

## The Fourth Industrial Revolution, the Great Reset and the End of Life as We Know it

*How Capitalism in the 21st Century will take all species to the brink of extinction*

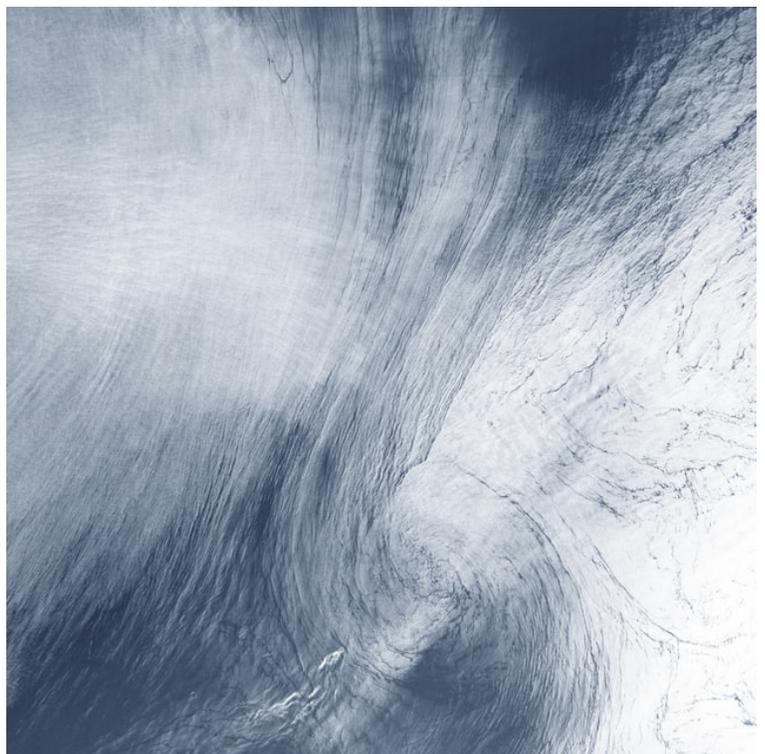
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### Prologue

**T**his paper is an excerpt of “Marketocracy and the Capture of People and Planet”, published in June 2021, which provides a holistic assessment of the unsustainable trajectory that humanity has been following since the First Industrial Revolution and the capture of democracy by capitalism.<sup>1</sup>

An innate feature of capitalism has been the endless pursuit of an ethos with the least possible intervention of the state in its unrelenting quest for the reproduction and accumulation of capital, at the expense of all other participants in the economic activity, prominently including the planet. Capitalism always demands to be in the driver's seat of the economy. Only when its activities are threatened by communities and nations opposing the expropriation of their natural resources and the imposition of structures that extract the vast majority of the value of labour—the surplus-value—, capitalism demands the intervention of the states;



A giant whirlpool cloud, coaxed into shape by high-altitude winds, swirls above the sea between Spain and Morocco. Photo by [USGS](#) on [Unsplash](#)

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<sup>1</sup> ↪ Álvaro J. de Regil: [Marketocracy and the Capture of People and Planet – The acceleration of Twenty-First Century Monopoly Capital Fascism through the pandemic and the Great Reset](#) — The Jus Semper Global Alliance, June 2021

these include their armed forces, to protect the exploits of the owners of the system. This is all the more evident in the global South. Across centuries of imperialism and colonialism, the practice of invasion, conquering, expropriation and exploitation by capitalist enterprises—with the full support of their states—has always been more vicious and predatory in

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the system's periphery than in its core. Labour exploitation and resource depredation also occur systematically in the system's metropolises, albeit under less pernicious and predatory

practices. Hence, as the norm, capitalism demands from the state the establishment of a sheer laissez-faire ethos, to leave everything to Adam Smith's naive idea of the market's invisible hand,<sup>2</sup> which, as a demigod, would wisely dispense good fortunes to everyone, allocating the resources in the most efficient fashion, in pursuit of achieving the maximum level of general welfare for the community.<sup>3</sup>

Capitalism demands the ideal conditions for the infinite reproduction and accumulation of capital through the consumption of resources, their transformation into goods and services and the renewed and unlimited accumulation of wealth for the owners of the means of production. To materialise this, it requires an unending growth spiral in the consumption of natural resources to catapult, in turn, an unending spiral of growth in the rate of reproduction. Nothing else matters; not in the least the welfare of the communities (capital's markets) that make possible the reproduction and

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accumulation of wealth, for this is the only quintessential raison d'être of capitalism. Capitalism, the epitome expression of selfishness, greed and individualism of the human species, has waged myriad wars on the unrelenting pursuit of its mantra at the cost of hundreds of millions of people, the destruction of entire nations and the ravage of ecosystems across the planet. It has no

limits, and it will never will. Capital on one side and limits, boundaries, maximums and control on the other is an oxymoron. Our planet Earth can be exhausted by capitalism, but there is no remorse, no reckoning on the social, economic, environmental and moral implications of such an unsustainable and destructive system. There is no rational sense of the possibilities that such a system will drive us to our self-annihilation.

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<sup>2</sup> ↪ Adam Smith, *An Inquiry Into the Nature and Causes of the Wealth of Nations*, Edwin Cannan, from the fifth ed. (1776; New York: Random House, 1994) p. 485.

<sup>3</sup> ↪ Álvaro J. de Regil: [The Neo-Capitalist Assault: Essay Two of Part I \(The Economics of Reference\) — The Historical Background in the XVIII and XIX Centuries](#), The Jus Semper Global Alliance, April 2001, pp. 2-5.

We live under an irrational vision of how societies should run our Oeconomicus—the management of our home. In order to build truly sustainable societies, human activity must be pre-eminently centred on the sustainability of our planet to determine the levels of resource consumption and material welfare that our home can sustain. However, given that capitalism's only *raison d'être* is endless accumulation of wealth per se at the expense of anything else, including prominently the consumption of resources and human labour, there is a blatant and irreconcilable incompatibility between capitalism and the long-term sustainability of our planet, to which we belong as part of nature and without which we cannot exist. Nonetheless, the system's owners could not care less, and in a display of extreme arrogance and self-delusion, they unrelentingly pursue the maximisation of their wealth. Essentially, their enthrallment to wealth and power obnubilates any possibility of rational thinking. Hence, in their self-interest, they pursue a path that would provide them with the sustainability of their passions, a sort of "sustainable inequality"; albeit any limits to their passions are unacceptable since their greed drives them to have more wealth-power than ever.

With the emergence of neoliberalism in the last quarter of the twentieth century, capitalism increased its hold on societies' lives by making so-called liberal democracy a mockery and replacing it with Marketocracy or the dictatorship of the market. This has reached a level where the system's owners—the plutocrats representing much less than the 1% of the world's population—have captured states and made politicians their market agents with the mission to ensure that the public agenda always remains in control of the plutocratic elite. In this way, since the 1990s, capitalism has enjoyed full control of the driver's seat of economic policy and dictates the conditions it regards as ideal for maximising the rate of reproduction and accumulation. To achieve this, it has gradually encroached on the public sphere. It takes over the halls of government, transforming most of the public sphere into a new commodity amenable to the reproduction and accumulation of wealth. This includes the natural resources vital to life and our bodies. This encroachment brings the planet to the brink of planetary tipping points that complete the metabolic rift<sup>4</sup> between our species and the planet. We do not know yet, but this may have already forced us to cross a threshold of no return and placed us on a direct trajectory to destroy life on our planet for all living things, including our species as we know it.

We have past more than a year and a half battling a pandemic that, in the best case, is due to the product of the incursion of capitalist activity in otherwise pristine environments, where traders unknowingly carried out pathogens that

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were endemic to those ecosystems in search of products demanded by markets emerging for the human consumption of these new products.<sup>5</sup> In the worst case, there is the possibility that those in power provoked this pandemic to advance a very perverse agenda to consolidate the complete submission of humanity to their will in pursuit of life as dictated by a tiny elite of psychopaths. In either case, there is already ample evidence that the global elite of the much less than 1% is taking advantage of the pandemic to accelerate

the imposition of a new world order of the "fourth industrial revolution", through what they call "The Great Reset", prominently advanced by Klaus Schwab, the leader and Executive Chairman of the World Economic Forum at Davos, Switzerland.<sup>6</sup>

<sup>4</sup> ↪ John Bellamy Foster: *Marx's Ecology*, Monthly Review Press, New York, 2000, p. 19 (ePub).

<sup>5</sup> ↪ For a detail explanation of the origin of these pathogens see: Rob Wallace, Alex Liebman, Luis Fernando Chaves and Rodrick Wallace: [COVID-19 and Circuits of Capital — New York to China and Back](#), The Jus Semper Global Alliance, August 2020.

<sup>6</sup> ↪ [World Economic Forum](#)

The purpose of “Marketocracy and the Capture of People and Planet” is to examine the trajectory that the world has been following since the centres of power imposed neoliberalism on humanity half a century ago. Its specific aim is assessing the ulterior motivations—and their consequences on humankind and the planet as a whole—of key groups and individuals of the global elite with a powerful influence on the world’s governments and multilateral institutions. Among these are the Bill & Melinda Gates Foundation, Elon Musk, Jeff Bezos and, last but not least, the World Economic Forum

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(from now on WEF), and the purpose of its proclaimed “Fourth Industrial Revolution” through “The Great Reset”. I believe that, on the one hand, we are enduring perilous times for life on our planet, as the direct result of the capitalistic-driven Anthropocene<sup>7</sup> that has put the earth on the brink of crossing a tipping point with dramatic transformations that can become cataclysmic and that threaten the future of all living things. On the other hand, we have a dangerous global elite that has captured our governments and unilaterally pretends to impose their agenda. Its true intentions are a future they

deliberately keep opaque but are advancing in the most undemocratic manner. It should be extremely evident that the common citizenry is never asked to participate in the discussions and decisions that the elite pretends to advance and implement on behalf of humanity.

Hence, this is my contribution to raising the questions and finding the answers to critical events that we are witnessing as I write. This should help the common citizenry gain knowledge, take consciousness, and empower themselves to make well-informed decisions that can contribute in turn to organise and put in check the agenda pursued by the global elite of the less than one per cent. The current events must make saving our species and our planet the fundamental issue and the overarching and quintessential cornerstone of our effort to transition to a new sustainable paradigm. It cannot be one of many vital issues, but the single element that drives our vision to achieve sustainability that fundamentally determines how we draft our new paradigm. It is in our self-interest to become cognisant about the damning catastrophe that we are facing, stop our numbness and individualism and coalesce to change the current doomed trajectory and veer to what Paul Burkett calls an eco-revolutionary tipping point. This is the cross-sectoral defensive struggles of ecological, communitarian and urban movements coalescing as an ecological socialist movement against *this system of monopoly-finance capital and its state functionaries*,<sup>8</sup> the tiny elite who thinks it owns our planet.

The “Fourth Industrial Revolution and the Great Reset” contains three sections. The first one covers the trajectory that humankind has been following between the First Industrial and The Third Industrial Revolution, with the emergence of capitalism and its creation of the gradual metabolic rift with the environment that greatly accelerated during the Third Industrial Revolution in the Twentieth Century.

The second section proceeds with the Fourth Industrial Revolution (4IR), touted to maximise efficiency and effectiveness in materialising with great precision all results. To accomplish this, it would radically change the way humankind lives as the result of a fusion of technologies that blurs the lines between the physical, digital, and biological spheres. The 4IR is a marketocratic driven phenomenon that will have tremendous repercussions in every realm of human life, on the life of all living things and on the capacity of our planet to remain a liveable planet. The 4IR will impact the way we go about

<sup>7</sup> ↩ John Bellamy Foster: [La Crisis del Antropoceno](#), La Alianza Global Jus Semper, julio 2017, p.1.

<sup>8</sup> ↩ Paul Burkett: [An Eco-Revolutionary Tipping Point? — Global Warming, the Two Climate Denials, and the Environmental Proletariat](#), The Jus Semper Global Alliance, April 2020, p. 10..

our public and private lives profoundly. It will also affect the lives of all living things to various degrees, with many already on the brink of extinction, finding their ecosystems no longer adequate for their reproduction.

The last section assesses the so-called Great Reset, touted as the solution to humanity's existential problems (caused by the marketocratic paradigm). It is positioned by the World Economic Forum (WEF)—and supported by the metropolises of the system—as the way societies should deal with our existential problems of sustainability. The pretence is to completely reset the structures of society towards a new capitalist paradigm anchored in the 4IR. The goal of the Great Reset, using the COVID-19 pandemic as *carpe diem*, is *to offer insights to help inform all those determining the future state of global relations, the direction of national economies, the priorities of societies, and the nature of business models and the management of a global commons. Drawing from the vision and vast expertise of the leaders engaged across the Forum's communities, the Great Reset initiative has a set of dimensions to build a new social contract that honours the dignity of every human being.*<sup>9</sup> However, as I will expose, this is a preposterous and cynic initiative to accelerate the implementation of the 4IR strictly from the perspective of the less than 1% global elite to maximise their wealth and power.

Needless to say that the Great Reset downplays the tremendous negative impacts that will have on the life of our planet, which is already in a perilous situation where we may have already crossed a tipping point that disables preserving life as we know it. Indeed, three significant realms of life will endure a colossal impact with the advance of the 4IR through the Great Reset. From a societal perspective, labour and human rights are being profoundly impacted, with dire consequences. However, overarching every sphere of life, the health of our home, Planet Earth—to which we belong as just another species of it—will be impacted to the point that it is exceedingly likely to cross the threshold of no return, as the unrelenting quest for growth, accelerated by the 4IR, continues unabated. If this happens, it would mean that we had reached the end of our existence.

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<sup>9</sup> ↪ World Economic Forum: [The Great Reset](#), as of 17 May 2021.

## Capitalism's Journey of Dehumanisation

### *First Industrial Revolution: first social metabolic crevices with nature*

**A**lthough various sorts of archaic capitalism can be traced back many centuries, at least to medieval times, modern economic thought, with the classical liberal paradigm, began at the dawn of modernisation with the First Industrial Revolution in the 18th and early 19th centuries.<sup>10</sup> Associated with the French encyclopaedist, "The Physiocrats", who liked to regard themselves as "The Economists", were the first to enunciate the concept of *laissez-faire*, *laissez-passer*. They constructed a model that aspired to attain optimum results, according to their rationale, except for the influence of the imperfections of a human being's thinking, which could not clearly understand the natural order.

This is the origin of the *laissez-faire* paradigm that advocated that national prosperity could only be attained by allowing for personal liberty and prosperity. The Physiocrats François Quesnay (1694-1774), Jean de Gournay (1712- 1759) and J. P. Dupont de Nemours (1739-1817), among others, were contemporaries of Adam Smith and had a substantial influence on his philosophical work and represented a reaction to mercantilism materialised in the spice companies. These were the French and English monopolies closely associated with the absolutists' monarchies of the 17th and 18th centuries.<sup>11</sup> In his "Wealth of Nations" of 1776, Smith loathed monopolies and mercantilism—which he considered the antithesis of liberty—whilst he advocated for the growth of national wealth pervasively reaching all levels of society. For that, he strongly believed in freedom as the centre point in the achievement of a perfect and upwardly-mobile economy that resulted from a simple and free system of competition: *The establishment of perfect justice, of perfect liberty, and of perfect equality is the very simple secret which most effectually secures the highest degree of prosperity of all three classes.*<sup>12</sup> During Smith's tenure as the Chair of Moral Philosophy at the University of Glasgow, he started inquiring about how greed and self-interest could benefit the common good.<sup>13</sup>

However, Smith's reflections on the moral conditions necessary for an economic system that would produce the general welfare of all ranks of society contained a considerable flaw in his assessment of human greed. He imagined a sort of

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economic system not to achieve the reproduction and accumulation of capital per se but to achieve a perfect equilibrium of supply and demand that would achieve the maximum level of "general welfare". Evidently, he discounted the power of one innate feature of human nature, which is its endless need to fulfil its desire for greed and ambition. Hence, the actual economic system that emerged to become the classical economic system of liberalism was in effect the teleological product of our species' avaricious desire. In other words, capitalism was conceived to fulfil our species

innate greediness, particularly for wealth and power.

<sup>10</sup> ↪ The First Industrial Revolution was characterised preeminently by the technological development of steam and water power and mechanised machinery in the context of a liberal capitalistic mode of production.

<sup>11</sup> ↪ Álvaro J. de Regil: [The Neo-Capitalist Assault: Essay Two of Part I \(The Economics of Reference\) — The Historical Background in the XVIII and XIX Centuries](#), The Jus Semper Global Alliance, April 2001, pp. 2.

<sup>12</sup> ↪ Adam Smith, *An Inquiry Into the Nature and Causes of the Wealth of Nations*, Edwin Cannan, from the fifth ed. (1776; New York: Random House, 1994) p. 726.

<sup>13</sup> ↪ Norman Davies, *Europe. A History* (Oxford: Oxford University Press, 1996) p. 604.

What actually played out in the development of liberal classical economics was the opposite of what Smith pondered about in his reflections. Capitalism emerged as the materialisation of a Darwinian and predatory idea of how to organise the economic relations of societies in pursuit of the maximum benefit at the expense of all other participants.

What followed was the complete dehumanisation of societal life, with only slight nuances in the local versions of a Darwinian system designed to produce great inequality for the benefit of the owners of the means of production. While industrial growth and productivity progressed tremendously during the 19th century, social progress did not occur because of how liberal economics, especially the wages-fund doctrine, was applied.<sup>14</sup> During most of the 19th century in England, France, and most of Western Europe, industrialisation exploded, creating an unprecedented amount of wealth, but it was a complete failure in social progress.

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wealth for the capitalists. Inexorably, capitalism detaches people from their identity, locality, cultural context, and sense of belonging and dehumanises them. Workers are regarded as just another merchandise in the production process. The great disdain for the new labourer, removed from the country life to the life of the urban slum or the mines of the Industrial Revolution, ensured that he would lack any social services or leisure activities that would

compensate the loss of the comforts and traditions of the countryside—with the loss in particular of friendships and the social cohesion of the villages—and doomed him to impoverishment.<sup>15</sup> In congruence with its essence, capitalism also regarded nature as a commodity, a free gift of god for man to exploit for his benefit with minimal regard for its conservation except for a short-term utilitarian approach. This provoked the alienation of our species from both our species and nature, producing sheer individualism and a disposition towards a cultural framework of social Darwinism and Herbert Spencer's survival of the fittest.<sup>16</sup>

The alienation of humans from nature planted the seeds of what became our metabolic rift with nature, which became Marx's central concept explaining and exposing our alienation from nature and the consequential destruction of our planet.<sup>17</sup> It is essential to point out Marx's work at this time, given that he was the first thinker to present the concept of the metabolic rift between humanity and nature as the direct result of the capitalist mode of production. According to Bellamy Foster:

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<sup>14</sup> ↪ The wages-fund doctrine was part of classical liberal economic theory and stipulated that wages were determined in advance of a short-run production period, pondering the capitalist's expectations on the many variables affecting outcome, including productivity of labour, demand, past investment and past labour-capital ratios. Thus, the argument was that labour could not rise above what had previously been allocated and, therefore, the wages-fund was always, for every period of production, a fixed variable in which labour cost could not exceed the amount that would exactly deplete the fund. This was subsequently a topic of much controversy, particularly when Stuart Mill revised its position and argued that profits depend directly on the cost of labour and, therefore, capitalists can increase wages by diminishing their profit expectations. For further detail see: Álvaro J. de Regil: The Neo-Capitalist Assault: Essay Two of Part I (The Economics of Reference) — [The Historical Background in the XVIII and XIX Centuries](#), The Jus Semper Global Alliance, April 2001, pp. 9-11.

<sup>15</sup> ↪ George Macaulay Trevelyan, *Historia Social de Inglaterra*, Spanish-language edition of *English Social History*, ed. (1984; México, D.F.: Fondo de Cultura Económica, Longmans, Green & Co.1942)

<sup>16</sup> ↪ John Bellamy Foster: *Marx's Ecology*, Monthly Review Press, New York, 2000, p. 687 and 688 (ePub).

<sup>17</sup> ↪ John Bellamy Foster: *Marx's Ecology*, Monthly Review Press, New York, 2000, p. 19 (ePub).

[Marx's] context was the robbing of the soil of the countryside of nutrients and the sending of these nutrients to the cities in the form of food and fibre, where they ended up contributing to pollution. This rupture in the soil nutrient cycle undermined the regenerative capacities of the ecosystem. Marx argued that it was necessary to “restore” the soil metabolism to ensure environmental sustainability for the generations to come. Such transformation in the metabolic relation required a society directed by associated producers, who regulated the qualitative and quantitative interchange between society and the conditions of life<sup>18</sup> [from “Marx, Capital, vol. 1, 636–38; Karl Marx, Capital, vol. 3 (London: Penguin, 1981), 949.”].

