now know that an alternative solution does exist - if we are prepared to see it. You may not agree with everything listed in here. You may have a much better idea about how to build this up. Barack Obama may not be interested. Another leader may ultimately take the flame – you? Or it may all unfold very differently. I am no soothsayer. Maybe I am only your conscience.

We have made a big step together. We have gone beyond the taboo or utopia of full globalization. We have detailed a vision and a scenario of execution. It has helped us to touch and feel how everything is intertwined, how true solutions unleash when escalated at the global level. We now can imagine ways to detangle the great bowl of spaghettis that we have prepared over generations and millennia. It can be done.

With everything that is unfolding on us right now, I only have one concern: *time.*

Time… *Has time finally come? Are we reaching the magic moment?*

The inertia of our societies and the agents of their resistance are so strong. Countries are competitors. Their position in the cycle of economic emergence is different. Their energy independence varies – with or without fossil fuel. Some have no oil at all, others make their living out of oil. A country-based convergence is impossible. Countries rule anyway. This is the *establishment* that we have to deal with.

Coronavirus caught us totally unprepared, but given the absolute state of emergency, we saw immediate reactions, though rather panicked and chaotic. An ecologic cataclysm would evidently generate a robust reaction as well, most certainly equally chaotic. But will it be too late?

Collective irresponsibility it is.
We are out of control as a human group.
Few seem to see it.
Where is the catch?
The countries are our Kool-Aid.
We have recreated our "second life", parallel to the reality of Nature.
Beware though – there is only one reality,
Nature is the one that will ultimately prevail.

Individually - country, company or person - everyone can comfortably try to look good and point a finger toward the other as being responsible for his own inaction. That's the convenience of a multi-country world. There are many other countries that can be blamed, that are beyond anyone else's control and that make local politicians look wise: "If only the other countries would agree with me, I could fix it but you all know that they don't." Finding a culprit is an easy game.

Blame Israel. Blame America. Blame China. Blame Iran. Blame Russia. Blame the EU. Blame the WHO. Blame Trump? Truthfully, we are all guilty to polarize everything – let's blame ourselves…

The future is now.
A chapter of History – the nations – has to change.
We are entering post-history – the planetary civilization.
The established order is no longer morally acceptable.
The right moral solution is to act differently and to think big.
Considering the accumulation of the risks facing us,
The time is now.

Our incapacity to react demonstrates that *the moment has come for us to re-organize our political governance* and to manage together a positive outcome for ourselves and for our planet. We all understand that our political model is not adapted to our future but we also know that it embodies the established, untouchable, accepted and legitimate heart of our human civilization.

1. The solution is political.

A society is typically driven by two sets of dynamic forces that cohabit, conflict or support each other. One side is social and political, the other is business and economics. When they go hand in hand, the society is well balanced and successful. When they conflict or one dominates, there are problems.

In our semi-globalized world, the global free-trade economy dominates our civilization. It makes it a fragile and unstable construction because the economy is rein-free and the social-political forces are locally fragmented, in a reactive mode. In some places they operate in harmony, in others they act like master and slave. There are islands where they even reject each other.

The recession ahead of us can be dealt with. The economy is the queen of adaptation. Like freshwater, it always finds the easiest and fastest path to the sea of recovery and profits. The economy will adjust to a new global political model and strive more than ever, owing to the benefits of simplification and coherence that the new model will generate, with the opportunity of a green revolution and infrastructure spending.

The election of a world government would give confidence to CEO's and investors to quickly adapt their direction toward a confirmed green momentum. Their ability to adjust is fast and pragmatic. This is what businesses do, they identify a trend and adapt to it. Businessmen anticipate or follow "where the puck is going to be" before anyone else. If demand for green and clean lifestyle shines – they will embrace it and satisfy it, with no second thought.

Global economy is our current master for a single reason. We lack a political dimension and the leadership that is empowered to set up the direction that it can follow. We need to reset the very foundation of our political establishment – the countries – so that the economy can serve a fully globalized model and its sustainable vision. Then, economic forces will pull us to destination.

Our economic model is not a problem to be resolved; it our political incoherence and lack of governance. On the political ground, inertia and muscle memory are much bigger. It is not a field for fierce innovation or reinvention. It is about conservatism and resistance that rarely lead to an overflow. Political systems are resilient. They avoid to take the hit of a revolution to turn an antiquated page. Revolutions are very costly and traumatic, they destroy before they can rebuild. Most national political systems are conservative in their own way – they defend themselves and resist the change around them. They represent the ultimate power and rule above their executive leaders. Stability is the primary factor for a well-built political system. The establishment is protected by constitutions, which drive national laws, which protect the establishment.

