The Wrong Choices of Civilization

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Carl Denef

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Even a non-believer should be impressed by the words of Pope Francis in a speech at the World Meeting of Popular Movements in Santa Cruz, Bolivia, in July 2015.

".. the future of humanity does not lie solely in the hands of great leaders, the great powers and the elites. It is fundamentally in the hands of peoples and in their ability to organize. It is in their hands, which can guide with humility and conviction this process of change. ... Let us together say from the heart: no family without lodging, no rural worker without land, no laborer without rights, no people without sovereignty, no individual without dignity, no child without childhood, no young person without a future, no elderly person without a venerable old age."

Introduction

"The intuitive mind is a sacred gift and the rational mind is a faithful servant. We have created a society that honours the servant and has forgotten the gift" – Albert Einstein

The narrative of this book commences in the year I was born, 3 days before the Japanese attack on Pearl Harbour in December 1941, which led the United States into World War II. After that attack the face of the World completely changed. Scientific and technological achievements exploded and brought an enormous capital of knowledge, technology and services and promised unlimited human potential. However, the initial success was quickly overshadowed by the constraints set by climate change and an unfit economic system. The global average temperature started to rise, CO₂ in the atmosphere increased with 40%, industrial products polluted air and water, the World population tripled and natural resources are becoming unsustainable. Capitalism, the dominating global economic system, proved to be unfit for the development of a healthy human society. As a consequence of the industrial revolution, which allowed mass production, the Western World not only consumed far too much but also wasted a lot, leading to imminent scarcity of natural resources. The capitalist mode of production and profit accumulation and the engrained Biblical belief that man has to populate the Earth and reign over Nature created a sense of limitlessness, arrogance and ethical numbness. The consequence was an ever-increasing energy production by burning fossil fuels that the Earth had assembled over millions of years. Most seriously, the capitalist system made that the happy few, the owners of money, are taking an ever-increasing part of the gains and are becoming the global masters.

Capitalism is a system of exploitation, serving in the first place private wealth of the capitalist elite. This elite is not concerned with science and technology but needs it to produce their wealth. Although it was possible to reduce poverty in developing countries, capitalism induced a rise in socio-economic inequality and injustice in developed countries. Despite the enormous material wealth that it can generate, it was unable to

construct a society in which everyone can have a decent and equitable life in equilibrium with ecosystems. Although humanity can go to the moon and soon to Mars and can master many diseases, it created diseases that have their origin in industrialization and stopped contributing to the feeling of happiness since the mid-1980s.

Workers make the products, but the capitalist owns them on the premise that he owns the means of production. The capitalist sells the products of labour on the market with a profit that is extracted from the workers' labour performed in excess of the labour necessary to provide for the subsistence of the labourer. Since labour is traditionally felt as belonging to the self, the expropriation of labour products by the capitalist and the 'capitalist division of labour' in the production process, alienated workers not only from the products of their labour but also from their self. Moving labour to factories broke the tradition of labour in the familiar surroundings of home and community. The increased fragmentation of time by an ever-increasing generation of opportunities and the growing fractionation of occupations and services obscured the value perception of own contributions and created the impression of lacking the necessary time to complete one's contribution. These changes dislodged the natural need of self-realization, independence and social embeddedness, kept people dumb and made many of them feel being entrained with a whirl of artificial exteriorities. The dogma that only unlimited growth of private capital can guarantee the capitalist system to survive, enslaves both the capitalist and the consumer to the economic system. In this way man is subordinated to the demands of the economy, while economy should function for welfare of man.

Ever-increasing competition increasingly impairs mental health. Despite the huge capitalist productivity more than 800 million people do not have enough to eat and a billion people live on less than one dollar a day, but thanks to capitalism 500 million adults are obese. The capitalist myth of limitlessness in Western societies also nourished an attitude of supremacy over poor and weak nations, leading to exploitation of land belonging to others, ethnic discrimination and political manipulation for power, that became the seeds of terrorist violence we experience today. The everywhere presence of capitalism is so overwhelming and entrenched in everyday life, that even in more socially oriented countries a permanent fight to compensate for the intrinsic negative features of the system is

required. Step by step these social achievements are being corroded by the ever increasing capitalist dictates, the pro-capitalist action of government officials and the ruling rich.