The metabolic rift between the capitalist mode of production and nature began in earnest at the start of the First Industrial Revolution with the expropriation of nature’s resources—as well as the expropriation of labour-power—to feed the capitalist mode of production with no regard for its conservation and long term sustainability. The capitalist expropriation, as Marx put it (meaning “appropriation.... without exchange” or “without equivalent”), essentially embodies the legalised robbery of land and small peasant holdings and their relations of production, the fencing off of the commons from their communities and the worldwide “extirpation, enslavement and entombment in mines of indigenous populations.”<sup>19</sup> One paramount case observed by Marx was the slave-grown cotton fibre from the United States and the textiles and potatoes in England as the two critical pivots of the First Industrial Revolution, where guano from Perú, was to become the epitome of the metabolic rift between our species and our planet. Guano, prized as the most effective fertiliser at the time, was used to enhance the productivity of the agricultural revolution in England and the slave plantations in the United States. Guano became so critical to restoring productivity that the British secured monopolistic trade agreements<sup>20</sup> with Perú and shipped millions of tons of guano to the British Isles and the slave plantations in the U.S. to restore productivity because their soils had already been depleted by intensive agriculture. Nutrients in food and fibre were removed from the soil and shipped to the urban centres to end up as waste polluting them. Justus VonLiebig noted that such a process violated the Law of Replenishment, preventing the soils from sustaining the growth of plants. From a capitalistic viewpoint, guano was expected to solve the problem. Marx, cited by Bellamy Foster and Clark,<sup>21</sup> argued, quoting Von Liebig, that

*large landed property reduces the agricultural population to an ever decreasing minimum and confronts it with an ever growing industrial population crammed together in large towns; in this way it produces conditions that provoke an irreparable rift in the interdependent process of social metabolism, a metabolism prescribed by the natural laws of life itself. The result of this is a squandering of the vitality of the soil, which is carried by trade far beyond the bounds of a single country.*<sup>22</sup>

In the end, neither the guano nor new commercial synthetic fertilisers that began to be used provided a permanent solution to the consumption of the soils and certainly not to the pollution of the rivers and groundwater aquifers. As for

<sup>18</sup> ↪ John Bellamy Foster: *The Ecological Rift*, Monthly Review Press, New York, 2010, p. 66 (ePub).

<sup>19</sup> ↪ John Bellamy Foster and Brett Clark: [The Expropriation of Nature](#), The Jus Semper Global Alliance, April 2020, p. 2.

<sup>20</sup> In *The Ecological Rift*, Foster, Clark and York explain how the Lauderdale’s paradox (“James Maitland, the eighth Earl of Lauderdale (1759-1839), was the author of *An Inquiry into the Nature and Origin of Public Wealth and into the Means and Causes of Its Increase* (1804)”) points out that there was an inverse correlation between public wealth and private riches “such that an increase in the latter often served to diminish the former.” The essential paradox is that the promotion of private riches depends on the destruction of public wealth—based on the generation of scarcity and monopolies to materialise the accumulation process. This is, in effect, the “Paradox of Wealth”. See: John Bellamy Foster, Brett Clark, and Richard York, *The Ecological Rift* (New York: Monthly Review Press, 2010), 53–72.

<sup>21</sup> ↪ *ibid.* p. 12-18.

<sup>22</sup> ↪ As quoted by Bellamy Foster and Brett Clark in [The Expropriation of Nature](#), The Jus Semper Global Alliance, April 2020, p. 17: Marx, *Capital*, vol. 3, 949; Foster, *Marx’s Ecology*; Saito, *Karl Marx’s Ecosocialism*.

*One of its fundamental features was the alienation of our species from our fellow members and nature. It converted us into dehumanised entities, gradually deprived of our critical thinking capacity, and trapped in a zombie-like ethos to work and consume as automats for the benefit of a tiny elite of capitalists.*

the labour-power used to gather the guano in Perú, a blatant slave system, first with the indigenous people from Peru (composed of convicts, army deserters and slaves) and then with Chinese and Indian “coolies,”<sup>23</sup> were shipped to the guano pits in the Chincha Islands.<sup>24</sup> This case vividly illustrates the complete fracture of the social metabolism with the ecosystems, the emergence of the first social metabolic crevices with the balanced natural order of

ecosystems, and the expropriation of lands of the commons and the unrelenting exploitation of people in pursuit of the reproduction and accumulation of wealth for a tiny elite of owners of the means of production.

As modern capitalism emerged in the First Industrial Revolution, it became starkly evident that one of its fundamental features was the alienation of our species from our fellow members and nature. It converted us into dehumanised entities, gradually deprived of our critical thinking capacity, and trapped in a zombie-like ethos to work and consume as automats for the benefit of a tiny elite of capitalists. We will see ahead how this capture of humanity gradually progressed in the subsequent capitalistic revolutions, driving us through an utterly unsustainable trajectory of a tremendous social metabolic rift with nature with no redress.

### *The Second Industrial Revolution: the social metabolic crevices with nature gradually widen*

With the technological advent of electrical power, the telegraph and the telephone communications, the great expansion of the railroad and maritime communication, as well as the standardisation of manufacturing, the Second Industrial Revolution—also known as the Technological Revolution—emerged from the late 19th century up to the beginning of the Great War in 1914. This revolution included the manufacturing of capital goods for industry, the chemical industry, the invention of the internal combustion engine to propel the automotive industry and the petroleum drilling and refining to empower such engines. It was anchored on the mass consumption of fossil energy to propel capitalism. In the realm of labour relations and production efficiency and productivity, Winslow Taylor's "scientific management" with its "time and motion studies" took dominance in management systems, especially in the U.S. This and vast technological improvements increased productivity exponentially but also increased the consumption of resources. This provoked the Jevons Paradox, where a greater technological efficiency paradoxically turns into greater resource use, such as coal.<sup>25</sup> The considerable efficiency improvements also increased the ecological footprint of human activity and the deepening of the treatment of human labour as an extension of machinery in the manufacturing process. Naturally, this also increased unemployment as machines began to replace human labour.

The Golden Age of Europe was the 19th century, for it enjoyed unprecedented progress. Beginning with the Reconstruction period from the Civil War, it was also a robust economic growth for the United States. Between 1870 and

<sup>23</sup> ↪ Citing Gaiutra Bahadur, author of *Coolie Woman*, Bellamy Foster and Clark explain in [The Expropriation of Nature](#), (page 18), that coolie “was the bureaucratic term the British used to describe [primarily Asian] indentured labourers” (though it was later to take on the character of a racial slur). The infamous “coolie trade” consisted of the nineteenth-century transportation of East Asian contract workers under force or deception, as a substitute for the earlier slave trade, constituting still another form of racialised expropriation.

<sup>24</sup> ↪ John Bellamy Foster and Brett Clark: [The Expropriation of Nature](#). The Jus Semper Global Alliance, April 2020, p. 18.

<sup>25</sup> ↪ The Jevons Paradox materialises when new technologies increase efficiency and—under a market logic—increase demand due to a rebound in consumption levels. See also: Álvaro J. de Regil: [Transitioning to “Geocratia” — the People and Planet and Not the Market Paradigm](#) — First Steps, The Jus Semper Global Alliance, May 2020, pp. 11, 29 and 37.

1914, Western Europe and the U.S. enjoyed the most vigorous economic growth of the period. It was clearly supply-side economic liberalism that dominated the expansion of these nations.

Keynes explained in his "The Economic Consequences of the Peace" that, until 1870, European countries became specialised in their products, while as a whole they were able to become self-sufficient. The pressure on food supply, due to the increase in population, in contradiction with Malthusian beliefs, was balanced by the availability of agricultural products from the United States.<sup>26</sup> For Europe, the last quarter of the 19th century was a kind of "Gilded Age". An age that Keynes considered illusory and utopian for it made the life of the middle classes of Europe rather comfortable and even luxurious, at the expense of the workers exploited in this renewed colonialism imposed on the continents of Africa, Asia and America. Keynes saw an unsustainable economic system. However, in Europe, for the bourgeois inhabitants of its metropolises, this state of affairs was seen as normal and any deviation from it as "aberrant, scandalous and avoidable". For the bourgeoisie, Keynes explained, *the politics of militarism and imperialism, of racial and cultural rivalries, of monopolies, restrictions and exclusions, which were to play the serpent to this paradise,*<sup>27</sup> had no bearing on their daily lives. This, of course, was all shattered in 1914 with the explosion of hostilities.

In the fifty years prior to the Great War, the U.S. embarked on major industrialisation and economic revolutions. This was anchored in the creation of a domestic market, made possible by expanding the railroads. The population increased threefold between 1860 and 1920, and income increased even more.

However, as could be expected under the ethos of untrammelled and Darwinian capitalism, this was also the time of

*The "pools" initiated the formation of monopolies, which a few years later gave way to the giant trusts. These trusts controlled the industry, eliminating all competition and became so powerful that they could muscle their will upon a state (legally or illegally). The development of monopoly capitalism was in full force, and it dominates capitalism today worldwide.*

emergence of the great trusts that signalled the future advent of the great economic conglomerates that dominate the world today. This was the time when the giant companies and big trusts took form and dominated many of the industries. Wealth in the U.S. increased considerably and, for many, continuous prosperity, albeit with cyclical periods of recession and increased unemployment, elevated the quality of life. This long prosperity also increased immigration and catapulted the country onto the world stage as the new

industrial power.

Nonetheless, the Gilded Age in the U.S., as it came to be known, was characterised by rampant greed and the roughest kind of capitalism and individualism. The survival of the fittest, based on the ideas of the Social Darwinism of Herbert Spencer and Walter Bagehot—who considered that government aid to the unfortunate was wrong—was openly promoted. In this way, big capital began its quest for utter power and wealth. First, the "pools" initiated the formation of monopolies, which a few years later gave way to the giant trusts. The trusts were initially the combination of the stocks of various companies into one great big financial trust that had the power to control the industry, set the price, and establish business rules. These trusts controlled the industry, eliminating all competition and became so powerful that they could muscle their will upon a state (legally or illegally). Standard Oil, U.S. Steel, International Harvester, American Tobacco, Western Union and AT&T gave way, subsequently, to the "money trusts", the big bankers. The development of monopoly capitalism was in full force, and it dominates capitalism today worldwide.

<sup>26</sup> ↩ John Maynard Keynes, *The Economic Consequences of the Peace*, Cambridge (Cambridge University Press, 1920) 24-63.

<sup>27</sup> ↩ *ibid.* p 6.

Naturally, the Second Industrial Revolution in the U.S. was only possible due to one factor, the recurrent event of massive wealth accumulation and concentration into a few hands—monopoly capitalism—as the direct result of the working classes being completely exploited and oppressed. This was true even though democracy and liberty were clearly acknowledged by society.

The fifty years prior to the Great War of 1914 in the U.S. were indeed "Gilded" for the U.S. trusts of oil, banks, railroad, iron and steel, manufacturing, electrical power, motor vehicles and others. This was the time of the most unrestrained, barbarian and immoral capitalism that this country had ever experienced. The "robber barons" amassed immense fortunes with almost unlimited power. Moreover, despite the eventual break of these trusts, after the passing of the Sherman Anti-trust Act and other legislation, such as the Clayton Act and the Federal Trade Commission Act in 1914, the U.S. economy would remain—and even more so today—dominated by huge conglomerates.

It took the greatest debacle for the world to “somewhat” change its views on the economic theory of laissez-faire capitalism and its invisible hand. This gave birth to a new capitalist paradigm. For the first time, it was going to be in support of demand instead of supply.<sup>28</sup> In reaction to the Great Debacle of 1929, Franklin D. Roosevelt’s administration acted swiftly, sending many initiatives to Congress, which conformed to a series of programmes that came to be known as the New Deal. Roosevelt’s New Deal programmes, heavily influenced by Keynes, implemented several economic actions, most of them standing in complete disregard of traditional neo-classical economic theory.<sup>29</sup> Eventually, the new demand-side paradigm came to be regarded as Keynesian economics or Keynesianism.

In Europe, the Great War and the U.S. Great Depression postponed a stable recovery and real progress until after World War II. The consequences of the Great Depression were felt with considerable intensity, especially in those countries where the U.S. represented an essential outlet for their exports.

In the hundred years prior to World War II, capitalism had risen to its zenith in the broadest terms. It had achieved

*Barbarian capitalism combined with autocratic leadership and nationalism generated the worst social conflicts of our time up to that point. Everything has been, from then onward, based on economic power. War became a tool of empires for enhancing economic power. Empires were vying for increasing territorial gains and further accumulation of wealth. Then, monopoly capital, took complete control of states and dictated the public agendas.*

unprecedented economic growth, transforming Western society through its first and second industrial revolutions. It doomed old social traditions of centuries to the books of history at a pace never seen. It fuelled the prodigious advancement of technology, changing the lives and customs of entire societies, changing their social and moral values and achieving real material progress, increasing societies’ quality of life and transforming civilisation’s idea of itself. Nevertheless, with it, it also took man’s worst instincts and, with its intrinsic power, it multiplied its adverse effects exponentially. Worst of all, it made hypocrisy a norm, a value, and a desirable human character trait in

modern society. For in the name of individualism and freedom, it justified the systematic exploitation of those who were unluckily born in disadvantage.

As a result, hypocrisy dominates its praxis. The original liberal economic thought naively hovered around the idea of social justice. The idea of the common good, of the general welfare of all ranks of society, was embedded in its

<sup>28</sup> ↪ Álvaro J. de Regil: [The Neo-Capitalist Assault: Essay Three of Part I \(The Economics of Reference\) — The Birth of a New Paradigm](#), The Jus Semper Global Alliance, April 2001, p. 12.

<sup>29</sup> ↪ John Kenneth Galbraith, *A Journey Through Economic Time*, Houghton Mifflin, New York: 1994, 83-95.

postulates, but the inherent greed of individuals always betrayed its original intention. Hence, what followed were minimally different versions of the same barbarian root, utilising a praxis convenient only to those in positions of power. Consequently, barbarian capitalism combined with autocratic leadership and nationalism generated the worst social conflicts of our time up to that point. Everything has been, from then onward, based on economic power. War became a tool of empires for enhancing economic power. Empires were vying for increasing territorial gains and further accumulation of wealth.

*The ecological footprint of capitalistic societies began to increase exponentially, at a gradually accelerated pace, which propelled the emergence of our unsustainable anthropocentric era. This event was going to become the overarching issue that will decide our future of survival or extinction in the 21st century.*

Then, monopoly capital, through the oligopolisation of many sectors of the economy, took complete control of states and dictated the public agendas.

Concurrently, the ecological footprint of capitalistic societies began to increase exponentially, at a gradually accelerated pace, until it became utterly unsustainable at the time of the Third Industrial Revolution, which propelled the emergence of our unsustainable anthropocentric era, whilst the vast majority of us remained oblivious to the human alienation from nature and how we are destroying our home. This event, first identified by Marx in his metabolic rift during the First Industrial Revolution, as earlier noted, was going to become the overarching issue that will decide our future of survival or extinction in the 21st century. According to Magnus, in the first four decades of the 20th century, the fossil economy, predicated on the growing consumption of fossil fuels, generated sustained growth in emissions of carbon dioxide and became thoroughly entrenched in the metropolises of the capitalist system and even established strong footholds in its periphery.<sup>30</sup> However, even a quick look at the *Great Acceleration* graphs that directly reflect fossil fuel use—carbon dioxide, nitrous oxide, methane, real GDP, primary energy use, and transportation—shows that fossil fuel had barely begun to achieve its potential before World War II. It was after this war that most of the great social metabolic rift with the planet took place.<sup>31</sup>

### *The Third Industrial Revolution: the Anthropocene emerges as the metabolic rift accelerates*

The Third Industrial Revolution, also known as the digital or information-age revolution, began at the start of the post-WWII era until the first two decades of the 21st century. Analogue technologies were replaced with digital ones. This materialised with the extensive computerisation of all our activities, including our personal ones, with a myriad of digital electronic devices—many of them completely superfluous and artificial use-values—that dominate our daily life, particularly in urban settings but also increasingly in the rural ones. The new industrial progression includes all digital communication technologies, from mobile phones, DVDs, television displays, digital TVs and radio and smartwatches and electronic gadgets to the overwhelming power of the internet, as well as an incremental degree of robotisation, especially in industrial production and some services such as automated teller machines.

In the economic realm, capitalism goes through two very distinctive visions. First, capitalism went through its only period of increase in material wellbeing and the clear decrease of inequality. This was the result of the only time capitalism changed to demand-side economic policies to support the generation of aggregate demand. According to Piketty, inequality decreases in Europe, from its peak in 1910, of the top 10% of the population owning 90% wealth, to nearly 60% by 1980. U.S. inequality dropped from its peak in 1910, of the top 10% of the population owning 80% of

<sup>30</sup> Ian Angus: Facing the Anthropocene — Fossil Capitalism and the crisis of the earth system, Monthly Review Press, New York, 2016, p. 135.

<sup>31</sup> *ibidem*: p. 136.

the wealth, to owning about 64% by 1980.<sup>32</sup> From 1945 to the mid-1970s, humanity witnessed thirty years of reconstruction and materialistic development and the emergence of the Welfare State in Western Europe, partially in the U.S. and many countries in the Global South, particularly in Iberian America. The major economic policy change was the move of states to regulate the economic activity with a very visible hand, anchored on Keynesianism, which is in effect the direct opposite of *laissez-faire's* invisible hand of neo-classical economics. Additionally, the United Nations was created to serve as the governing body of the relations between the world's nations, encompassing in its realm all the areas of interaction between its members.<sup>33</sup>

Centred on the reconstruction from the ravages of WWII and materialistic development, the world experienced thirty years of strong economic growth in many nations with a capitalist system under Keynesianism. As earlier noted, this was the golden age of capitalism from the perspective of increased material wellbeing of the general population, with vast improvements relative to pre-WWII conditions. With the U.S. emerging as the undisputed leader of capitalism, it set the rules and put its overwhelming weight on the design of the international financial institutions of the capitalist system during the Bretton Woods Conference—the World Bank and the International Monetary Fund—, almost a year before the end of WWII, in the summer of 1944. They were created against the original idea of placing them under the U.N. umbrella and operating as specialised agencies to support member countries' development and monetary needs.<sup>34</sup> A clear demand-side strategy to recover from the ravages of war was implemented, with the U.S. as the leading power. The Marshall Plan was launched to recover Europe. Japan also received ample support for its recovery, providing asymmetric terms of trade in its favour for the recovery and development of its industrial base and economy, under the complete hegemonic control of the U.S. After the Korean War, South Korea—given the strong geopolitical interest of the U.S. in the region to deter China and the USSR from executing any plans of expansion—also enjoyed financial support and favourable asymmetric trade conditions for its industrialisation.<sup>35</sup> The new rules of Keynesian economics directed states to *intervene through fiscal policy and public spending to generate the aggregate demand necessary to reverse the recessionary state until private investment would resume and reach levels near full employment and production capacity. This way, economies would maintain a fair amount of stability. Governments would act in compensation, as necessary, including direct support of the unemployed in order to maintain stability at a high level of supply and demand equilibrium.*<sup>36</sup>

States were also encouraged to provide direct support to establish a minimal platform for a Welfare State, with social security systems providing health, education, unemployment protections, pensions and the institution of labour rights to increase the general welfare of the population. This was taken up far more comprehensively in Western Europe, whereas in the U.S., much was left to the market, where many companies voluntarily offered paid vacations, retirement funds, healthcare coverage for the entire household and other benefits that they were not obliged by law to offer. The infusion of capital supported solid economic expansion in Europe and contributed meaningfully to the consolidation of their welfare states. Many developing countries, in line with Keynesianism, developed their welfare systems. Real wages and

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<sup>32</sup> ↪ Thomas Piketty: *Capitalism in the Twenty-First Century*, The Belknap Press of Harvard University Press, Cambridge Massachusetts, 2014, pp. 348-349.

<sup>33</sup> ↪ Álvaro J. de Regil: [The Neo-Capitalist Assault: Essay Four of Part I \(The Economics of Reference\) — Keynesian Economics and The Welfare State](#), The Jus Semper Global Alliance, April 2001, p. 11.

<sup>34</sup> ↪ Álvaro J. de Regil: [The Neo-Capitalist Assault: Essay Three of Part I \(The Economics of Reference\) — The Birth of a New Paradigm](#), The Jus Semper Global Alliance, April 2001, pp. 5-15.

<sup>35</sup> ↪ Álvaro J. de Regil: [South Korea's tortuous road towards a living-wage ethos](#), The Jus Semper Global Alliance, October 2013, p. 5.

<sup>36</sup> ↪ Álvaro J. de Regil: [The Neo-Capitalist Assault: Essay Four of Part I \(The Economics of Reference\) — Keynesian Economics and The Welfare State](#), The Jus Semper Global Alliance, April 2001, pp. 4.

living standards improved substantially—given the extremely low benchmarks of reference—and a meaningful degree of material progress was attained, especially among some Asian and Iberian American nations.