The solution is political, because our political model right now is blocking cross-border resolutions. None of the eight priorities that we have listed earlier can be attacked efficiently with a country-by-country approach. And they are not. The solution will come with a grand plan which geographically redistributes investments, eventually sacrificing local interests to higher-level ones.

A single country, imprisoned by its artificial borders, cannot manage this. Only a global political team, universally elected and empowered by all people, can launch the appropriate reaction to a challenge of this size. The moment has come for us to think big and to come together as a species. The time has come to seal our joint destiny and vision and to manage our plan through unified governance. Politically, *there is currently absolutely no existing institutional dimension for this solution*. There is no global policy – everything is national. All politicians are elected nationally. All laws are national.

We are not built to last. We are built not to last.
By lack of collective wisdom, we will fail. Unless we build one country on Earth.

Someone in the future looking at our era will tell our great-grand children the story of our age:

"This was the time when nations ruled Earth. Nothing could be done for everyone's sake. It was all about national interests. The endless competition among nations turned into a chaos that was everybody else's fault. Everything was decided locally for and by local powers. Not much had changed since the medieval era. Each castle ruled as far as the eye could see from the top of a dungeon. For millennia, nations had ruled the world with war and competed on the battlefield. Then military war turned into economic competition. Generals became entrepreneurs and toured the world. The Internet started to connect everyone but castles remained. Economic growth took over military conquest. Invasions turned into migrations. Wealth turned into debt. America and China blamed each other for everything, but ultimately everyone hit the same ecologic Wall."

"Suddenly at everyone's surprise came an epidemic of global scale. It destabilized the castle of national cards as people everywhere saw with evidence and fear the insanity of their political fragmentation. Grand epidemic, grand recession and grand warming together ignited a paradigm change. Under such a common pressure, men and women decided that they were the same people after all, that their divisions would destroy them all. They turned the page of the nations and decided that the world should become a unified federation. They made Earth their single country."

"It has been several generations. We passed the Wall and continued to flourish since then. It could have turned very differently; this was a defining moment. We shall thank our ancestors for their courage, they saved us. We shall never forget."

United Earth is our future. The evidence of our unification will surpass the legacy of our fragmentation. There is no more reason for the countries to rule everything, else than their History.

"Earth, with a unified political construct, is the only solution. Earth is our country."

2. The solution is moral.

The *IPCC* gives a 95-percent probability for man-made climate change. At this level of probability, we morally have to act – or we are guilty of complicity. We are the first generation to understand the crime that we are committing against our descendants. We have the moral obligation to find a solution, for them if not for us. This should be our driver. Instead it is delaying us, our day-to-day is not yet impacted. It's only about tomorrow.

Needed decisions and anticipated sacrifices are harder - insurmountable for politicians. With the information at the fingertips of our politicians, *standing still right now is a crime against Humanity*. Their profession is to deal with public security while this challenge endangers the generations to come – waiting longer is immoral.

With our own level of understanding of the issue, ignoring is irresponsible. It's a matter of integrity. Look at you: nobody will save your soul else than yourself – you need to pull your own power and consciousness to make your own choice. It's a call for action from your heart and soul.

Today, we can't ignore the Wall ahead of us, unless we have decided to be biased for whatever reason or to abandon our intelligence. We cannot play the ostrich and stick our head in the warming sand. All we can do is to argue about the amplitude of the challenge – 3 degrees or 5 degrees by the end of the century. No political leader can honestly look at his or her citizens any longer and state that we are not the cause of the exponential acceleration the global warming of our climate.

Unifying humans on Earth to fight climate change and to make our society sustainable for our children is our moral duty. Earth is our country.

3. The solution is holistic.

Most issues at hands are inter-related. They require a holistic solution. While problems look too complex at the local level, solutions come when globally scoped and executed. The physical dimension of our natural space is planet Earth. Earth is the most common denominator of the problems that we share and that countries cannot resolve. Earth is the homogeneous sphere of life to which we belong. The Blue Planet is our single bubble and the one of all living beings. Everything converges toward a single solution: a political union for mankind.

"Utopia! It's an impossible and unrealistic dream" resounds again and again. "Maybe it will happen in a thousand years but certainly not in the near future." How to dismiss the utopia and

taboo that systematically surface when we propose a universal homeland? You can't challenge the way things have always worked. As change becomes more necessary, our system of references makes it seem unrealizable or even superfluous.