The neoliberal ideology of the last 30 years led to increasing socioeconomic inequality, injustice, capitalist imperialism, crony capitalism (close relationships between big business and government officials, leading to favoritism for multinationals) and plutocracy (an elite whose power is derived from their wealth). It eroded democracy and socialdemocratic achievements. The continuous rise in productivity today is no longer paralleled by a rise in wages. Salaries of senior management and bonuses become exceedingly disproportional, while savings of the common man give lower return. In cities more and more people get alienated from the place where they dwelled, as housing becomes unaffordable for the common man.

The great danger of this evolution is clearly shown by history. It is well documented that increasing socio-economic inequality and injustice leads to social instability and ultimately to societal collapse as a consequence of the self-complacency of the ruling elite and the impoverishment of the common man. In conjunction with climate change and the decline of ecosystems, collapse will be fastened and become irreversibly detrimental, unless we engage in radical policies of mitigation immediately. Especially the elites who became indifferent towards the obvious violation of human rights by capitalism and who invest capital in assets that perpetuate the status quo, need to be called to account.

Planet Earth has given us an urgent message: climate change, environmental degradation and social injury by capitalism go hand in hand and threaten our survival. These threats are strongly interrelated and have synergistic consequences, creating a frightening condition extremely difficult for humanity to control.

The capitalist mode of production may have been beneficial during the early developing phase of societies, but it is not suited for a developed society where social justice, mental and physical integrity and ecosystems must thrive. Permanent attention and care to safeguard our democratic achievements is getting increasingly difficult. Today, the capitalist economy is stagnating but there are signs of a renascence of human self-

organization in many grassroots movements all over the World. It is time to remember Pierre-Joseph Proudhon, the founder of modern anarchism. If we want to survive, we need a radical ethical, economic and political change, organized by citizens, not by the state and other power institutions. Legal actions against the guilty neglect of states and individuals need to be implemented.

Today is a momentum. There is a due date set by climate change. If that due date is not met, we are heading towards a global disaster. But, as David Deutsch told: "Every problem that is interesting is also soluble. Inherently insoluble problems are inherently boring." Our vulnerability is that we will have to solve the problem in time. That means during the life of our children. Whatever the solution will be, a worldwide strengthening of social justice and a better understanding of freedom and responsibility, are scientific and existential imperatives. The new journey could be *green anarchism*.

Chapter 1

Climate change sets boundaries to exploitation

"Let us not flatter ourselves overmuch on account of our human conquest over nature. For each such conquest takes its revenge on us." — Friedrich Engels in "Dialectics of Nature"

Science is convincing, climate is changing across our Planet. Since the beginning of the industrial revolution air and sea temperature have been rising. Industry, energy production and transportation release greenhouse gases and pollutants in the atmosphere and ocean, deteriorating human, animal and plant health, and destroying ecosystems.

1. Global warming and associated changes

Global warming means a rise in the yearly average surface temperature over the globe (land + sea), detectable during a time interval of a few decades. This is now 1.22 °C above the average of the 20th century. The change looks small, but it should be realized that average global temperature was very stable since the last ice age (~10,000 years ago), with fluctuations less than 0.5 °C and, if changes occurred, they were established much more slowly than is presently the case. The year 2015 was the warmest on record (land and sea global average). A new record high was found for the period January-April 2016.

Although natural processes often changed climate during Earth's history, they cannot explain the present changes, nor can changes in solar radiation be invoked. The primary cause is anthropogenic. Since the beginning of the Industrial Era human activity has delivered a combination of greenhouse gasses (CO2, methane, nitrogen oxides, ozone and industrial chemicals), black carbon dust and industrial chemicals by using fossil fuels for energy production. The amounts released are equivalent to more than 2000 gigatons of CO_2 . The accumulation of greenhouse gases is at a rate

much faster than the Earth can recycle. According to the laws of physics, greenhouse gases and black carbon absorb solar radiation and re-emit it as infrared radiation. The inevitable consequence is warming. Additional sources of greenhouse gases are deforestation and agriculture. Deforestation reduces the capacity of Nature to reabsorb CO_2 from the atmosphere, while agriculture increases production of methane. The actual level of CO_2 (April 2016) in the atmosphere is \sim 404.83 parts per million (ppm), which is 44 % above the very stable preindustrial level of \sim 280 ppm.