In the U.S., the material standard of living in everyday comforts greatly increased. Television became a staple in every home in the 1960s, and the great society of massive consumption was born. Much of this came about as the result of what John Kenneth Galbraith denominated the "New Class": a class who pursues economic and social achievement through education, seeking satisfaction instead of the toil out of work. This is a class that ultimately pursues leisure, hedonism and instant self-gratification through massive consumption.<sup>37</sup>

The end of demand-side Keynesian economics began when several dynamics provoked the gradual breakdown of the system. Among the most relevant we have: increased world protectionism, negative U.S. trade balances, big U.S. public deficits to finance its wars in South East Asia, inflation, a loss of U.S. competitiveness and oil embargoes. The culmination of the end of the thirty-year era of capitalist "prosperity", with states in the driver's seat of their economies, took place when the U.S. determined to unpeg the U.S. dollar from the Gold Standard in 1971, in its pursuit to continue ruling the system. This marked the official end of Keynesianism. Due to the dynamics imposed by differing competing interests and the nature of capitalism, the inherent instability of the system could not bring the will of the leading nations to work cooperatively to seek a balance between participants to lessen the negative effects of an inherently unstable system of winners and losers.<sup>38</sup> This brought the past back to the future, bringing back neoclassical economics through the supply-side monetarist approach of liberal economic pundits such as Frederick Hayek and Milton Friedman. Yet they came with a vengeance, pushing back the gains obtained by workers during the golden period and pushing to the extreme the full support of the supply-side of the equation. As Bellamy Foster clearly explains, the movement away from Keynesianism *designated anything to the left of hard-core neoliberalism as socialist or totalitarian in the manner of Hayek's "Road to Serfdom"*<sup>39</sup> and sought to reverse decades of modest working-class gains.<sup>40</sup> Hence, we returned to the natural state of capitalism to pursue sheer laissez-faire supply-side policies in full support of capital and to the detriment of labour in its share of the income produced by the economic activity. Thus neoclassical economics were relabelled under the term popularly known as neoliberalism<sup>41</sup> and implemented in practical terms through what is known as the

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<sup>37</sup> ↪ John Kenneth Galbraith, *The Affluent Society* New York: Mariner Books, 1958, pp. 248-262.

<sup>38</sup> ↪ Álvaro J. de Regil: [The Neo-Capitalist Assault: Essay Two of Part II \(Asymmetric Order and Collapse\)— Development Collapse: Stagnation and Crisis in the Capitalist System](#), The Jus Semper Global Alliance, April 2001, pp. 3-4.

<sup>39</sup> ↪ Friedrich von Hayek, *The Road to Serfdom* (London: Routledge, 1944).

<sup>40</sup> ↪ John Bellamy Foster: [Capitalism Has Failed — What Next?](#) The Jus Semper Global Alliance, November 2020, p. 11.

<sup>41</sup> ↪ In the realm of economic thought during the fifty years prior to the Great War, the classical school gradually moved into what became known as neoclassical economics. Many contemporary economic authors regard this period as something more than a "little change of depth" from the classical view. It was a gradual move from macroeconomics into microeconomics. The essential change of depth was the move from supply-side economics into a supply-and-demand theory of values and a theory of distribution of income and production factors. There were numerous micro-economists, both in Britain and in continental Europe that contributed to the discipline: the French Cournot, Dupuit, and, later, Leon Walras, the Austrians Menger, Wieser and Böhm-Bawerk and, in Britain, Jevons and, especially, Alfred Marshall, Keynes' mentor, with whom microeconomics was regarded as synonymous of the Marshallian economics. They all focused on the many intricacies, both theoretically and empirically, of all the variables that affect, in an enterprise, the supply and demand equation. They worked to define a very complex general system of equilibrium, as Walras attempted, or a partial system of equilibrium, as Marshall did. For further detail, see: Álvaro J. de Regil: [The Neo-Capitalist Assault: Essay Three of Part I \(The Economics of Reference\) — The Birth of a New Paradigm](#), The Jus Semper Global Alliance, April 2001. Neoliberalism's theoretical framework is anchored on monetary policy, with freedom of the market and little intervention from the government in regulating the economy. Thus, the central bank role should be to manage the economy through monetary policy. Moreover, in direct contrast with demand-side economics (Keynesianism), which cares about consumption and the ability to sustain and increase the demand for goods and services, supply-siders concern themselves with labour productivity and output growth rates. There is also the almost blind belief, on the part of Monetarists, despite major evidence, in the idea that the market is inherently stable and that it can regulate itself—just as Adam Smith naively advocated. As a result, Monetarists advocate no regulation from the government through either public spending or fiscal policy and a gradual and stable rate of increase of the money supply, paralleling the expectations in national economic growth. For further detail, see: Álvaro J. de Regil: [The Neo-Capitalist Assault: Essay One of Part III \(The Neo-Capitalist Assault\) — Neoliberalism and Its Dogma: The Implications of its Philosophical Postulates](#), The Jus Semper Global Alliance, April 2001.

Washington Consensus, with its decalogue of economic policy priorities to replace the national economic policy with liberalised global policies through deep structural reforms.<sup>42</sup>

To accomplish this, neoliberalism gradually encroached on the public arena, overtaking the halls of government, transforming most of the public sphere into new merchandise susceptible of reproduction and accumulation, including the natural resources vital for life and our very own bodies. The paradigmatic case is healthcare. Access to healthcare is a human right, where everyone in so-called democratic societies is supposed to have access to a public healthcare system supported by all taxpayers. However, in the U.S., healthcare is just another industrial complex, it is just another business, and our bodies are regarded as merchandise, a "free gift from nature" that must be serviced at a profit. This has permeated the healthcare systems in Europe and many countries in the periphery where access to healthcare has been partially transferred to private providers and where public systems have suffered drastic reductions of budgets to fulfil their mandate.

The neoliberal creed conveyed by the Washington Consensus is anchored on ten prescriptions—or "commandments"—centred on the commoditisation of every aspect of life, making most areas of the public arena—education, healthcare, pensions, utilities, commodities susceptible of privatisation in pursuit of more accumulation and wealth for the "privateers". The Consensus policies demand profound structural changes that alter the economic landscape of economies in complete favour of capital, to provide more guarantees for investment as soon as they are implemented but not to improve the lot of their citizens.<sup>43</sup> Strategically, they are carried out primarily through the policies that the Bretton Woods Institutions of the IMF and World Bank impose on the nations in the system's periphery. With very unequal terms of trade in favour of the U.S. and the other metropolises of the system, plus mismanagement and corruption in the local governments, every financing or refinancing of foreign debt is met with demands from the IMF to implement concrete policies for structural changes for the liberalisation, privatisation and commoditisation of all sectors of the economies of borrowing nations. In the same way, development loans provided by the World Bank or regional multilateral banks, such as the Inter-American, African or Asian development banks, are subject to conditionality policies—the "conditionality clause"—that demand from borrowing governments the structural changes prescribed by the Consensus creed. This is how neoliberal globalisation has been carried out systematically since the last quarter of the 20th century to benefit global capital, controlled by the institutional investors of international financial markets.

In the immediate post-WWII period, the U.S. military-industrial complex emerges. Washington determined that it required permanently spending in the military to expand and maintain its hegemony. This created huge private conglomerates. Ian Angus cites an assessment that considers that *For the American plutocracy, the Second World War was the most profitable enterprise in its whole career. It made the American capitalists the richest rulers that had ever emerged in human history.*<sup>44</sup> This produced a great corporate concentration of private companies—financed by public money—created to supply the war machinery, materialising in effect the U.S. military-industrial complex or "defence

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<sup>42</sup> ↩ Álvaro J. de Regil: [The Neo-Capitalist Assault: Essay Four of Part III \(The Neo-Capitalist Assault\) — An Ocean of Inequality: The Effects of Globalisation on the "Developing" World](#), The Jus Semper Global Alliance, April 2001, pp. 17-18.

<sup>43</sup> ↩ The ten policies of the Washington Consensus are 1) Fiscal discipline; 2) Redirection of public expenditure toward education, health and infrastructure investment; 3) Tax reform—broadening the tax base and cutting marginal tax rates; 4) Interest rates that are market determined and positive (but moderate) in real terms; 5) Competitive exchange rates; 6) Trade liberalisation—replacement of quantitative restrictions with low and uniform tariffs; 7) Openness to foreign direct investment; 8) Privatisation of state enterprises; 9) Deregulation—abolishment of regulations that impede entry or restrict competition, except for those justified on safety; 8) environmental, and consumer protection grounds, and prudential oversight of financial institutions and 10) Legal security for property rights. For further detail, see: Álvaro J. de Regil: [The Neo-Capitalist Assault: Essay Four of Part III \(The Neo-Capitalist Assault\) — An Ocean of Inequality: The Effects of Globalisation on the "Developing" World](#), The Jus Semper Global Alliance, April 2001, pp. 17-20.

<sup>44</sup> ↩ Ian Angus: Quoting "J. Thorne, "Profiteering in the Second World War.", in Facing the Anthropocene, Monthly Review Press, New York, 2016, p.139.

industry". This was also considered an effective strategy to support economic growth, ironically regarded as "military Keynesianism". The irony is that whilst Keynesianism advocated social spending, this policy advocates military spending, under the argument that the welfare of society is further increased with military spending, which created many well-paid jobs that increased aggregate demand. These jobs came from many private companies created to supply the U.S.'s defence needs and other metropolises of the system. This also boosted monopoly capital by increasing the concentration of capital into a few hundred corporations. During WWII, over half of the \$175 billion in war production contracts went to 33 companies, and nearly 80 per cent of the new factories built with public money were operated by the 250 largest corporations.<sup>45</sup> Moreover, contrary to the official story, it is argued that the U.S. economy would not have been able to experience any degree of stability and growth without permanent and huge military spending after the 1929 crash.<sup>46</sup> By the end of the war, 31 percent of U.S. workers worked in corporations with over 10,000 employees<sup>47</sup> and the 250 largest corporations controlled 66,5 percent of total usable facilities.<sup>48</sup> This policy greatly increased the process of monopoly capitalism decades before neoliberalism further accelerated the process.

As part of the neoliberal mantra, a process of oligopolisation gradually consolidates. The transformation of many of the giant trusts of the Second Industrial Revolution consolidate into transnational corporations, many merging into greater oligopolies, such as Chevron, Exxon-Mobil, Royal Dutch Shell, BP, AT&T, Nestle, P&G, Colgate, JP Morgan Chase, HSBC, Mitsubishi, Goldman Sachs, to name a few. Yet many new corporations emerge as the digital revolution proceeds, with corporations such as Apple, Microsoft, Samsung, Foxconn, Verizon, Tellus, Cisco, SAP, Lenovo and Erickson and many so-called dot.com companies—heavily or exclusively dependant on the internet—such as Alphabet, Amazon, Facebook, Netflix, Alibaba, Orange, Paypal, Twitter, Pinterest, Dropbox, Uber to name a few. By the same token, many of these companies result from mergers and acquisitions of smaller fish in the tank, producing monopoly-finance capital. Citing Paul Sweezy, Alejandro Teitelbaum, explains that what characterises modern capitalism is the concentration of production and capital accumulation, the formation of monopolies and oligopolies and the merging or fusion of banking and industrial capital into monopoly capital.<sup>49</sup> Yet Teitelbaum argues that *against the background of a lasting trend, and at an ever more accelerating pace of capital concentration and accumulation (industrial, commercial, service and financial) worldwide, the preeminence of financial capital in monopolistic capital, which Sweezy called "transitory phase of capitalist development", is undoubtedly now the dominant feature of the system.*<sup>50</sup> This can be observed by anyone who cares to look, just by reading about it in the regular dailies of the system. For example, Samir Amin describes what "globalisation" means for those who control the economic system in order to exercise their capitalist mode of production, which is in effect an imperialist ethos:

#### Generalised Monopoly Capitalism

*Contemporary capitalism is a capitalism of generalised monopolies. What I mean by that is that monopolies no longer form islands (important as they may be) in an ocean of corporations that are not monopolies—and consequently are relatively autonomous—but an integrated system, and consequently now tightly control all productive systems. Small and medium-sized companies, and even large ones that are not themselves formally owned by the oligopolies, are enclosed in networks of control established by the monopolies upstream and*

<sup>45</sup> ↪ Ian Angus: citing "Lipsitz, Rainbow at Midnight, 57; Heartfield, Unpatriotic History, 36." in Facing the Anthropocene, Monthly Review Press, New York, 2016, p.139.

<sup>46</sup> ↪ Ian Angus: citing "Art Preis, Labor's Giant Step, 378." in Facing the Anthropocene, Monthly Review Press, New York, 2016, p.143.

<sup>47</sup> ↪ Ian Angus: quoting "George Lipsitz, Rainbow at Midnight, 61." in Facing the Anthropocene, Monthly Review Press, New York, 2016, p.139.

<sup>48</sup> ↪ Ian Angus: quoting "Quoted in Preis, Labor's Giant Step, 301." in Facing the Anthropocene, Monthly Review Press, New York, 2016, p.139.

<sup>49</sup> ↪ Alejandro Teitelbaum quoting "Paul Sweezy (Theory of Capitalist Development, Chap.XIV, Item 5, Edit. Fondo de Cultura Económica, Mexico, 1945)" in [Inside Capitalism](#), The Jus Semper Global Alliance, June 2012, p. 14.

<sup>50</sup> ↪ Alejandro Teitelbaum: [Inside Capitalism](#), The Jus Semper Global Alliance, June 2012, p. 14.

*downstream. Consequently, their margin of autonomy has shrunk considerably. These production units have become subcontractors for the monopolies. This system of generalised monopolies is the result of a new stage in the centralisation of capital in the countries of the triad that developed in the 1980s and '90s.<sup>51</sup>*

The key component of the globalised capitalistic mode of production controlled by the central investment banks of the international financial markets during the immediate post-war era was the unequal terms of trade. We have to consider that from the very foundation of the institutions that were created to govern the economic and political relations of the nations of the world, the system established was an unequal one. The United Nations, the Bretton Woods Institutions and the GATT were creations of the centres of power of the West. With the overwhelming economic and political advantage with which the U.S. emerged after World War II, its interest in establishing a new world order was inspired by assuming U.S. leadership over the nations of the so-called free world. This was, in essence, the foundation of the North-South capitalist system and its international organisations under the vision of the “Pax Americana” for a new world order: a capitalist empire with its court of a few “notables” and a myriad of “lay” countries and the international organisations of the system controlled by the centres of power. <sup>52</sup>

#### ➡ Modern Slave Work Structures

A fundamental pillar of this economic order was the Centre-Periphery asymmetric terms of trade. In spite of consistent demands from the Periphery for commodity stabilisation agreements and similar asymmetric conditions to those given to Europe, Japan and South Korea, the U.S and the rest of the Centre refused every single time to consider them. Furthermore, the key component in the unequal terms of trade was the enormous gap in labour compensation for equivalent work. Wallerstein has argued that there is one single world economic system, with different divisions of labour assigned to different areas. He explains that the capitalist system has existed since Europe went overseas to expand its economy and assigned different tasks with different compensation arrangements (factor endowments). These arrangements are derived from cultural, political and economic conditions in the Centre and the Periphery and have become unequal when these dynamic forces act. Nevertheless, the unequal arrangement has been coercive to maintain it this way and achieve the maximum profit; it has become reinforced by other political coercion from the metropolises to achieve this goal permanently. This way, capitalism involves not only the owner appropriating the surplus of the labourers' work but also appropriating the entire economy, for, in order for capitalism to expand and reproduce as a system continuously, it needs to control the Periphery coercively.<sup>53</sup>

Other scholars such as Singer, Arghiri Emmanuel and Hoogvelt summarise the labour conditions imposed by the Centre on the Periphery in one central argument. This is that the differences in development have made the price of labour, through class struggle and democracy, a more equal production endowment in the North, whereas the lack of political progress precludes it from achieving equality in the South. Thus, the successful class struggle has replaced the physiological wage with what Marx labelled the ethical wage.<sup>54</sup> However, it should be pointed out that this is possible because there is close oligarchic cooperation between North and South. As could be expected, to impose these neo-colonial terms-of-trade, the centres of power had to develop local partners in the client states who would guard their economic interests. Moreover, these, naturally, were the oligarchic elites of the new nations. Why was this possible if the

<sup>51</sup> Samir Amin: [The New Imperialist Structure](#), The Jus Semper Global Alliance, June 2020, p.1.

<sup>52</sup> ↪ Álvaro J. de Regil: [The Neo-Capitalist Assault: Essay One of Part II \(Asymmetric Order and Collapse\)— Development with Asymmetries: The Third World and its Post-War Development Strategies](#), The Jus Semper Global Alliance, April 2001, p 6.

<sup>53</sup> ↪ Ankie Hoogvelt, *Globalization and the Postcolonial World* (Baltimore: John Hopkins University Press, 1997) pp. 59-60.

<sup>54</sup> ↪ *ibid*, pp. 40-43.

terms-of-trade were damaging to the South? Because they were still a profitable operation for the oligarchies at the expense of labour.

This is the trade of labour under extremely asymmetric conditions anchored on what we call a “Modern Slave Work” standard. This was the norm for many decades during the demand-side Keynesian era. In the immediate post-WWII era of thirty years, corporations entered periphery markets by directly investing in opening their affiliates or through joint ventures with local companies to reach local markets and expand their market share, or by providing licenses to local companies for the use of their technologies, capital goods, marketing systems, brands and other assets. This was a new kind of colonialism without military intervention, where the U.S., consistent with its manifest destiny, emerged as the new and sole imperialist state of the capitalist world. It was a new colonialism where the U.S. imposed its polity, culture, and economic ethos in its ever-expanding sphere of influence. It imposed a hegemonic view of democracy and economics, which would selectively manipulate as it saw fit to fulfil its geopolitical and economic interests. Hence, the centre-periphery of the capitalist system—today described as the Global North and Global South—operated through a

*Since the early 1980s, the new global division of labour has seen global commodity supply chains develop with modern slave work as the norm.*

North-South asymmetric system, with very few exceptions, such as in Japan and South Korea. The critical component of this asymmetry—regardless of the format in which a company entered a market (direct investment, joint venture, license)—was the unequal terms of labour. Workers working for the same corporations were earning substantially

less in purchasing parity terms in the Periphery than equivalent workers in the metropolises for the exact or very similar job.

With the shift from demand-side Keynesianism to supply-side neoliberalism, labour conditions in the global South have become much worse. Since the early 1980s, the new global division of labour has seen global commodity supply chains develop with modern slave work as the norm. Now markets are open through trade liberalisation, and companies are free to roam the world for new markets and exploit the natural and human resources of the Global South. Moreover, through new trade agreements—such as NAFTA and the new USMCA—they get equal treatment guarantees to their foreign investments without considering national industrial, commercial, employment, and environmental protection policies,<sup>55</sup> which are consistently overridden. Under these structures, companies move freely across the world. However, their labour compensation costs are dramatically lower because workers are not free to move to the markets that pay substantially higher wages for equivalent work under a blatantly unequal compensation arrangement. This is best conveyed by Arghiri Emmanuel’s “Unequal Exchange”, which explains the clear double standard of the system when it comes to labour compensations:

#### Unequal Exchange

*The normal price of a good in international markets is that which allows all factors participating in its production, in every part of the world, to be compensated at the same level. This would take place if there were world markets for every factor in which supply and demand would be contrasted for each factor. Nonetheless, wages as well as income or indirect taxes, constitute the remuneration of the factors that are established in an independent or institutional manner; to be sure in a way exogenous or outside of the economic realm.<sup>56</sup>*

<sup>55</sup> ↪ Álvaro J. de Regil: [The Neo-Capitalist Assault: Essay Three of Part III \(The Neo-Capitalist Assault\)—The Neoliberal Tide II: An Unrelenting Quest for Wealth Accumulation](#), The Jus Semper Global Alliance, April 2001, p 4.

<sup>56</sup> ↪ Claudio Jedlicki: [Unequal Exchange](#), The Jus Semper Global Alliance, September 2007, p. 2..

That we endure a North-South system of exploitation, which, among other features, has a direct and premeditated impact on the misery wages paid in all countries in the Global South, is unquestionable. This unequal exchange constitutes the epitome of trade imperialism that historically has generated vast earnings for the North, more significant than the interests recovered by banks and the profits obtained by transnationals. Nonetheless, these earnings are the only traceable evidence left by the system of exploitation, for the earnings, in themselves, cannot be seen, since they are hidden in the prices the North manages for all the goods and services in its transactions with the South, as well as for the

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meagre value of Southern exports, which is mainly the result of its low labour valuation. Indeed, in this commercial imperialism, labour valuations stand out, which, in a fashion exogenous to the so-called market logic, are established by way of institutional policies. In this way, the North-South unequal exchange—even

though this arrangement operates underneath the surface—constitutes a significant bequest for the much higher living standards of Northern Societies. This structural arrangement is genuinely an axiom, an unassailable argument. To be sure, the South's misery subsidises "the North's good living". Systematic labour exploitation is the fundamental factor explaining the exodus for decades of migrants as economic refugees from Mexico to the U.S.<sup>57</sup>

With neoliberalism, the system of "modern slave work" consolidated into what is known as the global network of commodity supply chains, where global labour arbitrage<sup>58</sup> is the quintessential factor in the development of global commodity chains. This is the overwhelming factor explaining why global corporations have off-shored most of their manufacturing to the Global South, from Mexico and Brazil and Central America to China and South East Asia. A paper on this issue enlightens with rather strong evidence—anchored on theoretical and empirical research of commodity-chain analysis—the argument that the main driver of social inequality between North and South is the deliberate "Modern Slave Work" system to exploit the labour-value in global supply networks. This perpetuates what could best be described as a new global colonialism or imperialism. This is the theoretical and empirical analysis—built on Marxian theory—of "labour-value commodity chains", which emphasises both the exchange-value and the use-value elements in the production in order to understand how the new imperialism works and how value, derived from low-wage labour in the periphery, is being captured globally.<sup>59</sup> Every year, our work ascertains how global corporations pay anywhere from 10 to 30 per cent of what they should be paying to their workers directly or subcontracted in the Global South for equal work of equal value.<sup>60</sup> Indeed, Suwandi asserts that although production has shifted to the South, imperialist relations of exchange continue to prevail, precisely due to the fact that the difference in wages between the North and South is

<sup>57</sup> ↪ Álvaro J. de Regil: [The Underlying Causes of Immigration from Mexico to the United States — Structures of Deprivation](#) — The Jus Semper Global Alliance, September 2019.