The United Democratic States are the ultimate holistic solution. They enable the complete reset of our chain of command and fragmented decision-making. Earth is our country.

4. The solution is realistic.

We can define our challenge in its most simplistic terms: *a global set of problems that can only be fixed with a single set of intertwined global solutions*. Then, the unreal and the unrealizable give birth to the luminous realistic logic of an inconceivable solution. "You must carry chaos inside of yourself to give birth to a dancing star" wrote Nietzsche in Zarathustra. Can't we feel that our current chaos prefigures the imminence of such a transformation – could we be supermen in the making if we only want to behave as such?

Edgar Morin wrote in "*Homeland Earth*": "Barbarian forces of division, blindness and destruction make a planetary political system appear as utopian and threaten Humanity. They indicate on the contrary that the policy of humanization and the planetary revolution are responding to a vital need... We are facing a paradox in which realism becomes utopian and where the possible is impossible. But this paradox tells us that there is a realistic utopia and that there is an impossible possible."

From utopia to reality – time has managed to reverse any paradox:

- In a few hundred years, the Neolithic revolution transformed nomadic life into flourishing sedentary civilizations and working horses appeared.
- In one voyage, Christopher Columbus reversed the destiny of two continents, proved that the world is round and invented globalization.
- In one century, utopian democracy became political normalcy.
- In a matter of years, the fossil combustion engine created our industrial civilization and working horses disappeared.
- Within a few years, a small, meager, unarmed man liberated India from the most powerful empire and made of a social mosaic the largest democracy on Earth.
- In a matter of months, the Perestroika disarmed the number one army in the world without a single drop of blood and turned the planet into a seamless free-market.
- After thirty years of continuous world growth, *Lehmann-Brothers* filed for bankruptcy and within days dragged down the entire global financial system.
- One hundred fifty years after the abolition of slavery and fifty years after the death of Martin Luther King, the United States elected a black president.
- In one year, the Arab revolution deposed three dictators and sent an uncontrolled wave of democratic destabilization to the most solid potentates of the Middle-East.
- In thirty years, the Internet connected 4 billion people and 20 billion devices with 2 billion people connecting monthly to *Facebook*, 1.5 to *YouTube*, 1.2 to *Whatsapp*, 900 million to *Wechat*, 700 to *Instagram*, 400 to *Twitter*, 300 to *Snapchat*…

- In ten years, Steve Jobs reinvented individual and collective communication with the *iPhone* and *Google* made information available to everyone with *Google search*.
- In one month, a tiny wetmarket in Wuhan (China) spread a pandemic that forced half of mankind to home confinement, taking the world to its potentially worse-ever recession.

These are utopia made realities. The future itself is a utopia. Time is the chief utopia maker and killer. How many more days, weeks, months, years, decades, centuries or millennia will it take for mankind to establish a government for itself? It could happen in five years, the time necessary to prepare for a global campaign, design a global constitution, rally a first wave of democracies and elect a global president. Many stars have aligned lately to make such a move a reality.

The election of Joe Biden in the US and the global leadership of Barack Obama can potentially be our defining accelerators.

In reality, the speed at which the utopian paradox can be reversed is unforeseeable. It can be tomorrow, or it can be after the collapse of our economic and ecologic Wall, after more conflicts, fascism again, genocides again, revolutions again or the quasi-destruction of our species.

Still, the solution is at our fingertips. It's on us. Earth is our country.

5. The solution is irremediable.

It's a matter of time. The anarchy of nations will not survive or we won't survive it. The reality of our brotherhood has caught up with us. Our lack of organization is becoming more acute.

The paradox will do nothing but reinforce its illogical nature, even though political systems will do all they can to resist universalism. They continue to reinforce cultural differences, racism, fuel local economic growth at any cost and praise demographic fertility.

Yet, it won't change the game. As countries dig a bigger hole, the solution will become more and more obvious. The reality is underway and irremediable. There is only one possible long-term outcome out of the equation that we are facing. *Disorder will further amplify if political change cannot anticipate the new world order that is ahead of us.*

For many of us, Earth is already our country. However, we remain a minority. It took a while for most people to believe that Earth was circular and not flat, because every day all they could see was a flat horizon around them. How could Earth be round?

The space in which we physically live will expand further. More of us will discover new horizons and Earth's roundness… Our minority will become the majority. Earth is our country.