Despite the constant warnings from scientists for 35 years that climate change will become a major threat to humans and ecosystems, annual global emissions of CO_2 reached a record high of 36 gigatons in 2013. Although emissions did not further rise in 2014 and 2015, CO_2 levels in the atmosphere continued to rise.

Empirical data from today and the past (over millions of years) and data obtained from climate models have shown that 1) changes in atmospheric CO_2 levels positively correlate with changes in temperature and 2) that the doubling of atmospheric CO_2 results in a global warming of 2.6–4.1°C. This is approximately three times more than would be expected from the physics of CO_2 alone, because warming by the latter is enhanced by water vapour, clouds and ice sheet feedbacks (such as decreased solar energy reflection as a consequence of ice loss).

Global warming, in turn, causes more evaporation, melting of land and sea ice, sea level rise and extreme weather events. Arctic ice now melts faster than the Intergovernmental Panel on Climate Change (IPCC) predicted in 2007. More evaporation means more droughts in some areas and more rain in others.

Warming is higher over land than over sea and is relatively larger in the Northern hemisphere, particularly over the Arctic region, leading to rapid ice loss over Greenland.

2. Future climate change will be dramatic in a business as usual scenario.

Although negative impacts of climate change are already being seen today, they do not frighten people yet in large parts of the World, but people will inevitably become frightened in the coming years. Large ensembles of IPCC climate models predict that, in the worst case scenario of continuously increasing greenhouse gas emissions - as is still the case today - up to 2100, average global temperature will be ~ 4 °C higher in 2100 relative to 1990 (or ~ 5 °C relative to the preindustrial time). By 2100 the average land surface temperature is projected to be 6°C higher in the Tropics and Subtropics. That means that in those regions average temperature over land would be 26-36 °C instead of 20-30°C today. But already today, record temperature highs are broken year after year. Under a 4 °C warming scenario, sea level rise will force people to be displaced and migrate, many coastal cities will inundate although climate models have calculated that his process will be gradual over 2000 years.

Temperature extremes will be up to 11 °C higher over the Arctic than now and will occur more frequently all over the World. Cities, where 80 % of the World population will live, will experience even more warming as they heat more than the surrounding land.

By 2300 average global temperature is projected to be 8 °C higher, with an upper bound of 10 °C. The limit of sustained wet bulb temperature*, above which the human body can no longer adequately cool, is 35 °C. Since a 10 °C rise in average surface temperature may result in a wet-bulb temperature of 35 °C in many tropical and subtropical regions, where more than 40% of Earth's population lives, a worst case scenario warming will have strong and widespread devastating impacts on human society by 2300. On top of this, sea level rise, storms, droughts, wildfires, floods, dramatic climate refugee problems and food and water shortage will exacerbate the situation. A 10 °C warming will likely also melt the Antarctic ice sheet, which would raise sea level by at least 50 m. More details can be read in the 2013 IPCC, Working Group I report (http://www.ipcc.ch/).

3. Climate change is irreversible.

The general public is not aware that climate change is characterized by the phenomenon of inertia, commitment and irreversibility. It takes several decades before warming by a given amount of CO_2 is established and equilibrated over the globe's atmosphere and oceans, but the change is committed to appear, and, once established, to remain for at least 1000 years. The reason for this is the very slow uptake of CO_2 by land and sea. Moreover, the World will become and remain warmer for that length of time, even after emissions would fall to zero. Thus, on a human time scale climate change is irreversible.