<sup>58</sup> ↪ The concept of labour arbitrage is widely used in economic and financial market circles. The term arbitrage by itself refers to the activity of buying and selling items, assets or commodities simultaneously in different markets to take advantage of the different prices for the same asset. In labour arbitrage, corporations offshore their production to different markets, looking for the lowest labour costs for the same work. This produces starkly different labour costs in the Global South for equal work of equal value. Hence, for instance, Ford Motor Company will pay an hourly labour cost of \$40 in Dearborn, in the United States, to a worker in the production line of the Ford Focus, assembling three parts, whilst it will pay \$4/hour for the exact same task to a worker in Hermosillo, in Mexico, or about 10% of the U.S. rate. However, the cost of living in Mexico is not 10% of the U.S. cost but about 56% according to the purchasing power parities reported by the World Bank. Production efficiency and quality is the same, with 80% of the production exported to the U.S. and Canada under USMCA trade rules. Productivity is much higher, given that labour costs are remarkably lower, which maximises the returns on investment and shareholder value for financial market investors. For further detail on comparative analysis, see: Álvaro J. de Regil: [Mexico and living wages: the utmost epitomization of social darwinism as a systemic public policy](#), The Jus Semper Global Alliance, February 2012, pp. 8-14. On labour arbitrage, see Intan Suwandi: *Value Chains – The New Economic Imperialism*, Monthly Review Press, New York, 2019, pp. 32-33.

<sup>59</sup> ↪ Intan Suwandi, R. Jamil Jonna and John Bellamy Foster: [Global Commodity Chains and the New Imperialism](#) — The Jus Semper Global Alliance, May 2019, p. 4.

<sup>60</sup> ↪ International Observatory of Living Wages: [2020 Report: Living-wage assessment – PPP Wage rate gaps for selected "developed and emerging" economies for all employed in manufacturing workers \(1996 up to 2018\)](#).

*greater than the difference in productivity.*<sup>61</sup> In the current stage of neoliberalism at the end of the Third Industrial Revolution, labour exploitation is the quintessential component to maximise profits and hence shareholder value in an extremely competitive arena of monopoly capital orchestrated by the financialisation of the system. As Suwandi explains, *...in the “new wave” of globalisation... the strategy involves a search for lower costs and greater flexibility, a desire to “allocate more resources to financial activity and short-run shareholder value while reducing commitments to long-term employment and job security.* The practice is now so competitive and extreme that global corporations are *actually not real manufacturers, but merely merchandisers, i.e., companies who “design and/or market, but do not make, the branded products they sell. This suggests that, as opposed to “producer-driven” chains that are characterised by FDI, buyer-driven chains, according to this framework, are characterised by arm’s length contracting (subcontracting).*<sup>62</sup>

#### ➔ The Anthropocene

Whilst the “Unequal Exchange” taking place systemically in the globalised economy of the XXI century—using millions of people in the global supply chains as Modern-Slave-Work commodities—, there is a far more pressing issue: the anthropocentric “progress” of humanity—driven by the capitalistic ethos. The Anthropocene is taking us to the point of no return and no possibility of regret and rectification anchored on the quest for the unrelenting reproduction and accumulation of wealth. There should be no doubt that the term Anthropocene was chosen because humanity—driven by capitalism—is the force that is creating a new geological era. Although those who benefit from the current system in the short term criticise the ecological movement as catastrophist for alerting us for decades about this tipping point event, this is a threshold very possibly of cataclysmic proportions where humankind and most species will face extinction or, in the best case, will not live as we know it. Based on the current trajectory that we are following, only a few may survive and endure dramatically dire conditions reminiscent of the stone age or an existence yet unimaginable, but even worse than what we can foresee. It follows that coping with the Anthropocene demands building an utterly new edifice of true and long-term sustainability. Hence, this is the most pressing issue for humankind if we want to bequeath a planet where all living things would thrive and reproduce in a balanced manner.

With Planet Earth entering the Anthropocene, we have signed off the end of life for all species, including our own extremely predatory one, before the start of the next century. The Anthropocene, as explained by Bellamy Foster, is viewed as a new geological epoch displacing the Holocene epoch of the last 10000 to 12000 years to represent what has been called an “anthropogenic rift” in the history of the planet. Foster explains:

*the Anthropocene stands for the notion that human beings have become the primary emergent geological force affecting the future of the Earth system. Although often traced to the Industrial Revolution in the late eighteenth century, the Anthropocene is probably best seen as arising in the late 1940s and early 1950s. Recent scientific evidence suggests that the period from around 1950 on exhibits a major spike, marking a Great Acceleration in human impacts on the environment, with the most dramatic stratigraphic trace of the anthropogenic rift to be found in fallout radionuclides from nuclear weapons testing.*<sup>63</sup>

Indeed, with the expansion of monopoly capitalism during the Third Industrial Revolution, the chasm between humanity and the planet that began with the First Industrial Revolution accelerated exponentially to produce a great metabolic rift

<sup>61</sup> ↪ Intan Suwandi: [Labour-Value Commodity Chains — The Hidden Abode of Global Production](#) — The Jus Semper Global Alliance, February 2020, p. 3. For further detail see also: Intan Suwandi: *value Chains – The New Economic Imperialism*, Mostly Review Press, New York, 2019.

<sup>62</sup> ↪ Intan Suwandi: [Back to Production: An Analysis of the Imperialist Global Economy](#) — The Jus Semper Global Alliance, October 2020. P. 4.

<sup>63</sup> ↪ John Bellamy Foster: [The Anthropocene Crisis](#), The Jus Semper Global Alliance, July 2017, p.1.

in the second half of the 20th century that has continued unabated, driving the planet to the brink of planetary tipping points that complete the metabolic fracture<sup>64</sup> between our species and the planet. We do not know for sure yet, but this may likely have already crossed a threshold of no return and placed us on a direct trajectory for the destruction of life on our planet for all living things, including our species as we know it. According to Ian Angus, most scientists believe that, in ecological terms, we are now in the threshold of the Anthropocene, which means we are effectively in a new geological era replacing the Holocene that began 11.700 years ago.<sup>65</sup> Indeed, by 2016 a clear majority of scientists in the Anthropocene Working Group favoured recognising a new epoch, and by 2019, 88 per cent of this group's members voted that a new epoch began in the mid-twentieth century. They present as evidence multiple examples that did not exist before WWII, such as radioactive fallout, plastics, ash from fossil fuels, concrete, and various chemical pollutants that leave long-lasting and readily identifiable traces. Regarding climate change, in 2018, the Intergovernmental Panel on Climate Change (IPCC) said that the *overarching context* for its report on the impact of 1,5°C warming is that "*human influence has become a principal agent of change on the planet, shifting the world out of the relatively stable Holocene period into a new geological era.*"<sup>66</sup>

Nonetheless, it is of the utmost importance to stress that not all humanity is to blame for the change in our geological

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era. Only the capitalist system demands the unrelenting consumption of resources, and those who own capitalism are most to blame. To be sure, the billions who have, knowingly or unknowingly, adopted the consumeristic culture advanced by capitalism—the middle classes both in the centre and the periphery of the system— carry some degree of responsibility. However, to be precise, those who wield power to sustain the current system carry the bulk of the responsibility. Angus points

to Will Steffen, who led the research programmes that identified and defined the Anthropocene as challenging the idea that all humanity bears the responsibility for accelerating the present planetary unsustainable epoch. Steffen pointed out that while "*nearly all of the population growth from 1950 to 2010 occurred in the BRICS and poor countries... in 2010, the 18% of the world's population that lives in OECD countries accounted for 74% of global economic activity.*" It follows, as Steffen asserted, that "*industrial capitalists of the wealthy countries, not 'mankind as a whole,' are largely responsible for the Anthropocene.*"<sup>67</sup>

This should make evident that at the end of the Third Industrial Revolution and the start of the fourth iteration, the most

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pressing issue is stopping the forces that are taking us on a path of self-annihilation, and that the only way to accomplish this, in case we still have time, is by replacing and not fixing capitalism. We cannot fix a system that requires its eternal expansion and the unrelenting consumption of resources at rates much faster than the earth system can replenish them, if at all. Capitalism cannot be fixed to make it sustainable because sustainability requires the sustained management of

<sup>64</sup> ↪ John Bellamy Foster: Marx's Ecology, Monthly Review Press, New York, 2000, p. 19 (ePub).

<sup>65</sup> ↪ Ian Angus: [When Did the Anthropocene Begin... and Why Does It Matter?](#) — The Jus Semper Global Alliance, November 2020, p. 3.

<sup>66</sup> ↪ Ian Angus: [Enfrentando el Antropoceno — Una Actualización](#) — La Alianza Global Jus Semper, Diciembre 2020, p. 2.

<sup>67</sup> ↪ Ian Angus citing Will Steffen in: [Facing the Anthropocene — An update](#) — The Jus Semper Global Alliance, December 2020, p. 3.

resources and the replacement of many resources such as fossil fuels, requiring drastic changes in consumption patterns and the rate of consumption of resources that are vital for life, such as water and the nutrients of the earth and oceans that feed humanity. Capitalism and sustainability are an oxymoron. They are entirely incompatible, for the former requires unrelenting growth whilst the latter requires a drastic decrease of our ecological footprint until we reach a stationary state—first stated by John Stuart Mill in the 19th century<sup>68</sup>— that can permanently be sustained in the long term, through many centuries.<sup>69</sup>

Nevertheless, outside of the philosophical and political debate, there is also a strictly scientific argument that demonstrates with complete coherence that the capitalistic mode of production is entirely unsustainable. As elaborated in our previous work, the laws of natural science—the laws of nature—are exact and cannot be influenced and contested by the reflexivity of human interactions that binds the social sciences and clearly demonstrates that capitalism is unsustainable. The Second Law of Thermodynamics—also known as the law of entropy—demonstrates this with complete coherence and explicitness. First formulated by French engineer Sadi Carnot in 1833, this law states that the transformation of energy is not completely reversible due to a quantity called entropy. This quantity represents the unavailability of a system's thermal energy for conversion into mechanical work, often interpreted as the degree of disorder or randomness in the system. The law of entropy asserts that entropy always increases with time: the sum of the entropies of all the bodies taking part in the process.<sup>70</sup> Consequently, if the diverse forms of transformation of energy (heat, movement...) are not completely reversible, it is impossible to have any consequences in economics based on such transformations. For example, after energy is used to move machinery, it dissipates and is lost forever. In economics, the entropy law is understood as a (meta)physical limit on the industrial economy, as stated by Georgescu-Roegen and Herman Daly.<sup>71</sup>

However, this was customarily ignored by economists. It was not until the 1970s that ecology was included in economics with Nicholas Georgescu-Roegen, who argued: *The economy excludes the irreversibility of time*. So it ignores entropy, the irreversibility of the transformations of energy and matter. Consequently, residue and pollution are not factored-in in economic activity.<sup>72</sup> This is why Georgescu-Roegen adds that:

*Had economics recognised the entropic nature of the economic process, it might have been able to warn its co-workers for the betterment of mankind—the technological sciences—that “bigger and better” washing machines, automobiles, and superjets must lead to ‘bigger and better’ pollution.<sup>73</sup> [Thus], The economic process, like any other life process, is irreversible (and irrevocably so); hence, it cannot be explained in mechanical terms alone. It is thermodynamics, through the Entropy Law, that recognises the qualitative distinction which economists should have made from the outset between the inputs of valuable resources (low entropy) and the final outputs of valueless waste (high entropy). The paradox suggested by this thought, namely, that all the economic process does is to transform valuable matter and energy into waste, is easily and instructively resolved.....<sup>74</sup> the Entropy Law*

<sup>68</sup> ↪ Álvaro J. de Regil: [The Neo-Capitalist Assault: Essay Two of Part I \(The Economics of Reference\) — The Historical Background in the XVIII and XIX Centuries](#), The Jus Semper Global Alliance, April 2001, pp. 9-10.

<sup>69</sup> ↪ Álvaro J. de Regil: [Transitioning to “Geocratia” — the People and Planet and Not the Market Paradigm — First Steps](#) — The Jus Semper Global Alliance, May 2020, pp. 29-30.

<sup>70</sup> ↪ Serge Latouche: *La apuesta por el decrecimiento*, Icaria – Antrazyt 2006, p.21-22.

<sup>71</sup> ↪ Stefania Barca and Gavin Bridge: *The Routledge Handbook of Political Ecology — 28 — Industrialisation and Environmental Change*, Routledge, London and New York, 2015, p. 368.

<sup>72</sup> ↪ *ibidem*.

<sup>73</sup> ↪ John Bellamy Foster, Brett Clark, and Richard York: *The Ecological Rift - Capitalism’s War on the Earth* - Monthly Review Press, 2010. Pp. 62-63.

<sup>74</sup> ↪ Nicholas Georgescu-Roegen. "Energy and Economic Myths." *Southern Economic Journal* 41, no. 3 (1975): 347-81. Accessed April 27, 2020. doi:10.2307/1056148. p. 353

*requires only that the entropy of the entire system (the environment and the organism) should increase. Everything is in order as long as the entropy of the environment increases by more than the compensated entropy of the organism...<sup>75</sup> the Most important for the student of economics is the point that the Entropy Law is the taproot of economic scarcity. Were it not for this law, we could use the energy of a piece of coal over and over again, by transforming it into heat, the heat into work, and the work back into heat. Also, engines, homes, and even living organisms (if they could exist at all) would never wear out. There would be no economic difference between material goods and Ricardian land. In such an imaginary, purely mechanical world, there would be no true scarcity of energy and materials. A population as large as the space of our globe would allow could live indeed forever.<sup>76</sup>*

Furthermore, although technology can increase the energy efficiency to reduce the ecological footprint of economic

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activity, it increases exponentially the use of new technologies that increase the ecological impact, which is explained by the phenomenon of the Jevons Paradox rebound effect.<sup>77</sup> A greater efficiency paradoxically turns into a greater use of the resource.<sup>78</sup> For this reason, Georgescu-Roegen asserts that it is impossible to have infinite growth on a planet with limits and,

thus, the need to think out a bio-economy.<sup>79</sup> But, in a clear display of sheer hubris—imbued by utter greed—this is customarily disregarded in economics and public policy in a way that the entire negative impact of business activity on people and planet, and its sphere of influence, is absolutely dismissed.

Indeed, to this date, neoliberal economics and the core principles of business culture, globally, send to oblivion the impact of economic activity as if there were no ecological limits. The centres of capitalist hegemony created the term “externalities” to avoid the direct responsibility of the systemic economic structures and have made the practice of so pompously called “Corporate Social Responsibility” a mockery.<sup>80</sup> Herman Daly—also a proponent of the steady-state economy—exposes very clearly the sheer hubris of marketocratic economics: *The neoclassical view is that man, the creator, will surpass all limits and remake Creation to suit his subjective individualistic preferences, which are considered the root of all value. In the end, economics is religion.*<sup>81</sup> Thus, the apologists of Marketocracy systematically snub climate change summits. Aside from the rhetoric and some menial actions to cope with climate change, everything remains in the sphere of the laissez-faire practice favoured by the apologists of the current system in the halls of governments, who really work as agents of the owners of the market and not as guardians of the common good. This is the scientific argument explaining the unavoidable *raison d'être*, beyond any ideological or philosophical inclinations, of why any

<sup>75</sup> ↪ *ibidem*.

<sup>76</sup> ↪ *ibidem*.

<sup>77</sup> ↪ John Bellamy Foster, Brett Clark, and Richard York: *The Ecological Rift - Capitalism's War on the Earth* - Monthly Review Press, 2010. Pp. 201-214.

<sup>78</sup> ↪ The Jevons Paradox occurs when new technologies increase efficiencies that reduce the amount of resources used but elicit the greater use of the technology, resulting in the greater use of the same resource than what was used with the older technology. Demand for the new technology in production processes increases, drawing greater consumption of a resource. Bellamy Foster, Clark and York, provide a detailed illustration of this paradox with real examples such as the “fuel efficiency of automobiles” and the paperless office paradox in John Bellamy Foster, Brett Clark, and Richard York” *The Ecological Rift, Capitalism's War on the Earth*, “The Ecological Rift, Monthly Review Press, 2010. Pp. 265-271.

<sup>79</sup> ↪ Serge Latouche: *La apuesta por el decrecimiento*, Icaria – Antrazyt 2006, p.21-22.

<sup>80</sup> ↪ Álvaro de Regil Castilla, “[Why 'Corporate Social Responsibility' Is a Hoax,](#)” forum contribution (*Corporations in the Crosshairs: From Reform to Redesign*), Great Transition Initiative, December 2019.

<sup>81</sup> ↪ Herman E. Daly: *A Steady-State Economy*: Sustainable Development Commission, UK (24 April, 2008)

market-driven system is entirely unsustainable. This law of exact science can be regarded as an axiom; succinctly, there cannot be unlimited consumption of limited resources.

The above notwithstanding, apologists of the current order systematically deny the evidence and the laws of natural science. Richard Douglas examines—based on an extensive range of papers produced over four decades—the rhetorical commonplaces of scepticism on the limits to growth. Douglas examines why those who propose limits to growth have failed to enjoy a decisive victory, despite the hard evidence and finds that environmental scepticism is grounded on:

*a defence of individualism, practical reason, humanism, material power, an unbounded sense of destiny, and the fundamental benevolence of our world. In this sense, it argues that the discourse of environmental scepticism could be viewed as defending an overarching world-view of modernity against an attack on its foundations implied by the 'limits to growth' thesis. In the extent to which this is true, it suggests that the challenge posed by the 'limits to growth' runs beyond the level of ordinary political debate, pointing to a crisis of philosophical anthropology: who are we, and how should we live, if we now believe that progress will not continue forever?<sup>82</sup>*

Douglas senses that sceptics perceive environmentalism [and anti-capitalism] as undermining an overarching world-view of modernity... *It appears to be defending—even through a dogmatic refusal to believe in scientific evidence and reasoned argument—the epoch of modernity.... Ultimately, if this suggestion is correct, it will only be on this philosophical level that a truly and socially persuasive and transformative solution may be found.*<sup>83</sup> It also becomes quite evident that the overarching world-view of modernity is closely aligned with the support of capitalism's mode of production and its expectation of unrelenting growth as the indicator of "progress and development". Hence its underlying 'Promethean discourse' of religious faith in the ability of humankind to shape the planet and its forces in a way that it will fulfil its needs eternally.

Indeed, Erald Kolasi argues that:

*capitalism cannot acknowledge any natural limits to economic growth, for that would mean acknowledging its ultimate demise. To keep up the pretence that capitalism represents a quasi-eternal and invincible system, most political leaders and economists who support the current order have begun reciting a series of elaborate narratives about the relationship between human economies and the natural world. These narratives all revolve around the central idea that we can decouple economic growth from the material needs of human civilisation. Until the late twentieth century, economists generally understood that more economic growth required the use of more energy and materials. But as the postwar compromises between labour and capital began collapsing in the 1970s and '80s, economic theories started to shift in emphasis and direction. Inspired by neoclassical theories, a new generation of economists began to argue that economic growth could continue without the consumption of additional resources from the environment. They claimed that we could reach this economic nirvana by doing more with less, investing in clean energy, and developing energy-efficient technologies. In short, they were arguing for nothing less than the long-term sustainability of capitalism, ignoring all the science and evidence piling up along the way.<sup>84</sup>*

<sup>82</sup> ↪ Richard Douglas: [The Commonplaces of Environmental Scepticism](#) — The Jus Semper Global Alliance, January 2021, pp. 1-2.

<sup>83</sup> ↪ Ibidem, pp. 15-16.

<sup>84</sup> ↪ Erald Kolasi: [Energy, Economic Growth, and Ecological Crisis](#) — The Jus Semper Global Alliance, May 2021, pp. 1-2.

In his paper on “The Physics of Capitalism”, Kolasi elaborates on the implications of a letter signed in 2017 by a group of 15.000 scientists from more than 180 nations, where they sound the alarm on the ecological crisis and what humanity can expect in the future. The letter has a grim prognosis and amounts to a clear repudiation of modern capitalism.<sup>85</sup> The problem is the culture of greed for wealth and power of those in control of the system. Emphatically, Kolasi argues that the problem and the solution are both easy to state: we consume far more energy than the planet can sustain and thus, we need to cut our consumption drastically. However, the insurmountable problem so far is the enormous difficulty of implementing the radical change in our structural patterns of consumption. As Kolasi rightly asserts, *the best way to drive down that rate [of energy consumption] is not through messianic delusions of technological progress, but rather by breaking the structures and incentives of capitalism, with their drive for profits and production, and establishing a new economic system that prioritises a compatible future with our natural world.*<sup>86</sup> This is why Kolasi alerts that:

*A warming planet could also reinforce positive feedback mechanisms in the climate capable of inducing even more warming, beyond that already caused by our greenhouse gas emissions. These mechanisms, such as melting sea ice and thawing permafrost, would allow the planet to absorb more solar energy while naturally emitting vast quantities of greenhouse gases. The resulting chaos would render any human attempts to mitigate global warming futile. This is precisely what should worry us: the chaos we are unleashing on the planet through the capitalist system will find a way to produce a new kind of order, one that threatens human civilisation itself. As capitalism expands, the ecological crisis will worsen. The intensifying dynamical systems of nature will increasingly interact with our civilisations and could severely disrupt the vital energy flows that support social reproduction and economic activities. Regions with high population densities subject to recurring natural disasters are especially vulnerable.*<sup>87</sup>

Unless we defeat the Promethean culture that those who control the system have instilled on the majority of the population, we are in a trajectory of doom. Indeed, the Third Industrial Revolution has set the stage for catastrophic and thus unmanageable reactions of our planet—our home—due to our unsustainable patterns of consumption of its resources. This is humankind's trajectory despite the hubristic talk of an upcoming Fourth Industrial Revolution that will take humankind to an existence proper of the gods of the Olympus and Nirvana, with no pain or suffering, only joy.