6. The solution is now.

Time is of the essence. Time is now.

The countdown against the impact with the Great Wall has started. The odds of globalization moving backward and the imminent risk of further isolationism is in front of us. The universal idea bears a huge and almost unexplainable handicap against its own perfect logics.

The popular realization that political unification is the solution at our fingerips is urgent. A true universal school of thought has to emerge and win the strong voice that it deserves. We, the people, must start to talk openly about the solution of elected global governance. We cannot be passive.

Let's get the word out. We must act as individual seeds of consciousness. We can help our network and friends and family to realize that *one country* is the way to resolve the complex equation that we face. We care as responsible citizens. We should not hesitate to raise our voice with strength and courage to help the cause of Freedom and brotherhood in a sustainable world.

We have reached the stage in our evolution where the time has come to think radically differently and to push our leaders to take the needed moral elevation to unite all democracies.

Anote Tong, former President of the Republic of Kiribati, sees the clock ticking. He led for three terms a state of thirty-three islands at risk of disappearing underwater in Micronesia, like the Maldives and the Marshall Islands. He has been warning the international community that his country may become inhabitable by 2050. "It is too late for us, but we must do something drastic to eliminate national boundaries… To plan for the day when you no longer have a country is indeed painful, but I think that we have to do that."

There are magic times in History when the right person comes at the right time and steals the momentum toward a completely new direction. *This is a call to Joe Biden, to win the next US elections and restore the humanist values of a country which the free-world still needs to survive. This is an appeal to Barack Obama, to engage with democratic heads of state and seize the moment to lead us to a world governance. This is a call to us to change everything and stop behaving as sheeps. United we stand behind them, to make Earth our country.*

7. The solution is hope.

Mikhail Gorbachev was asked a few years ago on *L'Express* how he sees the future in such a troubled world: "I do not panic. And I wish that nobody panics. What is happening is not so disturbing. It is only a difficult phase of transition, which goes together with the passage from "the old world" to the "new world," global and interconnected. The old defensive walls are falling apart, but – in fine – it is a salutary process."

Hope is everywhere. We believe in the strength of human intelligence and in our instinct for survival. But to see five billion people survive on Earth in the future is going to call for a true effort of strategic planning. To succeed, we have to leverage our ingenuity with reinforced cooperation and solidarity, structured around the global reorganization of our civilization. Our generation carries the responsibility of being the first one to know – and therefore owns the hope of a solution.

We are the hope. We are the species that Nature intentionally or randomly elected on Earth – either to destroy it or to make it our quasi-paradise. If we give ourselves the chance to collectively

take on the responsibility of our planet as our finite and most precious lifeline, nothing is impossible to us. We will avoid the Big Crunch. Irresponsible, predatory and collectively suicidal animals that we have been, we will become the caring protectors of our environment, the guarantors of our own destiny. We will cherish Earth as we cherished our country.

8. The solution is our destiny.

A more balanced world will then arise from this crisis, so that we rebound and continue our journey toward our promising unified future. Humanity, enlightened by the lesson of this new victory over its destiny, will pursue the extraordinary epic tale of its constant metamorphosis. We will further evolve our civilization, lifestyle and maybe expand in the outer world, in our eternal search for the domain of the Gods.

You have invested your precious time to read this manifesto. Global brother or sister, let me praise your patience, openness, curiosity and tolerance. Please allow me to leave you with a closing message.

If you still believe that your country is an island, try to love the sea.

I hope that this journey was only the beginning. Now is your turn to pass the word…

Earth our country.

EARTH OUR COUNTRY

www.earthourcountry.com

Alain F. Andreoli

Our global political fragmentation prevents the sustainability of our species with soon ten billion people competing for the rarefying resources of our finite planet. Our semi-globalized economic civilization is under pressure and hesitant on the way ahead – go back to isolationism or accelerate toward true full globalization?

Earth Our Country proposes the institutional metamorphosis of planet Earth. Now is the time to build a sustainable universal society: *The United Democratic States.*

Let's Make Earth Great again…

The "full" globalization of Humanity – economic and political together – will complete our harmonious mutation into the first generation of *Homo Sapiens Universalis.*

On November 3rd. 2020, Joe Biden will have the opportunity to ask Barack Obama to lead a global democratic taskforce, to design our missing global governance.

Alain F. Andreoli founded Earth our Country in 2010 and now reaches 100,000 followers. He is a technology business executive, six times President or CEO of global companies.