4. Climate change may become catastrophic

Catastrophic means that large parts of the World would be destabilized and eventually become uninhabitable. Sudden warming or cooling events of a similar magnitude as that projected now, occurred often during the transition of the last Ice Age to the Holocene era (~12,000 years ago). Nevertheless, *Homo sapiens* evolved and spread over the globe during these harsh climate changes, suggesting that rapid warming or cooling is not incompatible with human development. Therefore, the question should be raised whether we could survive in a warmer climate, since modern humans have scientific and technical capabilities for adaptation that our ancestors did not have.

However, several observations indicate that climate change under a business as usual scenario will indeed become catastrophic.

Climate models predict that the upper limit of viable temperature for humans (wet-bulb temperature of 35 °C) will be reached in regions of the Tropics and Subtropics if there is a 10 °C rise of the average global temperature. This temperature rise will be reached under a business as usual scenario, although it would probably not be reached before 2300.

Although there have been paleoclimates (climates from prehistorical times), such as the Palaeocene-Eocene thermal maximum (PETM, 55 million years ago), with similar high temperatures as those expected to be reached in the present century, fossil data indicate that mammals at those

epochs were small (average 1 kg), making their surface to body mass ratio larger, hereby improving their body cooling and hence enabling them to tolerate higher temperatures. Moreover, anthropogenic warming today and in the future is at a much faster pace than during the PETM epoch, making adaptation through biological evolution very unlikely. Abrupt changes in the atmosphere or ocean in the past have often led to massive extinction of living species. Thus, if unabated, global warming and ecological damage have the potential to become catastrophic by the end of this century and even make large parts of the Planet uninhabitable for humans by 2300.

Importantly, future climate change impacts may act in synergy with other anthropogenic impacts (climate refugee migrations, exhaustion of certain natural resources and biodiversity loss) and destabilize human civilization.

5. Climate change, deforestation and pollution causes loss of ecosystems and political and social instability.

Human consumption of the Earth's resources has now reached levels exceeding the capacity of the Earth to regenerate several of these resources. These human impacts not only risk to cause shortages in food, water and materials supply in certain regions, but also to deteriorate wildlife habitat and ecosystems. Since wildlife and ecosystems are vital to human life, their loss, in combination with climate change, could become disruptive to human existence. Moreover, due to the global connectedness of economies and ecosystems, impacts in one place can rapidly spread and cause instability in many other regions around the World. This is likely to occur long before the World will have reached a wet bulb temperature of 35 °C.

References and Readings

 * Wet bulb temperature is the temperature indicated by a moistened thermometer bulb exposed to the air flow. If relative humidity is 100%, wet bulb temperature equals air temperature. The lower the humidity, the higher the difference between both.

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Chapter 2

A World dominated by capitalism

"La propriété, c'est le vol"
"Property is theft" — Pierre-Joseph Proudhon

1. What is capitalism?

Since the emergence of agriculture and sedentary life, some 5000 years ago, humans use a system of credit and debt on a small scale to allow creation of goods and services mainly based on subsistence farming and a primitive monetary exchange system. Although this system helped cultures to develop, it often included exploitation of the poor by the rich.

In the modern World capital got a new face. Capital is invested in an enterprise with the purpose of making profit by trading the produced goods or services on a free market (an aggregate of possible buyers and sellers). It developed as a companion of the industrial revolution at the end of the 18th century, when technological advances succeeded in the rapid mass production of goods, services and financial systems. Production of goods and services is not by the capitalist investor, but by workers that are also recruited on a market, the labour market. A job is given in exchange of a wage contract. Invoking the wage contract, the entrepreneur compels the workers to perform their work according to the typical 'capitalist division of labour'. That is, labour is distributed over many workers, each of them repetitively fabricating a specific part of the whole product or service. As all parts are made in parallel, the productivity enormously improves, but workers do not experience the full reward of their labour as it was in the past. The capital provider also invokes that he/she owns the means of production and that is a second reason for which the entrepreneur claims the ownership of the manufactured product or service. There is no rational basis for this claim. As criticized by Karl Marx, the capitalist investor does not let the workers participate in ownership or the profit on capital (surplus-value). In typical capitalist countries, profit goes to the entrepreneur alone. In socialist countries, workers can sometimes get part