<sup>85</sup> ↪ William J. Ripple et al., [“World Scientists’ Warning to Humanity: A Second Notice,”](#) *BioScience* 20, no. 10 (2017): 1–3.

<sup>86</sup> ↪ Erald Kolasi: [The Physics of Capitalism](#) — The Jus Semper Global Alliance, April 2021, pp 10-11.

<sup>87</sup> ↪ Erald Kolasi: [The Physics of Capitalism](#) — The Jus Semper Global Alliance, April 2021, p. 7.

## The Fourth Industrial Revolution — the great acceleration of the metabolic fracture

We address the Fourth Industrial Revolution in the context of the marketocratic ethos—instead of democratic—that we are enduring to make clear that we are experiencing a transition dictated by the system owners to serve the market and not through the duly democratic debate with the Demos directly involved in the discussion and decision-making process that such a dramatic change deserves. Consequently, the fourth edition of the industrial revolution (4IR)—also advanced as “Industry 4.0”—<sup>88</sup> is touted to maximise efficiency and effectiveness in materialising with great precision all results. These gains would maximise exchange values by accelerating the productivity “ad maximum” of all industrial and economic processes, always in the context of a market-driven capitalistic economy.

There is no term to describe this event that has reached worldwide consensus. Many refer to it as Industry 4.0; many others do as the 4IR and others as the “Age of Imagination and Creativity”.<sup>89</sup> Yet, all point at the capitalistic increase of value chains. The concept was first introduced by a team of German scientist that made it public at the Hanover Industrial Technologies Fair in 2016 as “industry 4.0”,<sup>90</sup> with a focus on automation technology, cyber-physical systems (CPS), robotics and the Internet of Things (IoT).<sup>91</sup> Also, in 2016 the 4IR was advanced by Klaus Schwab, Chairman of the World Economic Forum (WEF) and tossed around a lot during the WEF annual summit.<sup>92</sup> Schwab presents the 4IR as an exciting transformation unlike anything we have experienced, radically changing the way humankind lives and is presented as *a fusion of technologies that is blurring the lines between the physical, digital, and biological spheres*.<sup>93</sup> One of the main benefits he promotes is the potential to increase income levels, efficiency and pleasure and doing more and more things remotely as if there were a consensus that decreasing the natural propensity for gregariousness in our species was a good thing. He also celebrates the great benefits that it brings to capital (the supply-side) by touting that the 4IR will bring significant benefits to the commodity supply chains of the global corporations of monopoly capital: *technological innovation will also lead to a supply-side miracle, with long-term gains in efficiency and productivity. Transportation and communication costs will drop, logistics and global supply chains will become more effective, and the cost of trade will diminish, all of which will open new markets and drive economic growth*.<sup>94</sup> Schwab is all for the continuation of Promethean growth.

The above notwithstanding, Schwab also expresses rhetorically concern for the great potential to increase inequality due to the new technologies. This happens by disrupting labour markets, with labour more *segregated into “low-skill/low-pay” and “high-skill/high-pay” segments, leading to an increase in social tensions*. He is also concerned about the great potential for more surveillance systems from governments and much less privacy as governments and corporations gain far more information about our activities. By the same token, he also alerts about the possibility of great violence, again due to new technologies for warfare and cyberwarfare that may include private actors taking advantage of such

<sup>88</sup> ↪ Bundesministerium für Bildung und Forschung: [Industrie 4.0 Innovationen im Zeitalter der Digitalisierung](#), April 2020.

<sup>89</sup> ↪ Martin Recke: [Why imagination and creativity are primary value creators](#) — Next, June 2019.

<sup>90</sup> ↪ BMBF-Internetredaktion (21 January 2016). “[Zukunftsprojekt Industrie 4.0 - BMBF](#)”. *Bmbf.de*. Retrieved 30 November 2016.

<sup>91</sup> ↪ The internet of things, or IoT, is a system of interrelated computing devices, mechanical and digital machines, objects, animals or people provided with unique identifiers (UIDs) and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction. For further detail, see: Alexander S. Gillis: [internet of things \(IoT\)](#), Techtargget Network, February 2020.

<sup>92</sup> ↪ Elizabeth Garbee: This Is Not the Fourth Industrial Revolution, Slate, 29 January 2016.

<sup>93</sup> ↪ Klaus Schwab: [The Fourth Industrial Revolution: what it means, how to respond](#) — World Economic Forum, January 2016.

<sup>94</sup> ↪ *ibidem*.

innovations. Lastly, Schwab alerts about violence due to new technologies and innovation and the ethical limits of biotechnologies but continues to talk as if growth must continue and there is no alternative to capitalism.

Not surprisingly, and consistent with his upbeat take on the continuation of growth, Schwab does not express any concern for environmental damage and the Anthropocene. There is no mention of the already dramatic ecological rift due to the pernicious effects of the three previous industrial revolutions.

The 4IR is still a concept very much in progress,<sup>95</sup> with many stakeholders both working to advance and to assess its economic and ethical implications on all aspects of life. The Germans appear to have taken the lead from a scientific/technological perspective and seem to limit it as a revolution of manufacturing and industry by the sheer digital automation of its design and processes to maximise manufacturing value chains. Others, such as the WEF, seem to advance it more from a political/investment perspective, with a more profound impact in every aspect of both public and private life for societies and their members. Both work under the assumption that capitalism under the Promethean prowess of technology will remain since “there is no alternative”.

One proposal to define the 4IR comes from the Boston Consulting Group (BCG) as the revolution that transforms manufacturing and production processes in industries.<sup>96</sup> The BCG limits the boundaries of the 4IR to the domain of manufacturing by making factories smart. It defines the 4IR as a transformation powered by nine foundational technology advances: big data and analytics, autonomous robots, simulation, horizontal and vertical integration, the industrial IoT, cybersecurity, the cloud, additive manufacturing (3D printing) and augmented reality.<sup>97</sup>

*In this transformation, sensors, machines, workpieces, and IT systems will be connected along the value chain beyond a single enterprise. These connected systems (also referred to as cyberphysical systems) can interact with one another using standard Internet-based protocols and analyse data to predict failure, configure themselves, and adapt to changes. Industry 4.0 will make it possible to gather and analyse data across machines, enabling faster, more flexible, and more efficient processes to produce higher-quality goods at reduced costs. This in turn will increase manufacturing productivity, shift economics, foster industrial growth, and modify the profile of the workforce—ultimately changing the competitiveness of companies and regions.<sup>98</sup>*

The BCG’s assessment, using German industry as an example, quantifies the impact of the 4IR in four areas: productivity improvements, revenue growth, employment and investment increase. It concludes that *the estimated benefits in Germany illustrate the potential impact of Industry 4.0 for manufacturing globally. Industry 4.0 will have a direct effect on producers and their labour force as well as on companies that supply manufacturing systems.*<sup>99</sup>

In the employment area, the BCG states that employment will grow in the mechanical engineering sector, particularly for software development and IT technologies, but will drop for low-skilled labourers who perform simple repetitive tasks that will be performed by autonomous robots. To be sure, the BCG touts the 4IR as the way forward for increasing

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<sup>95</sup> ↪ There is indication of struggle of analysts in explaining the core idea, see Mario Hermann Tobias Pentek and Boris Otto: [Design Principles for Industrie 4.0 Scenarios](#) - 2016 49th Hawaii International Conference on System Sciences, IEEE Computer Society, p 3928.

<sup>96</sup> ↪ Gizem Erboz: [How to Define Industry 4.0: The Main Pillars Of Industry 4.0](#) — Conference Paper, Szent Istvan University, November 2017.

<sup>97</sup> Michael Rüßmann, Markus Lorenz, Philipp Gerbert, Manuela Waldner, Pascal Engel, Michael Harnisch, and Jan Justus: [Industry 4.0: The Future of Productivity and Growth in Manufacturing Industries](#). BCG, 9 April 2015.

<sup>98</sup> ↪ *ibidem*.

<sup>99</sup> ↪ *ibidem*.

productivity in the value chains of corporations in the context of continuous growth. Accordingly, no assessment is made on the environmental, social and ethical implications of their perspective.<sup>100</sup>

#### ➔ Conceptual Structure

In an effort to explain the core concept, three core components and four design principles are presented by analysts of the 4IR:

##### ● Core components:<sup>101</sup>

- **Cyber-Physical Systems (CPS):** the fusion of the physical and the virtual world. This fusion is made possible by Cyber-Physical Systems (CPS). CPS are “integrations of computation and physical processes”. Embedded computers and networks monitor and control the physical processes, usually with feedback loops where physical processes affect computations and vice versa.
- **Internet of things:** the integration of IoT and the Internet of Services (IoS) in the manufacturing process initiated the fourth industrial revolution. This allows “‘things’ and ‘objects’, such as sensors, actuators, mobile phones to interact with each other and cooperate with their neighbouring ‘smart’ components, to reach common goals”.
- **Smart factories:** By integrating the ideas of the IoT and CPS in their operations, “smart factories constitute a key feature of Industrie 4.0”. “The Smart Factory is defined as a factory that context-aware assists people and machines in the execution of their tasks. This is achieved by systems working in the background. These systems accomplish their tasks based on information coming from physical and virtual worlds.”

##### ● Design Principles:<sup>102</sup>

- **Interconnection:** Machines, devices, sensors, and people are connected over the IoT and internet-of-people (IoP) and form the internet of everything (IoE). Wireless communication technologies play a prominent role in the increasing interaction as they allow for ubiquitous internet access. Via the IoE, interconnected objects (robots and other machines) and people are able to share information, and this forms the basis of joint collaborations for reaching common goals.
- **Information transparency:** Enabled by the increasing number of interconnected objects and people, the fusion of the physical and virtual world enables a new form of information transparency. Through linking sensor data with digitalised plant models, a virtual copy of the physical world is created.
- **Decentralised decisions:** These are based on the interconnection of objects and people and transparency on information from inside and outside of a production facility. The combination of interconnected and decentralised decision-makers allows utilising local with global information simultaneously for better decision-making and increasing overall productivity. The IoE participants perform their tasks as autonomous as possible. Only as exceptions, interferences, or conflicting goals tasks are delegated to a higher level.
- **Technical assistance:** In the Smart Factories of Industrie 4.0, the main role of humans shifts from an operator of machines towards a strategic decision-maker and a flexible problem-solver. Due to the increasing complexity of production, where CPS form complex networks and make decentralised decisions, humans need to be supported by assistance systems. These systems need to aggregate and visualise information comprehensibly to ensure that humans can make informed decisions and solve urgent problems on short notice.

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<sup>100</sup> ↪ ibidem.

<sup>101</sup> ↪ Mario Hermann Tobias Pentek and Boris Otto: [Design Principles for Industrie 4.0 Scenarios](#) - 2016 49th Hawaii International Conference on System Sciences, IEEE Computer Society, p 3929.

<sup>102</sup> ↪ ibidem, pp. 3932-33.

➔ Application:

The application of Industrie 4.0 is in every industrial and business sector, including prominently: aerospace, defence and security, automotive, chemicals, electronics, engineering & construction, forest paper & packing, industrial manufacturing, metals, and transportation and logistics,<sup>103</sup> agriculture and food manufacturing. The 4IR will also have many applications in many areas of our public and private daily lives, from education, healthcare and employment, to the way in which the executive, parliamentary and judicial branches of governments will function.

As could be expected, all consulting firms and “experts” who are part of the dominant capitalist system tout the 4IR as bringing great benefits to all aspects of life through its main applications. For example, a joint study between PwC and the WEF mapped 345 technology applications that will help achieve the UN’s so-called “Sustainable Development Goals” (SDGs).

*Through research, analysis and interviews with a range of stakeholders at the forefront of applying Fourth Industrial Revolution (4IR) technologies across industry, technology firms and research, PwC and the World Economic Forum (WEF) have mapped 345 technology applications across the Sustainable Development Goals (SDGs). This provides both public and private stakeholders with a broad understanding of technology applications that are currently being deployed to tackle the SDGs – helping to guide investment decisions, research and development (R&D) efforts and technology governance. This list of applications is not meant to be exhaustive, but to be representative of the most prominent innovations.<sup>104</sup>*

The applications cover virtually all areas of human activity within reach of the SDGs, with applications for sixteen of the seventeen SDGs: (1) No Poverty, (2) Zero Hunger, (3) Good Health and Well-being, (4) Quality Education, (5) Gender Equality, (6) Clean Water and Sanitation, (7) Affordable and Clean Energy, (8) Decent Work and Economic Growth, (9)

*AI is being used in virtually every single sphere of human activity.*

Industry, Innovation and Infrastructure, (10) Reducing Inequality, (11) Sustainable Cities and Communities, (12) Responsible Consumption and Production, (13) Climate Action, (14) Life Below Water, (15) Life On Land, (16)

Peace, Justice, and Strong Institutions. Only goal (17), Partnerships for the Goals, is not included in the study. The study further classifies the 345 applications into emerging, improving and mature, expecting that by 2030 many will have consolidated their implementation if they prove successful, always from a marketocentric perspective.<sup>105</sup>

In this study of applications in the 16 SDGs, artificial intelligence (AI) is ubiquitous, for it is used in every development

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goal. It is frequently used in combination with other applications. The applications used or in development for use in the SDGs are: Satellite and drone-enabled technologies, robotics, smart healthcare, education and infrastructure management, automation, autonomous irrigation and mobility, sensor-enabled remote monitoring and prediction, cybersecurity, blockchain and augmented and virtual

<sup>103</sup> ➔ PwC: 2016 [Global Industry 4.0 Survey What we mean by Industry 4.0 / Survey key findings / Blueprint for digital success](#)

<sup>104</sup> ➔ World Economic Forum, In collaboration with PwC: [Unlocking Technology for the Global Goals](#), 2020

<sup>105</sup> ➔ ibidem: “Whilst all of the applications are ‘in vivo’ in society today, they are at varying levels of maturity, which for simplicity of illustration have been classified into Low (emerging), Medium (improving) and High (mature). In practice, emerging solutions (low maturity) may be more nascent, but over the coming decade to 2030 could still outperform mature solutions (high maturity) in terms of impact, if the enabling environment is supportive and/or the solution itself has a large market and high disruptive capability (e.g. low cost low greenhouse gas synthetic proteins for achieving Climate Action impact)”, p. 6.

reality.<sup>106</sup> Indeed, AI is being used in virtually every single sphere of human activity, from education and skills, migration, international trade and justice and law to data science, arts and culture, consumer practices and values, to name a few.

From the perspective of the political sphere, opinions at the core of the system consider that the 4IR will have a profound relationship on the use of digital technologies in geostrategic politics, with a chance to coordinate or compete, as is already happening in the latter case. Mark Leonard, Director of the European Council on Foreign Relations, considers that the single biggest challenge around technology is the way it is nationalised and weaponised.

*There is a new map of power in the modern world that is no longer defined by geography, by control of territory or oceans, but rather by controlling overflows of people, goods, money, and data and exploiting the connections technology creates. In this way, every connection between nations – from energy flows to IT standards – becomes a tool of geopolitics.<sup>107</sup>*

His commentary is very telling of the sheer commoditisation of life on our planet. Power is now about the flow of people, goods, money and data as commodities to profit from in the unrelenting quest for the maximisation of reproduction and accumulation of capital.

In this context, the 4IR technologies are already used extensively to determine whether people work in person or remotely. This also has been exacerbated by the COVID-19 pandemic. Working remotely may become permanent for many people. A recent PCW remote work survey in the U.S. found that 55% of executives expect that 60% or more of their workers will work remotely after the pandemic subsides. Before the pandemic, only 39% felt the same way.<sup>108</sup> However, without a doubt, the many applications of the technologies previously mentioned will also have a devastating effect in making a vast array of jobs redundant, particularly in low-skilled, low-wage sectors. The most relevant effects will be assessed in the next section.

As for the realm of the environment and climate change, there are undoubtedly many applications that can be used for

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multiple uses in this area. For instance, the developers of a dragonfly-shaped robot claim that it is “capable of resolving environmental issues”. *It has the potential to help monitor and resolve environmental issues such as freshwater acidification. It can also skim across water and react to environmental conditions such as pH, temperature, or the presence of oil.*<sup>109</sup> As can be expected, there is no doubt that

many applications can be used to monitor, alert and manage environmental issues, but none can solve the ecological rift for as long as we continue anchored on an economic system that demands the unrelenting consumption of resources to increase growth to maximise capital accumulation, none of the issues affecting the health of the planet can be solved. Hence, we cannot achieve a truly sustainable future no matter how much technological prowess can be developed. We cannot tame the laws of nature, particularly the second law of thermodynamics or entropy law, as previously noted.

<sup>106</sup> ↪ *ibidem*, pp. 3-6.

<sup>107</sup> ↪ Ariel Kastner: [7 Views On How Technology Will Shape Geopolitics](#), Forbes, 7 April 2021

<sup>108</sup> ↪ Eric Dustman, Fuad Abdelhadi, Russell Frieder, Brandon Pyle: [Are you ready for your new hybrid workforce?](#), PWC - U.S., 3 December 2020.

<sup>109</sup> ↪ Ken Kingery: [This soft, dragonfly-shaped robot could help resolve environmental issues](#) — WEF, 6 April 2021.

➔ Impact:

The 4IR is an economically driven phenomenon that will have tremendous repercussions in every sphere of human life, on the life of all living things and on the capacity of our planet to remain a liveable planet. The 4IR will impact the way we go about our public and private lives profoundly. It will also affect the lives of all living things to various degrees, with many already on the brink of extinction, finding their ecosystems no longer adequate for their reproduction.

Three significant realms of life will endure a colossal impact with the advance of the 4IR. From a societal perspective, labour and human rights are being greatly impacted, with dire consequences as the implementation of the 4IR progresses. Overarching every sphere of life, the health of our home, Planet Earth—to be which we belong as part of it—will be impacted to the point that it is extremely likely to cross the threshold of no return, as the unrelenting quest for growth, accelerated by the 4IR, will continue unabated.

A heavy ethical current underneath these realms—at least rhetorically or *De jure* if not veritably—governs our behaviour.

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It will be transformed by the 4IR, breaking many moulds in how we interact not only with our fellow human beings but with all life on our planet and the natural world's commons and riches. The social chasm that emerged centuries ago when capitalism began to treat everything as susceptible of having exchange value—thus, the propensity of the owners of capital to treat workers as just another commodity—will be exacerbated by the new technologies of the current revolution. The severity of this impact needs time to be

appropriately assessed but most likely will break many ethical boundaries previously taken for granted. This rift will be particularly evident in liberal democracies where people are supposed to be treated as equals in our inherent right to enjoy life in our home, Planet Earth. The materialistic values unrelentingly pushed by Marketocracy will further erode at an accelerated pace our scale of humanistic and ecological values. Environmental sustainability will likely be pushed beyond the threshold of no return, regardless of how much technologies are developed to address it, given that the marketocratic paradigm will continue to pursue unrelenting growth to maximise shareholder value.

Of all the new technologies of the ongoing revolution, AI will be the most pervasive and significant impact, both ethically and structurally. The pervasiveness and profound impact carry many contradictions. While it certainly offers many practical benefits, both for business and in our daily personal activities, it carries very complex ethical questions about how it will disrupt, if not destroy, the rights of many people and all living things to enjoy their natural lives. Indeed, AI may eliminate for millions of people their right to make a living and carve a way of life without losing their identity, dignity, and relationship with the natural world to which we all belong. Its algorithms will determine the lives of billions of people.

● **Labour Implications** — Jobs will be created but many more jobs will be eliminated as automation—which is tantamount to artificial intelligence (AI) in the 4IR lingua—will make redundant many jobs in industrial and service sectors. These sectors employ far more people than the white collar and new digital jobs that are being created. Hence the balance is quite likely to be very negative. To be sure, the customary counterargument is that the 4IR will create more jobs and well-paid jobs than those to be lost, such as the argument advanced by the World Economic Forum.<sup>110</sup>

<sup>110</sup> ↪ Jayant Menon: [Why the Fourth Industrial Revolution could spell more jobs – not fewer, Fourth Industrial Revolution](#), World Economic Forum, 17 September 2019.

However, the sheer digital automation of the design processes to maximise manufacturing value chains—through the implementation of the autonomous process, such as smart factories, smart irrigation, and the smart provision of many public and consumer services, to name a few—lies at the core of 4IR. Hence, it is impossible to deny that far more jobs in industrial and service sectors will be made redundant than the new jobs that will be created with the new revolution. Furthermore, the ongoing COVID-19 pandemic is already accelerating the implementation of 4IR technologies that will automate many processes and make redundant many more jobs sooner than could have been anticipated at this time.<sup>111</sup>

As could be expected, opinions that are organic to the dominant system beg to differ. Indeed, apologists of the 4IR who defend its future talk about that, despite the many risks, there are huge opportunities for companies and employees to prepare for the new ethos. One case is Jessica Knight, who argues that

*the opportunity this brings is the ability to elevate your business and eradicate the restrictions that global boundaries present – such as working across time zones and geographic locations. This is driven by unprecedented access to information and processing power, which is amplified by technological breakthroughs such as artificial intelligence (AI), the Internet of Things (IoT), nanotechnology, robotics, 3D printing and more... The reality is that children entering primary school today will work in jobs that don't yet exist in our current business environment. In order for the next generation – and indeed today's generations – to be successful, digital skills are non-negotiable... the onus is not just on companies to adapt to avoid redundancy, but on employees, too. Fundamental to keeping up with rapid transition to the unknown of the future is providing employees with the opportunity to identify their own career trajectory, and then working alongside them to refine their skills, in order to remain relevant and abreast of technology trends. The 4IR presents a shining time for the dynamic capability of both individuals and organisations, and in the near future, talent, more than capital, will represent the critical factor of production. In the development of a truly global marketplace for human capital, companies must take responsibility for ensuring their employees are equipped with the latest skills necessary in order to remain competitive.<sup>112</sup>*

Amy Sterling, another organic researcher, acknowledges that new technologies are reducing human labour. She points out that over 2% of Americans - 7 million people - lost their jobs in mass layoffs between 2004-2009. Workers without a college degree are particularly at risk. As production met automation and moved overseas, the broader citizenry enjoyed cheaper products while large sectors of the workforce were left with a loss of livelihood. Yet, as the vast majority of

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systemic analysts, she recommends adjusting, adapting and creating policies that will soften the technology shock that millions of workers are enduring, such as creating a policy of “early notifications to workers” and some global observatory of automation to give workers time to look for another job.

Hence her recommendation is that *rather than fight technology, we should embrace it and prepare workers whose fields move overseas or are learned by robots. Every*

*human deserves the opportunity to learn skills that will carry him or her into the future.<sup>113</sup>*

<sup>111</sup> ↪ John Karr, Katherine Loh and Emmanuel A. San Andres: [COVID -19, 4IR and the Future of Work](#), APEC Policy Support Unit. POLICY BRIEF No. 34 June 2020.

<sup>112</sup> ↪ IT-ONLINE: [4IR and its impact in the workplace](#), IT Industry News Daily, 14 February 2019.

<sup>113</sup> ↪ Amy Sterling: [Millions Of Jobs Have Been Lost To Automation](#). Economists Weigh In On What To Do About It, Forbes, 15 June 2019.

Nonetheless, as it is clearly evident, the context is organic to the system and thus centred on the marketocratic ethos. It follows that everyone must prepare to remain competitive or otherwise be rendered obsolete in the 4IR. Workers must adapt by developing new skills to serve the needs of the new industry, office and service environments. “Talent capital” will be the critical factor for production, which is at the centre of 4IR’s *raison d’être*: production for growth for the maximisation of the reproduction and accumulation of capital.

Yet, from a reality check perspective, the purpose of truly democratic societies is not to serve the needs of reproduction and accumulation for the less than one per cent who own the prevailing system, but to establish the structures necessary to fulfil the needs of the Demos to have access to the joys of a dignified and sustainable life, both psychosocially and materially. And how we should go about this, how to meet this challenge is something that must be decided by the entire Demos through truly democratic processes. The purpose of so-called democratic societies is to procure the welfare of everyone of its ranks, and with special emphasis in the dispossessed—in the context of a sustainable harmony with the planet and not of unrelenting production to sustain growth to amass wealth and power.

Instead of the Demos, it is the marketocratic and totalitarian economic system that plays god and chooses the needs of

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its owners’ system to maximise their accumulation. Hence it pursues the imposition, at all costs, of a Darwinian ecosystem ethos, where everything must have exchange value as commodities—including the human species and all living things—which is now being accelerated by the new technologies of the 4IR and all the more by the current pandemic. There is no consideration for the billions of people—primarily in the periphery but also increasingly in the

metropolises of the system—who are and will remain ill-prepared to be part of such a social edifice that makes no sense whatsoever, except to fulfil the needs for greed and power of a tiny elite of plutocrats, the robber barons of the 4IR. Billions are already excluded from the remnants of the Third Industrial Revolution, for they were never part of it and will remain excluded as the dispossessed of humankind in the 4IR. There are also hundreds of millions of people who work in the industrial and service sectors who have no rights, who belong to the precariat working as subcontractors of the so-called “gig economy”, without benefits, such as those used by Uber, who, for the most part, will lose their precarious livelihoods when automated cabs replace them. This also includes the retail sector that employs 10% of U.S. workers, with wages averaging \$11,24/hour—which renders them of less than a living wage standard—and with less than half of them receiving no benefits in 2018. Yet, the retail sector is under threat of automation through AI, with a forecast predicting that by 2020, *one-fifth of the multitrillion-dollar U.S. retail market will have shifted to the web and that Amazon alone will reap two-thirds of that bounty.*<sup>114</sup> This, of course, is not yet found out, but it is likely that with COVID, the metric will be greater than the forecast because of the pandemic.

Furthermore, millions more who are subcontracted as free agents in the periphery as part of the global commodity supply chains of global corporations will become obsolete for the most part as automation progresses. As for the lucky ones—the other millions more who work in manufacturing in the centre and periphery and who do have contracts, they are still decades away from joining the elderly. But they will not be hired by the global corporations of the 4IR to fill the

<sup>114</sup> ↪ Ellen Ruppel Shell: [AI and Automation Will Replace Most Human Workers Because They Don't Have to Be Perfect—Just Better Than You](#), Newsweek, 20 November 2018.

new jobs created, even if they adapt and acquire new skills. Instead, it will be mostly the youth and the children of today who will be chosen for these new jobs.

Kevin Roose, a New York Times technology columnist—despite writing from a perspective that is by default organic to

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the system—describes how he went through a process that took him from being utterly optimistic about technologies and quite dismissive about people who felt AI would destroy jobs for humankind, to becoming quite realistic about the fact that the positive claims about AI have many holes with half-truths and blatant falsehoods. Roose found three things that made him rethink his optimism. First, he

realised that some of the conventional wisdom stories about AI, such as that it will create more jobs than make redundant, or that machines and people would work in a collaborative mode, are quite incomplete if not plainly false. Second, he saw a stark gap between the promises of automation and reality, making him conclude AI was working well for some people—namely, the executives and shareholders of the 4IR—but not for everyone else. Third, he realised through his conversations with many top technology sector executives that what they really were dreaming and fantasising about—but were only saying behind closed doors—was getting rid entirely of all their workers and having fully automated companies.<sup>115</sup> Roose subsequently realised that the COVID-19 pandemic accelerated by a few years the process of jobs' automation. *The difference, [with the pandemic], was that companies wanted to publicise their efforts to automate jobs. Robots don't get sick, after all, and companies that could successfully replace humans with machines could continue making goods and providing services even while the virus was raging. Consumers were excited about automation, too, because it reduced the need for human contact. The pandemic gave companies the cover they needed to make huge, unprecedented strides in automation without risking a backlash. So they automated, and automated, and automated some more.*<sup>116</sup> In the end, Roose reckons that both sides of the spectrum of opinions are not adequate. He no longer believes in the naive and utopian narrative that automation will take humanity to well-manicured and harmonious paths for progress but also finds unsatisfying the opposite views. Nonetheless, he feels that there is enough evidence to be concerned about the optimists' view. His concern is supported by studies that found that from 1987 to 2017, displacement in industries that incorporated automation into their processes dramatically outpaced reinstatement, and the new jobs that were created were generally high-skill jobs that many workers could not access.<sup>117</sup> He also thinks that automation will affect people in low-income brackets and exacerbate, particularly in the U.S., racial and gender disparities.<sup>118</sup>

Although it is evident that the context of his assessment is organic to capitalism as a positive economic system, he expresses awareness about the inequalities and corporate corruption created by unregulated capitalism. He hopes that by stepping *into the conversation, learn the details of the power structures that are shaping technological adoption, and bend those structures toward a better, fairer future... we can fight for people and support ethical technologists.*<sup>119</sup> His main argument is rather naive. He correctly asserts from the very start of his book that human desires have always driven

<sup>115</sup> ↪ Kevin Roose: Futureproof, 9 rules for humans in the age of automation, Random House, New York, 2021, p. XV to XXI in kindle edition.

<sup>116</sup> ↪ *ibidem*.

<sup>117</sup> ↪ Daron Acemoglu and Pascual Restrepo, "Automation and New Tasks: How Technology Displaces and Reinstates Labor," *Journal of Economic Perspectives* (2019). Quoted by Kevin Roose: Futureproof, 9 rules for humans in the age of automation, Random House, New York, 2021, pp. 13-14 in kindle edition.

<sup>118</sup> ↪ Kelemwork Cook, Duwain Pinder, Shelley Stewart, Amaka Uchegbu, and Jason Wright, "The Future of Work in Black America," *McKinsey*, October 4, 2019. Quoted by Kevin Roose: Futureproof, 9 rules for humans in the age of automation, Random House, New York, 2021, p. 14 in kindle edition.

<sup>119</sup> ↪ Kevin Roose: Futureproof, 9 rules for humans in the age of automation, Random House, New York, 2021, p. 183 in kindle edition.

technology: Executives, not algorithms, decide whether to replace human workers. Regulators, not robots, decide what limits to place on emerging technologies like facial recognition and targeted digital advertising. The engineers building new forms of AI have a say in how those tools are designed, and users can decide whether these tools are morally acceptable or not. This is the truth about the AI revolution. There is no looming machine takeover, no army of malevolent robots plotting to rise up and enslave us. It's just people deciding what kind of society we want.<sup>120</sup> What he misses is that labour exploitation and systemic pollution are also the results of decisions taken by people. The same executives consistently prioritise profit over people and the planet. This is why corporate social responsibility is a hoax, with corporations manipulating it to look good without doing the public good. They cherry-pick the norms that make them look good and avoid the rest. They avoid paying a living wage through their global commodity supply chains, which base most of their profit on paying exploitative wages.<sup>121</sup> These are also decisions taken by people and not by an algorithm. Thus his optimistic aspiration that those in control will make good decisions that will benefit most people if we step into the conversation is a stark delusion. Capitalism has consistently shown in every industrial revolution its

*The whole spectrum of human rights are customarily violated worldwide for the simple reason that instead of living in a genuinely democratic ethos, we are enduring the marketocratic ethos.*

inherent nature that its sole purpose is profit regardless of the negative consequences for the rest of humanity and the entire planet. Lastly, congruent with his capitalist organic perspective, Roose does not address whatsoever the disastrous effect of the 4IR on the ecological fracture that

capitalism has already created and that will continue to exacerbate more profoundly its devastating effects with the implementation of the 4IR.

A significantly less organic assessment, in that at least it receives less pressure to conform to the dominant social, political, and economic ethos, comes from academia. Hence, when we study in more detail the assessment made by Acemoglu and Restrepo and quoted by Roose, we find a clear rationale in its concluding remarks that leaves no doubt that automation triggers more job redundancy than new task creation,

*The main implication of our empirical exercise using this methodology is that the recent stagnation of labour demand is explained by an acceleration of automation, particularly in manufacturing, and a deceleration in the creation of new tasks. In addition, and perhaps reflecting this shift in the composition of technological advances, the economy also experienced a marked slowdown in productivity growth, contributing to sluggish labour demand... Our framework has clear implications for the future of work, too. Our evidence and conceptual approach support neither the claims that the end of human work is imminent nor the presumption that technological change will always and everywhere be favourable to labour. Rather, they suggest that if the origin of productivity growth in the future continues to be automation, the relative standing of labour, together with the task content of production, will decline... We have pointed out some reasons why the balance between automation and new tasks may have become inefficiently tilted in favour of the former—with potentially adverse implications for jobs and productivity—and some directions for policy interventions to redress this imbalance.<sup>122</sup>*

<sup>120</sup> ↪ *ibidem*, p. XXVI.

<sup>121</sup> ↪ Álvaro de Regil Castilla, "[Why 'Corporate Social Responsibility' Is a Hoax,](#)" forum contribution (Corporations in the Crosshairs: From Reform to Redesign), Great Transition Initiative, December 2019.

<sup>122</sup> ↪ Daron Acemoglu and Pascual Restrepo, "[Automation and New Tasks: How Technology Displaces and Reinstates Labor,](#)" *Journal of Economic Perspectives* (2019), p. 27.

Even the World Economic Forum forecasts that 50% of all employees will need reskilling by 2025 as the adoption of technology increases.<sup>123</sup> It follows that given that we are still in the early stages of the 4IR, the automation of life will proceed unabatedly—unless the Demos get organised to oppose it—and this will inevitably reduce the need for human labour and the livelihoods of hundreds of millions of people around the world.

● **Human Rights Implications** — The whole spectrum of human rights are customarily violated worldwide for the simple reason that instead of living in a genuinely democratic ethos, we are enduring the marketocratic ethos. Hence the market's rights—the rights of the owners of the marketocratic paradigm—are privileged to override human rights customarily. With the 4IR, this is dramatically exacerbated by imposing new technologies that were envisioned, designed and developed to serve the market. While there may be specific instances in which such technologies benefit specific human rights, this takes place indirectly and not by design. It happens by serendipity as a casual, positive externality but not as a deliberate decision of those who design a technology.

For instance, new technology may be designed to help a person recover part of their physical mobility lost in an accident. It is explicitly conceived for this immediate goal. However, the underlying motive is to profit by fulfilling an identified need that has exchange value. It is wholly a business decision. Now, let us say that, by a miracle, the world's governments get a stroke of altruism and humanity about the right to health. Consequently, they decide at a summit that all new technological inventions to support and enhance people's health will be limited to have a use-value as a matter of policy. This policy means that they cannot be developed for profit (exchange-value) and only to cover the reasonable cost of human labour and the materials necessary to create it. Thus, corporations would stay away immediately and complain by accusing governments of denying them their inherent "birthright" to be active in every sphere of society to build a market for their benefit. They will accuse governments of breaking the laissez-faire ethos that they are "entitled" to enjoy to go about their pursuit of the maximisation of their reproduction and accumulation of capital.

However, people are entitled to adequate healthcare as a right and not as a privilege limited to those who can pay the price. And given that the purpose of democracy is to pursue the welfare of people and the planet and not of the market, human rights must take precedence over the individual's right to reproduce his wealth. Access to healthcare is a right, not a commodity with a price.

Indeed, the UN's International Covenant on Social, Economic and Cultural Rights clearly stresses that *States must prohibit and eliminate racial discrimination and guarantee the right of everyone to public health and medical care*. Thus States have an obligation to fulfil the right to health by adopting *appropriate legislative, administrative, budgetary, judicial, promotional and other measures to fully realise the right to health, such as adopting a national health policy to ensure the provision of healthcare*.<sup>124</sup> It then becomes evident that if a business develops a technology that will enhance the health of people, the ulterior motive is not a public good but the private good of making a profit. It follows that unless they can fulfil their true motivation, they would not work to develop technologies that will contribute to supporting the enjoyment of our inherent right to health. It follows subsequently that access to our right to health is violated when new medical technologies, drugs, therapies, etcetera are limited to those who can pay for it. Moreover, many drugs are produced not to benefit people, but that argument is used as an excuse to maximise profits. A case in point: *for the decade 2005 to 2014, among 1,032 new drugs and new uses for old drugs introduced into the French*

<sup>123</sup> ↪ Kate Whiting: [These are the top 10 job skills of tomorrow – and how long it takes to learn them](#) — World Economic Forum, 21 October 2020.

<sup>124</sup> ↪ World Health Organization: Office of the United Nations High Commissioner for Human Rights: [The Right to Health Fact Sheet No. 31](#), June 2008 pp. 7 and 25-27.

*market, for example, only sixty- six offered a significant advantage, whereas more than half were rated as “nothing new,” and 177 were judged “unacceptable” because they came with serious safety issues and no benefits.<sup>125</sup>*

Needless to say that healthcare in the U.S. is the paradigmatic case of the sheer violation of our right to health, in total congruence with this being the society the most deeply captured by Marketocracy. Healthcare in the U.S. is openly another market commodity with exchange value for the sheer reproduction and accumulation of capital. It is another industrial complex controlled by the conglomerates of private hospitals, big Pharma corporations, insurance companies and behind all of them, Wall Street. In line with the prevailing ethos, access to healthcare has also been financialised. The level of corruption of the medical practice is so extreme that patients are treated as customers, truly as second class customers, for this is the only industry where customers do not know the price of services before they are purchased. “Surprise bills” is a customary practice, where customers get invoices from services that they were not made aware of in advance by the “physician” that they will get charged for. A classic example is the case of many gastroenterologist tests, where customers, once they get the approval from their private insurance company for the procedure, go ahead with it, but later get an additional invoice from a “provider”, such as the anaesthetist, who they never met and never knew their insurance policy did not cover him. The invoice is legal, the amount could be whatever the provider thinks he can get away with, but the practice is entirely unethical. This is blatant legalised robbery. Yet healthcare treated as another market commodity is so pervasive in this country that it has been culturally normalised.

In stark contrast with European countries, other major economies and many nations of the Global South, the U.S. healthcare system does not have a universal public healthcare system that provides full access to healthcare to all ranks of society. If one cannot afford the high prices charged by the healthcare businesses, he is in big trouble. There is no system of public healthcare facilities comprised of hospitals, clinics and laboratories. Everything is anchored on the private supply of these services except for the military. A relative exception is the so-called Medicare, for people age 65+ and Medicaid for some people with limited income and resources. In this case, the rates charged by providers are set by Medicare and Medicaid. Yet providers are private providers, the same used by those who are privately insured. Because health is a commodity, the costs are incredibly high and can push a family to bankruptcy to pay for the high cost of the services needed to treat an illness. A 2017 survey of the healthcare systems of 11 developed countries found the U.S. healthcare system to be the most expensive and worst-performing in terms of health access, efficiency, and equity.<sup>126</sup> In a 2018 study, the U.S. ranked 29th in healthcare access and quality.<sup>127</sup> The costs are so prohibitively high that millions are wholly excluded. In this way, in 2018, 13,7%<sup>128</sup> of all adults (18+)—about 36 million—had no access to healthcare in the U.S. Hence, it is not surprising to learn that life expectancy in the U.S. dropped in 2016 and 2017 for the first time since 1993.<sup>129</sup> With the technological innovations of the for-profit 4IR, the colossal inequity in access to health care, which directly corresponds to the systematic violation of our inherent right to health in the world, and even more so in the U.S., will be dramatically exacerbated.

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<sup>125</sup> ↪ Joel Lexching: [The Pharmaceutical Industry in Contemporary Capitalism](#) — The Jus Semper Global Alliance, October 2020, p. 1.

<sup>126</sup> ↪ Eric C. Schneider, Dana O. Sarnak, David Squires, Arnav Shah, and Michelle M. Doty: [Mirror, Mirror 2017: International Comparison Reflects Flaws and Opportunities for Better U.S. Health Care — The United States Health System Falls Short](#), The Common Wealth Fund.

<sup>127</sup> ↪ Fullman N, Yearwood J, Abay SM, Abbafati C, Abd-Allah F, Abdela J, et al. (GBD 2016 Healthcare Access and Quality Collaborators) (June 2018). [“Measuring performance on the Healthcare Access and Quality Index for 195 countries and territories and selected subnational locations: a systematic analysis from the Global Burden of Disease Study 2016”](#). Lancet. 391 (10136): 2236–2271. doi:10.1016/S0140-6736(18)30994-2. PMC 5986687. PMID 29893224.

<sup>128</sup> ↪ Dan Witters: [U.S. Uninsured Rate Rises to Four-Year High](#), Gallup, 23 January 2019.

<sup>129</sup> ↪ Tinker B. [“US life expectancy drops for second year in a row”](#). CNN. Retrieved February 28, 2018.

To make matters worse, there is growing evidence that access to healthcare, at least in the U.S., is increasingly decided by AI's algorithms combined with the structural racism that prevails in the U.S. First, pandemic research was not an important topic in the U.S. before COVID-19, because healthcare research is predominantly oriented to profit-seeking opportunities, such as drug development and chronic disease diagnosis and treatment, which are favoured by big Pharma and medical treatment providing corporations.<sup>130-131</sup> Then, as could be expected in an intensely racialised societal edifice, the coronavirus pandemic exposed the blatant racial inequity in the allocation of resources to confront the pandemic, when it became evident that the mortality rates among Blacks, Hispanics and Indigenous populations tripled those among Whites and Asian populations.<sup>132</sup> Then one adds the case of AI deciding on the type and quality of medical treatment people in this country receive based on a series of criteria processed by algorithms.

*At stake is the fact that individual case decisions are informed by algorithms designed by private companies seeking profit from massive healthcare IT contracts without patient consent... machines completely invisible to patients increasingly guide medical decision-making.*

One case is the profoundly flawed outcome of the first scoring system for vaccine prioritisation employed at Stanford Medicine, which resulted in only seven of Stanford's First 5,000 vaccines given to Medical Residents because the system used an algorithm that prioritised some high-ranking doctors over patient-facing medical residents.<sup>133</sup>

Beyond the pandemic, at stake is the fact that individual case decisions *are informed by algorithms designed by private companies seeking profit from massive healthcare IT contracts without patient consent*. The result is that machines completely invisible to patients increasingly guide medical decision-making.<sup>134</sup> The underlying problem in using algorithms is the many sources of bias integrated into these computational designs of AI. One case was identified by an *audit that found that Black people who were less healthy by the audit metrics were assigned the same score as healthier white people* because the model used predicted healthcare costs to decide whether they should be enrolled in the low-risk or high-risk programme. Thus, because the historical data used showed lower healthcare costs for Black patients, *the algorithm was less likely to suggest enrolling Black patients in the high-risk program because they appeared to be less sick from the cost-driven point of view of the model*.<sup>135</sup> The bias factor is that lower healthcare costs mean a lower opportunity to bill higher amounts to patients, and thus the algorithm excludes them from treatments that may have improved their health.

To be sure, behind the algorithms are the humans that decide the criteria that will be built into the design of their AI's computational processes for decision-making. It follows that because it is the human being who applies specific criteria when designing the algorithms to inform decision-making on healthcare issues or any other sphere of life, this could discriminate based on profit-seeking priorities or blatant racial discrimination, among other criteria. Of course, the human being behind the algorithms can also apply positive criteria.<sup>136</sup> Yet, as we have seen, under Marketocracy, most of the decisions are made to maximise profit. So the specific question here is who will monitor the humans behind the

<sup>130</sup> Frank Rosenthal: [The COVID-19 Pandemic and the Dual Nature of Science](#) — Science for the People, 23 August 2020.

<sup>131</sup> ↪ David B. Resnik, JD, PhD: [Setting Biomedical Research Priorities in the 21st Century](#) — American Medical Association Journal of Ethics, Medicine and Society, July 2003.

<sup>132</sup> ↪ Timothy LaRock and Benjamin Batorsky: [Racism In, Racism Out: AI Reproduces Healthcare Inequity](#) — Science for the People, 15 March 2021.

<sup>133</sup> ↪ Caroline Chen: [Only Seven of Stanford's First 5,000 Vaccines Were Designated for Medical Residents](#) — ProPublica, 18 December 2020.

<sup>134</sup> ↪ Rebecca Robbins and Erin Brodwin: [An invisible hand: Patients aren't being told about the AI systems advising their care](#) — Stat, 15 July 2020.

<sup>135</sup> ↪ Timothy LaRock and Benjamin Batorsky: [Racism In, Racism Out: AI Reproduces Healthcare Inequity](#) — Science for the People, 15 March 2021.

<sup>136</sup> ↪ Financial Times Editorial Board, ["Blame Not the Robot, but the Human Behind It,"](#) *Financial Times*, 29 December 2020.

algorithms to make sure that their criteria are ethical and their designs pursue the welfare of society and not of the owners of Marketocracy? At this time, it appears to be impossible without society forcing a radical change of paradigm. The right to health is emphasised because it is one of the most fundamental and primaevial human rights, with dire consequences for people when the standard has become the provision of medical treatment as another commodity for profit-seeking opportunities. This trend escalated during the last three decades of the last century. But new trends are impacting human rights that are emerging during the 4IR.

During the Third Industrial Revolution, many human rights were upheld and incorporated into the UN's charter, beginning with the Universal Declaration of Human Rights. Human Rights are typically organised into three groups: civic and political rights, which comprise the right to life, equality before the law, freedom of speech, freedom of religion, property rights, the right to a fair trial, and voting rights. Then came the economic, social and cultural rights, which include the right to be employed, the right to a living wage and dignified labour conditions, and the rights to food, housing and health care, social security, retirement and unemployment benefits. They are the direct result of the effort after WWII to provide a welfare safety system, mainly in Europe. Then came what sometimes are regarded as "Third Generation Rights", most of them attempting to address the most pressing issues at the end of the 3IR and the transition into the 4IR, including the rights to self-determination, economic and social development, a universal basic income, a healthy environment, access and preservation of natural resources, participation in a community's cultural heritage and the right to intergenerational equity and sustainability.

Many of them, including many in the realm of social and economic rights, remain voluntary, as soft law and not as a binding framework that nations are obliged to protect. The case of universal healthcare in the U.S. is a prime example of a specific society not willing to respect and protect this right.

There are quite fundamental rights not included in the categories above that are also increasingly violated, such as free migration, self-determination and linguistic rights, among the most important. Lastly but not less critical whatsoever are the rights to access to the elements vital for life, classified as the rights to natural resources, namely sunlight, atmosphere, water, land, all minerals along with all vegetation, and animal life. Jeremy Gilbert provides a fair assessment of our rights to natural resources. His concise appraisal is that

*Given that we live under the dictatorship of Marketocracy, not even many human rights enshrined in the Universal Declaration of 1948 are duly respected.*

migration, self-determination and linguistic rights, among the most important. Lastly but not less critical whatsoever are the rights to access to the elements vital for life, classified as the rights to natural resources, namely sunlight, atmosphere, water, land, all minerals along with all vegetation, and animal

*Natural resources and their effective management are necessary for securing the realisation of human rights. The management of natural resources is linked to broad issues of economic development, as well as to political stability, peace and security, but it is also intimately connected to the political, economic, social and cultural rights of individuals and communities relying on these resources. The management of natural resources often leads to ill-planned development, misappropriation of land, corruption, bad governance, misaligned budget priorities, lack of strong institutional reforms and weak policies coupled with a continued denial of the human rights of local communities... human rights law can play an important role in ensuring a more effective and sustainable management of natural resources, putting forward the idea of a human rights-based normative framework for natural resource management. It offers a comprehensive analysis of the different norms, procedures, and approaches developed under human rights law that are relevant to the management of natural resources. Advocating for a less market and corporate approach to the control, ownership, and management of natural*

*resources, this book supports the development of holistic and coherent integration of human rights law in the overall international legal framework governing the management of natural resources.<sup>137</sup>*

Unfortunately, given that we live under the dictatorship of Marketocracy, not even many human rights enshrined in the Universal Declaration of 1948 are duly respected. During the 3IR, most human rights were increasingly and flagrantly violated. There are blatantly and systematically violated rights every minute of the day because the current structures imposed by Marketocracy directly oppose the respect and protection of these rights. The paradigmatic case is the worldwide violation of the right to just labour conditions and the right to earn a living wage. These rights are violated by design for the simple reason that the market overrides them in favour of the right to profit at any expense and are violated with the full support of governments, despite the fact that they have been included for decades in the covenants of the UN's Economic and Social Rights charter.<sup>138</sup> With the development of global corporations' global commodity supply chains, the violation of these rights has been exacerbated. The Anthropocene, the direct product of the entrenched market-driven paradigm that emerged during the First Industrial Revolution, has also put the right to clean water in deep contention between communities and corporations. Companies unrelentingly push to privatise a resource vital for life and market it as a commodity. Others use water extensively in heavy polluting production processes bringing many communities to the brink of collapse due to the lack of clean water access.<sup>139</sup> Instead of governments fulfilling this vital for life right, they approve permits for corporations to use it for mining operations, a new beer or soft drink plant, or sell water in plastic bottles, among other opportunities to profit.

With the implementation of the 4IR, the violation of the entire spectrum of these rights is profoundly exacerbated. However, the new revolution has introduced the violation of other rights that were previously effectively protected for the most part. And once again, artificial intelligence is the new technology that carries the most damaging impact on our human rights.

We have already covered the impact of artificial intelligence in the business world, with the displacement of human labour with AI's automation. As earlier noted, AI can provide positive outcomes for the welfare of societies. Among these, we have: improving access to healthcare and predicting disease outbreaks; making life easier for the visually impaired; optimising agriculture and helping farmers adapt to change; mitigating climate change, predicting natural disasters, and conserving wildlife and making government services more efficient and accessible. Among the adverse outcomes, we have: perpetuating bias in criminal justice: facilitating mass surveillance—accelerated by technologies such as enabling discriminatory profiling; assisting the spread of disinformation; perpetuating bias in the job market and driving financial discrimination against the marginalised.<sup>140</sup>

Artificial Intelligence impacts the whole spectrum of human rights previously discussed. AI's applications carry a powerful ethical context. The most transcendent ethical aspect likely to be the case of "singularity" refers to when

<sup>137</sup> ↪ Jeremy Gilbert: *Natural Resources and Human Rights: An Appraisal* — Oxford University Press, Oxford 2018.

<sup>138</sup> ↪ United Nations Human Rights - Office of the high Commissioner: [International Covenant on Economic, Social and Cultural Rights](#). Adopted and opened for signature, ratification and accession by General Assembly resolution 2200A (XXI) of 16 December 1966 entry into force 3 January 1976, in accordance with article 27.

<sup>139</sup> ↪ For a detailed assessment on this topic see; Nubia Barrera Silva: [Water as the Pandora's Box of Ecological Debacle from South and Central America](#) — The Jus Semper Global Alliance, June 2021.

<sup>140</sup> ↪ AccessNow: [Human Rights in the Age of Artificial Intelligence](#), lead author: Lindsey Andersen, November 2018, pp. 14-16.

machines will outsmart humans. These new brains may well produce something more intelligent than themselves.<sup>141</sup> One idea that remains a pipe dream is Elon Musk's Neuralink/AI technology, to join human brains with machines for brain-machine interfaces (BMI)<sup>142</sup> with the eventual goal of human enhancement<sup>143</sup> or transhumanism to treat brain diseases, but with the ulterior motive—according to Musk—of the long-term goal of a symbiosis of human brains with AI, which in his opinion poses an existential threat to humankind.<sup>144</sup> This is still very much up to debate because we are not there yet, we think, but it is potentially possible. Yet, the sole fact that this may happen poses a very intricate ethical question to our survival and our dignity, and the technologies that already exist and that may reach or contribute to reaching that point in time carry a powerful ethical charge in the way they are used today and how they may be used and for what purpose in the future. What is the ethical framework of the humans behind these technologies, and how they will impact our human rights and the rights of future generations?

Yet, today, a new and extremely pervasive use of AI is already profoundly impacting our right to privacy and data protection in ways that had never been impacted before. The underlying motive for the intrusion into our private lives is, of course, profit as well as political motivations. We can no longer feel that every aspect of our private life—not just our consumer preferences and practices— is protected. AI can have legal access or even breach the data files that contain private information about our life, such as education, health, financial profile, demographics, political inclinations, what we own and what we do on a daily basis.

An assessment by AccessNow accurately conveys the overarching impact of AI on our right to privacy and data protection:

*Privacy is a fundamental right that is essential to human dignity. The right to privacy also reinforces other rights, such as the rights to freedom of expression and association. Many governments and regions now recognise a fundamental right to data protection. Data protection is primarily about protecting any personal data related to you. It is closely related to the right to privacy, and can even be considered a part of the right to privacy within the UN human rights system.*<sup>145</sup>

Some of the largest corporations in the world today (Alphabet, Facebook, Apple, Amazon and others) base their business on artificial intelligence to use our private information as a marketable commodity to sell for advertising or direct personalised sales pitches because they have already hoarded vast information about our lives. They even compete and fight on this basis. A recent feud just came up between Facebook and Apple. Facebook tracks how we use our phones to pick information about what we do, such as the apps we use that indicate an opportunity to sell us something or the stores we buy from. In this way, Facebook sells this data to enable companies to target their ads. Apple also tracks our data, but in contrast with Facebook, it is playing the consumer advocate card by giving a choice to consumers about how we want to participate in such an information-harvesting system.<sup>146</sup> Apple's stance constitutes a major threat to Facebook and other businesses that base their business on data mining and machine learning. With AI, companies can now find all the information they need to sell a profile as a commodity with excellent exchange value, many times

<sup>141</sup> ↪ Mathias Risse: [Human Rights and Artificial Intelligence An Urgently Needed Agenda](#) — Carr Center for Human Rights Policy, 2018, p. 5.

<sup>142</sup> ↪ Samantha Masunaga: [A quick guide to Elon Musk's new brain-implant company, Neuralink](#) — Los Angeles Times, 21 April 2017.

<sup>143</sup> ↪ Annalee Newitz: [Elon Musk is setting up a company that will link brains and computers](#) — ARS Technica, 27 March 2017.

<sup>144</sup> ↪ Isobel Asher Hamilton: [Elon Musk believes AI could turn humans into an endangered species like the mountain gorilla](#) — Insider, 26 November 2018.

<sup>145</sup> ↪ AccessNow: Human Rights in the Age of Artificial Intelligence, lead author: Lindsey Andersen, November 2018, p. 20.

<sup>146</sup> ↪ Shira Ovide, [What's behind the Apple-Facebook Feud?](#), New York Times, 26 April 2021.

without our clearly informed consent. A typical practice is that consumers cannot use many applications unless they allow the providers to have access to part of their information. But with AI, using “Machine Learning models”—including deep learning<sup>147</sup>—companies can accurately estimate a person’s age, gender, occupation, and marital status just from their cell phone location data.<sup>148</sup> This has already created an ethos of inequality and discrimination that runs for the most part unabated unless we force governments to protect the Demos and not Marketocracy. Indeed, as Mathias Risse reflects on the issue, he argues that *unequal ownership of data will have detrimental consequences for many people in society as well. If the power of companies such as Alphabet, Apple, Facebook or Tesla is not harnessed for the public good, we might eventually find ourselves in a world dominated by companies.*<sup>149</sup>

The two significant invasions of our privacy are the collection and analysis of data for the use by companies to market it in a wide diversity of ways, and the other breach of our privacy is the use by government surveillance for motives that often do not warrant whatsoever the invasion of our privacy and personal data. For instance, governments increasingly use social media monitoring programmes for political purposes, particularly during political campaigns or for law enforcement uses to collect data to be analysed by AI to detect alleged threats, or using facial recognition to monitor the Demos or even arrest individuals, despite the fact the technology is not accurate and often biased against dark pigmentations, which is tantamount to discriminatory profiling.<sup>150</sup> Companies too may use their algorithms to quash our right to freedom of expression and our right to seek the necessary information to have a well-informed opinion about an issue or an objective worldview. By using AI, corporations may wish to silence entire groups using social media by deciding which viewpoints will be disseminated and which will get zero traction. Moreover, Facebook has already tested successfully the manipulation of the world—designed by the human behind the algorithm—to ensure that a set of people perceives a specific world view determined in advance by Facebook through manipulated messaging.<sup>151</sup>

*In some cases, AI is being used by computer-assisted writing software that prepares news stories and other content, so a human may not even be involved in the dissemination of information. If public opinion values objective journalism, companies may prioritise maintaining a balance between freedom of expression and the desire for more efficient information systems. Likewise, social media channels may want to maintain a public persona of inclusivity and diversity by being careful not to restrict minority viewpoints or the freedom of expression.*<sup>152</sup>

The underlying reason behind the blatant invasion of our privacy is that we have all been pushed by the technologies of the 4IR to spend part of our life in the cyber world. AccessNow questions if, in the not so distant future, we will still enjoy our human right to any personal data privacy:

*Looking forward: The risks due to ability of AI to track and analyse our digital lives are compounded because of the sheer amount of data we produce today as we use the internet. With the increased use of Internet of Things (IoT) devices and the attempts to shift toward “smart cities,” people will soon be creating a trail of data for nearly every aspect of their lives. Although the individual pieces of this data may seem innocuous, when aggregated they reveal minute details about our lives. AI will be used to process and analyse all this data for everything from micro-*

<sup>147</sup> Brian Hayes: [Delving into Deep Learning Models](#) — American Scientist, May–June 2014, Vol. 102, No. 3 (May–June 2014), pp. 186- 189

<sup>148</sup> ↪ AccessNow: [Human Rights in the Age of Artificial Intelligence](#), lead author: Lindsey Andersen, November 2018, p 20.

<sup>149</sup> ↪ Mathias Risse: [Human Rights and Artificial Intelligence An Urgently Needed Agenda](#) — Carr Center for Human Rights Policy, 2018, p. 12.

<sup>150</sup> ↪ AccessNow: [Human Rights in the Age of Artificial Intelligence](#), lead author: Lindsey Andersen, November 2018, p. 19.

<sup>151</sup> ↪ Ben Hartwig: [The Impact of Artificial Intelligence on Human Rights – Adopting AI can affect not just your workers but how you deal with privacy and discrimination issues](#) — tdwi, 29 June 2020.

<sup>152</sup> ↪ Ibidem.

*targeted advertising, to optimising public transportation, to government surveillance of citizens. In such a world, not only are there huge risks to privacy, but the situation raises the question of whether data protection will even be possible.*<sup>153</sup>

It should be obvious that the only way to force corporations and governments to duly respect all the human rights

*The sustainability of our Planet is the realm with far more precedence over the social realms of labour and human rights for human and all other species depend on it and without our Planet offering the necessary conditions for life, nothing else matters. We would simply cease to exist.*

impinged by the technologies of the 4IR is to control the ethics of the humans behind them. Hence, unless we, the Demos, get directly involved in how both governments and businesses use the new technologies, we will endure the obliteration of our human rights as the normalised legal practice, courtesy of Marketocracy. Unless we take the issue into our hand and address it as soon as possible, the outlook is rather negative. This is why Risse reckons that *chances are increasing inequality in combination with AI will*

*be the bane of the next 70 years in the life of the UDHR. Unless, perhaps, enough people see these topics as included in the fierce urgency of now.*<sup>154</sup>

● **Planetary Implications for Planet Earth, our home** — The last realm of the significant impact of the 4IR is the sustainability of our Planet. This is the overarching realm with far more precedence over the social realms of labour and human rights or any other realm for the simple reason that the human and all other species depend on it and without our Planet offering the necessary conditions for the sustainability of all living things and the resources vital for life, nothing else matters. We would simply cease to exist.

As earlier noted, the 3IR brought to the Planet the new geological era of the Anthropocene that we are enduring. We already explained its significant characteristics and the ecological rift that capitalism has unleashed. The 4IR is

*All the new technologies touted as clean energy providers, such as electric vehicles or wind turbines and solar power panels, carry a heavy ecological footprint in their production.*

accelerating it, bringing closer the demise of our Planet and all its inhabitants. We have also explained that there are no technologies that the 4IR can develop that can outsmart the natural laws, in particular, the Entropy Law of thermodynamics.<sup>155</sup> It follows that despite all the new technologies of the 4IR that are being developed and implemented to half-heartedly address the damning ecological rift created by the

Anthropocene, we are being quite naïve or consciously deceiving ourselves if we think they will solve the dilemma.

For instance, all the new technologies touted as clean energy providers, such as electric vehicles or wind turbines and solar power panels, carry a heavy ecological footprint in their production. The lithium-ion batteries that are being used in the new electric vehicles have zero carbon footprint in emissions. However, they carry a manufacturing process—including all the plastic and metal parts and the fossil fuels used in their transportation of raw materials and parts in their supply chain production—with very heavy ecological footprints. And this does not even take into consideration the disastrous ecological damage caused by the mining of lithium for the batteries to be employed in the vehicles. This kind of mining for the so-called “green vehicles” creates horrific environmental damage, including the massive use of water,

<sup>153</sup> ↪ AccessNow: [Human Rights in the Age of Artificial Intelligence](#), lead author: Lindsey Andersen, November 2018, p. 21.

<sup>154</sup> ↪ Mathias Risse: [Human Rights and Artificial Intelligence An Urgently Needed Agenda](#) — Carr Center for Human Rights Policy, 2018, p. 15.

<sup>155</sup> ↪ Nicholas Georgescu-Roegen. "Energy and Economic Myths." *Southern Economic Journal* 41, no. 3 (1975): 347-81. Accessed April 27, 2020. doi:10.2307/1056148. p. 353

the killing of fish in rivers and the disposal of toxic chemicals that are filtered out of the brine produced, such as hydrochloric acid.<sup>156</sup> This is the same case for the silicon used for the panels for solar energy that have to be mined and all the materials for the wind turbines and the backup sources of fossil fuel energy used for solar and wind turbines, creating environmental damage. When assessing the trajectory that we are following and the potential solutions to the replacement of fossil fuels, we must account for the environmental impact incurred to extract the raw materials, including the energy and materials used to extract them, the energy used to manufacture the new technologies, and the environmental impact that we produce once we dispose of them after they have completed their life cycle. Just for the manufacturing of solar panels and wind turbines (including mining, manufacturing, transporting and installing), the fossil energy used is usually more significant than the energy these technologies will produce.<sup>157</sup> It follows that to a very significant extent, the trade-off of these technologies is a greenwash.

The technologies of the 4IR can undoubtedly be used to assist in coping with the worst effects of the Anthropocene. They can help to reduce the effects of climate change and reduce pollution. For instance, the UN Environment Programme (UNEP) announced that it is working to fight plastic pollution using citizen science and machine learning, with technical advisory support from Google. The UNEP will create a model that reveals a more detailed and accurate view of plastic pollution in the Mekong River.<sup>158</sup> Another example is how the use of high-resolution satellite data and machine-learning techniques at supercomputing facilities made possible the mapping of billions of individual trees and shrubs in West Africa in an effort to deal with and manage climate change effectively. The resulting database *will constitute a baseline, allowing for future studies of the temporal evolution of woody vegetation at a large scale, possibly even at a continental or global scale.*<sup>159</sup> Then we can talk about the efforts to make the maritime shipping industry producing three per cent of greenhouse gas emissions—one of the most polluting industries in the world—less polluting by developing new technologies. So this industry talks about moving to the “fourth energy revolution in shipping”—*from rowing our boats to sails to steam engine to diesel engine and we have to change it once more*, possibly to hydrogen-based fuels. This shipping industry uses bunker fuel oil, which is among the least refined and certainly the most polluting of oil-based fuels. It follows that with new technologies, hydrogen or other less polluting sources of energy, the maritime shipping industry can meaningfully reduce—but not eliminate—its ecological footprint, albeit the new technologies could be decades away.<sup>160</sup>

Nevertheless, and notwithstanding all the efforts that are being made in the world to reduce CO<sub>2</sub> emissions and climate change, we will remain in a doomed trajectory as long as we refuse to replace the current marketocratic ethos that requires growth every second of our lives. As earlier noted, capitalism cannot exist without the unrelenting quest for growth. The GDP is its prime indicator. If an economy grew by a mighty 5%, that is great, but the expectation is that it should grow more or at least as much next year. To do that, capitalism requires the infinite and unrelenting consumption of resources on a planet with finite resources. And as we have shown, there is no way, whatsoever, that the technology of the 4th or nth Industrial Revolution can force the natural laws to behave differently to fulfil its goals. Energy dissipates and cannot be recovered because of the entropy law. Physicist Erald Kolasi explains how we cannot overcome the natural laws:

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<sup>156</sup> ↪ Álvaro J. de Regil: Transitioning to “[Geocratia](#)” — the People and Planet and Not the Market Paradigm — First Steps, The Jus Semper Global Alliance, May 2020, p. 16.

<sup>157</sup> ↪ *ibidem*, p. 17.

<sup>158</sup> ↪ UNEO: [UNEP and Google partner to hunt for plastic pollution with machine learning](#), 20 April 2021

<sup>159</sup> ↪ Martin Brandt and Kjeld Rasmussen: [How we mapped billions of trees in West Africa using satellites](#), supercomputers and AI — The Conversation, April 11 2021.

<sup>160</sup> ↪ Harry Dempsey: [Shipping Looks to Hydrogen as It Seeks to Ditch Bunker Fuel](#), Financial Times, 24 April 2021.

*The thermodynamic relationships among energy, entropy, and dissipation likewise impose powerful constraints on the behaviour and evolution of economic systems. Economies are dynamical and emergent systems compelled to function in certain ways by their underlying social and ecological conditions... The vast majority of the energy consumed by all economies is routinely squandered to the environment through waste, dissipation, and other kinds of energy losses... Capitalism emerged and spread through colonial expansion, waves of industrialisation, the proliferation of epidemic diseases, genocidal campaigns against indigenous populations, and the discovery of new energy sources... There is no doubt that the fantasy of endless growth and easy profits cannot continue. All dynamical systems must eventually come to an end... Barring revolutionary changes to our socioeconomic system, this crisis will only continue and intensify. As this occurs, accumulating problems in the natural world will threaten the long-term viability of global civilisation.<sup>161</sup>*

Herman Daly exposes very clearly the sheer hubris of marketocratic economics: *The neoclassical view is that man, the*

*The only way to bequeath a dignified future to the coming generations is to replace capitalism with a radically different paradigm designed to put the sustainability of our planet at the centre in pursuit of the welfare of people, all living species and the earth resources and not for the welfare of the market.*

*creator, will surpass all limits and remake Creation to suit his subjective individualistic preferences, which are considered the root of all value. In the end economics is religion.<sup>162</sup> It follows that the only way to bequeath a dignified future to the coming generations is to replace capitalism with a radically different paradigm designed to put the sustainability of our planet at the centre—which we define as Geocratia or government by the Earth—in pursuit of the welfare of people, all living species and*

*the earth resources and not for the welfare of the market.<sup>163</sup> Hence, we must drastically reduce our ecological footprint by radically changing our lifestyles and consumption practices. We must reduce the consumption drastically of all materials by following a trajectory of degrowth until we reach a sustainable stationary state, where we would manage a non-capitalist steady-state economy.<sup>164</sup> That is, to cut down the size of our economy, we need to embark on a strategy of degrowth in our consumption for decades until we finally achieve the sustainability of all species and our environment and then move into a steady-state economy of no growth. Geocratia needs an economy that drastically cuts its size, where GDP and supply and demand cease to have any meaning and are replaced by new indicators of global, regional, national, communitarian and local ecological footprints, along with human development as the true indicators of progress.<sup>165</sup> Many technologies of the 4IR may assist us in materialising this goal, but only if they are directed to accomplish a Geocratic paradigm instead of for the reproduction and accumulation of capital. It follows that we must radically change our trajectory of doom that will take us to our demise.*

<sup>161</sup> ↪ Erald Kolasi: [The Physics of Capitalism](#) — The Jus Semper Global Alliance, April 2021, pp. 4-6.

<sup>162</sup> ↪ Herman E. Daly: [A Steady-State Economy: Sustainable Development Commission](#), UK (24 April, 2008), p. 3.

<sup>163</sup> ↪ Álvaro J. de Regil: Transitioning to [“Geocratia” — the People and Planet and Not the Market Paradigm](#) — First Steps, The Jus Semper Global Alliance, May 2020, p. 23.

<sup>164</sup> ↪ A Steady-State Economy (SSE) as described by Daly is: *an economy with constant population and constant stock of capital, maintained by a low rate of throughput that is within the regenerative and assimilative capacities of the ecosystem.* Herman E. Daly: [A Steady-State Economy: Sustainable Development Commission](#), UK (24 April, 2008)

<sup>165</sup> ↪ Álvaro J. de Regil: Transitioning to [“Geocratia” — the People and Planet and Not the Market Paradigm](#) — First Steps, The Jus Semper Global Alliance, May 2020, p. 23.

## The Great Reset — the great chasm with our home: Planet Earth

**T**outed as the solution to humanity's existential problems, the so-called Great Reset is positioned by the World Economic Forum (WEF) as the way societies should deal with our existential problems of sustainability, particularly in dealing with the COVID-19 pandemic and the political, economic and social disruptions it has caused. However, the pretence is to completely reset the structures of society towards a new capitalist paradigm anchored in the Fourth Industrial Revolution. The pundits for this "Great Reset" advance the timing of the pandemic as *carpe diem* for humanity "to set ourselves right": As we enter a *unique window of opportunity to shape the recovery, this initiative will offer insights to help inform all those determining the future state of global relations, the direction of national economies,*

*On whose authority do they pretend to "build a new social contract". Have they asked the people even before the pandemic if the current structure of marketocratic absolutism is what people want and feel happy about it? Have they asked the Demos if we now want a deepening of these structures by implementing 4IR technologies that will deprive us of our self, our identity and our dignity?*

*the priorities of societies, the nature of business models and the management of a global commons. Drawing from the vision and vast expertise of the leaders engaged across the Forum's communities, the Great Reset initiative has a set of dimensions to build a new social contract that honours the dignity of every human being.*<sup>166</sup> In the words of Klaus Schwab, Chairman of the WEF, *the pandemic represents a unique but narrow window of opportunity to reflect, imagine and reset our world.*<sup>167</sup> The narrative advanced by Klaus Schwab is that because of the 4IR, 50% of people will need re-skilling. He follows with: *we will*

*have an angrier world... but the 4IR will impact our lives completely, it will change actually us, our own identity, which of course it will give life to policies and developments like smart traffic, smart government, smart cities.*

The argument is of course put forward as an idea for good, for the good of the people, for the global commons. But this immediately begs the questions of on whose authority do they pretend to advance an initiative that "will change our lives completely, it will change us and our own identity"? On whose authority do they pretend to "build a new social contract"? Have they asked the people even before the pandemic if the current structure of marketocratic absolutism is what people want and feel happy about? Have they asked the Demos if we now want a deepening of these structures

*This is a preposterous and cynic initiative to accelerate the implementation of the 4IR strictly from the perspective of the less than 1% global elite to maximise their wealth and power. And, above all, who is going to take responsibility for the billions of people who will not be able to "re-skill" not just because they lack the resources to do so, but also because the robotisation and the AI of the 4IR will render them permanently and deliberately obsolete?*

by implementing 4IR technologies that will deprive us of our self, our identity and our dignity? This is a preposterous and cynic initiative to accelerate the implementation of the 4IR strictly from the perspective of the less than 1% global elite to maximise their wealth and power. And, above all, who is going to take responsibility for the billions of people who will not be able to "re-skill" not just because they lack the resources to do so, but also because the robotisation and the AI of the 4IR will render them permanently and deliberately obsolete? This is truly an extremely cynical position to take, that only confirms that all they care about is to secure the ideal conditions for the maximisation

of wealth for their minuscule elite of overlords. This of course has been widely denounced as the latest attempt of this

<sup>166</sup> ↪ World Economic Forum: [The Great Reset](#), as of 17 May 2021.

<sup>167</sup> ↪ World Economic Forum: [Now is the time for a 'great reset'](#), as of 17 May 2021.

elite to preserve their system in the light of its complete and blatant unsustainability. Indeed, let us examine the core elements of the “Great Reset”.

The “Great Reset Agenda” is presented as having three major components:

- 1) *The first would **steer the market toward fairer outcomes**. To this end, governments should improve coordination (for example, in tax, regulatory, and fiscal policy), upgrade trade arrangements, and create the conditions for a “stakeholder economy.” At a time of diminishing tax bases and soaring public debt, governments have a powerful incentive to pursue such action.*
- 2) *The second component of a Great Reset agenda would ensure that **investments advance shared goals, such as equality and sustainability**. Here, the large-scale spending programs that many governments are implementing represent a major opportunity for progress.*
- 3) *The third and final priority of a Great Reset agenda is [of course] **to harness the innovations of the Fourth Industrial Revolution to support the public good**, especially by addressing health and social challenges. During the COVID-19 crisis, companies, universities, and others have joined forces to develop diagnostics, therapeutics, and possible vaccines; establish testing centres; create mechanisms for tracing infections; and deliver telemedicine. Imagine what could be possible if similar concerted efforts were made in every sector.*

The Great Reset was the title of the 50th World Economic Forum in June 2020, amid the current pandemic. As many people already know, the WEF is the private organisation that acts as the forum for the less than 1% global elite. The wealthiest people in the world, all the moguls and tycoons such as Bill Gates, Elon Musk and Jeff Bezos, and the politicians that act in tandem as their agents to preserve the structures of global exploitation, expropriation and appropriation of the commons that they pretend to protect, meet every year to pretend to save the world from their machinations. Any pretence of living in a democratic ethos displayed in their meetings is a mockery, for states have been captured by the market owners, as previously noted. Hence, they meet every year to discuss the state of their agenda and how governments must steer public policy to fulfil their views and the demands of the global elite. In this way, they establish partnerships with governments. One example is the UK’s Financial Conduct Authority’s regulatory sandbox with the WEF *to shape the global governance of technological innovation*. Another case is the UK’s government partnership with the WEF Centre for the Fourth Industrial Revolution in San Francisco *to develop regulatory approaches for new technologies. This includes AI and machine learning, autonomous and urban mobility drones and tomorrow’s airspace and precision medicine*.<sup>168</sup> As expected, leaders of the current marketocratic ethos have endorsed the WEF’s Great Reset, including Joe Biden, Boris Johnson and Justin Trudeau,<sup>169</sup> along with Kristalina Georgieva, Managing Director of the IMF,<sup>170</sup> and António Guterres, Secretary-General of the UN, among others.<sup>171</sup>

As part of its campaign to advance the Great Reset, the WEF released a video intended first to instil fear about the current state of humankind and our planet and, with the touch of a key, entice the solution touted by the WEF to reset our world, because “every aspect of human life, from economics, education, culture and sustainability must change if we want a future”. Its message is clear: “our world has changed – our challenges are greater – our fragilities exposed –

<sup>168</sup> ↪ HM Government: [Regulation for the Fourth Industrial Revolution White Paper](#), June 2019 CP 111, pp. 9 and 29.

<sup>169</sup> ↪ Aaron Wherry: [The ‘Great Reset’ reads like a globalist plot with some plot holes](#) — CBC, 27 November 2020.

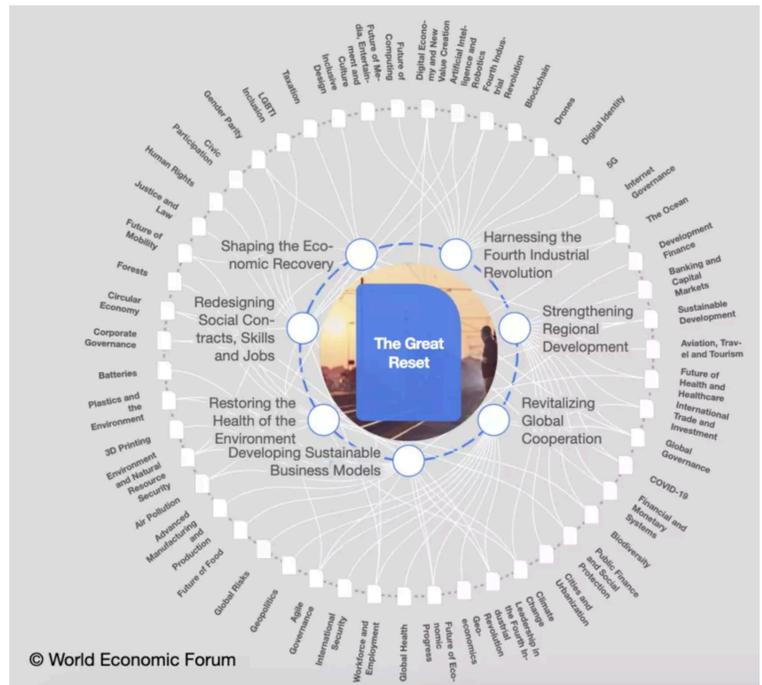
<sup>170</sup> ↪ IMF: [The Great Reset – Remarks to World Economic Forum](#) – Kristalina Georgieva, Managing Director, IMF, 3 June 2020.

<sup>171</sup> ↪ United Nations: [UN Secretary-General António Guterres calls for a global reset in 2021](#), 28 January 2021.

our systems need a reset – everyone has role to play – join us”.<sup>172</sup> These claims are valid. However, the solution, of course, as shown in the video, is the embracement of the 4IR—from their unilateral perspective—to solve our problems, including the pandemic, with the video showing images where people are being applauded after recovering from a COVID -19 infection and coming out of the hospital.

The WEF has a microsite dedicated to the Great Reset with a “Transformation Map” where it maps out its vision—in a graphic, ample and diverse spectrum of topics (illustration 1)—to redefine the way societies must organise and operate. This is, of course, advanced according to the global elite’s interests and ulterior motives to preserve the capitalistic mode of production structures to maximise their reproduction of wealth through the accelerated imposition of the 4IR. The key issues the elite members consider in their vision are: 1) Shaping the economic recovery; 2) Harnessing the Fourth Industrial Revolution; 3) Redesigning social contracts, skills and jobs; 4) Strengthening regional development; 5) Restoring the health of the environment; 6) Developing sustainable business models and 7) Revitalising global cooperation.

Illustration 1: The Great Reset, Transformation Map – World Economic Forum 2020.



To be sure, fundamental issues such as what is to be a social contract and what must be truly sustainable forms of social organisations are defined unilaterally according to “experts” that agree with their vision. Thus, this is not opened to discussion with societies at large, namely with the Demos. Indeed, in a genuinely democratic ethos that does not exist, the Demos is supposed to be the sovereign defining how we should live in harmony with the planet, of which we are just another species.

*Fundamental issues such as what is to be a social contract and what must be truly sustainable forms of social organisations are defined unilaterally according to “experts” that agree with their vision. It is not opened to discussion with the Demos.*

As could be expected, profit is a sacred element of the Great Reset. For instance, the Prince of Wales, on behalf of the British “Royal Family”, states in a video promoting with the hashtag #TheGreatReset that “we are on the verge of catalytic breakthroughs that will alter our view of what is possible and profitable within the framework of a sustainable future. We need nothing short

*The only way to achieve true sustainability is by radically changing our economic mode of production, by stopping growth, drastically decreasing our ecological footprint, including preeminently the end of fossil energy and building a radically new paradigm with a stationary-state economy designed for the welfare of people and planet and NOT the market.*

<sup>172</sup> ↪ World Economic Forum: [The Great Reset](#), 3 June 2020

of a paradigm shift...".<sup>173</sup> Profit entails capitalism, which requires unrelenting growth to materialise its purpose, which

*The critical factor in this strategy to advance the 4IR is the impact of COVID-19 to accelerate the speed of implementation by fostering fear. "If we do not control the pandemic we may die"; "if we do not get vaccinated we may die"... "if we do not reset our world and build a new paradigm, we will not be able to sustain life in our planet and succumb to the perils that are already unfolding".*

moves precisely in the opposite direction of true sustainability. As explained earlier, the only way to achieve true sustainability is by radically changing our economic mode of production, by stopping growth, drastically decreasing our ecological footprint, including preeminently the end of fossil energy and building a radically new paradigm with a stationary-state economy designed for the welfare of people and planet and NOT the market. The Great Reset could not be any more at the opposite end of the

spectrum, with its tacit assumption—which is impossible to think that even they believe—that some form of well-meaning and sustainable capitalism, with the aid of the technologies of the 4IR, is genuinely sustainable and possible.

The critical factor in this strategy to advance the 4IR is the impact of COVID-19 to accelerate the speed of implementation. The key element to accomplish this is fostering fear, which is a natural reaction in a pandemic. "If we do not control the pandemic we may die"; "if we do not get vaccinated we may die". By the same token, "if we do not reset our world and build a new paradigm as set forth by the Great Reset, we will not be able to sustain life on our planet and succumb to the perils that are already unfolding". These are the implicit messages conveyed by their campaign. Some may call it a classic of Naomi Klein's shock doctrine.<sup>174</sup> Nonetheless, the pandemic and its consequences have fostered fear and a shock, enabling power centres such as the Davos elite to repackage its agenda to advance it as a plan for good, a benevolent sort of capitalism.

#### ➔ The Great Reset, the 4IR and COVID-19

The pandemic indeed offers the ideal conditions for the advancement of the 4IR. Its economic and social impact is occurring far beyond the spread of its virulence. It has impacted every sector of the world's economies, with its worst consequences in the poorest and less prepared countries to confront it, as usual. The Department of Economic and Social Affairs of the UN explains that *people without access to running water, refugees, migrants, or displaced persons also stand to suffer disproportionately both from the pandemic and its aftermath – whether due to limited movement, fewer employment opportunities, increased xenophobia etc.*<sup>175</sup> But the pandemic has also had a tremendous impact among the dispossessed in the most advanced economies. These are the people belonging to the sectors dispossessed of most of their rights by the current structures of Marketocracy—in capitalist terms. These are those who were homeless or unemployed before the pandemic and the members of the so-called gig economy—better known as the precariat—who have no labour rights and are used by the corporations, such as Uber on-demand. They are regularly utilised as labour commodities, with no contracts, literally as modern slave workers. These workers will be permanently rendered obsolete as the 4IR technologies replace them, such as with the automated vehicles to be used by Uber and their competitors. Between April and June 2020, the International Labour Organization estimated that an equivalent of 400 million full-

<sup>173</sup> ➔ The Royal Family: [COVID-19: Today, The Prince of Wales' Sustainable Markets Initiative, in partnership with the World Economic Forum launched a major global initiative. #TheGreatReset](#), 3 June 2020.

<sup>174</sup> ➔ Naomi Klein: *The Shock Doctrine: The Rise of Disaster Capitalism* — Penguin Press, London 2008.

<sup>175</sup> ➔ UN Department of Economic and Social Affairs: [Everyone Included: Social Impact of COVID-19](#), retrieved on 17 May 2021.

time jobs were lost across the world.<sup>176</sup> Moreover, workers globally experienced a loss of 10 per cent of their income in just the first nine months of 2020, equivalent to a loss of over US\$3.5 trillion.<sup>177</sup>

The pandemic has reached everyone. The fact is that it has profoundly impacted every aspect of the lives of people of every social stratum in every country. Moreover, the policies that have been implemented, such as lockdowns, safety measures, social distancing, the suspension of most activities for many months if not for more than a year, have had a profound psychological impact on our mental health. In one study, the most profoundly impacted groups are children, college students, and health workers. These segments of the population are more likely to develop post-traumatic stress disorder, anxiety, depression, and other symptoms of distress. Social distancing and security measures, in particular, have negatively affected the relationship among people and how they empathise toward others.<sup>178</sup>

The Great Reset and the 4IR are not advanced just from Davos. The Rockefeller Foundation, in its way, is also advancing what it labelled: "Rebuilding Towards the Great Reset: Crisis, Covid-19, and the Sustainable Development Goals". Not as explicit and as developed as the WEF initiative, the Rockefeller Foundation also sees COVID-19 as the tipping point for a reset: *The world needs to make the most of the moment at hand. To chart a path through the complex uncertainty, we suggest three distinct forms of action – Response, Recovery, and Reset.* Where, by "Reset", it means: *the objective is to establish, wherever possible, a new equilibrium among political, economic, social, and environmental systems toward common goals. Ultimately, the only limit within this category is our collective imagination. As we emerge from a moment of great crisis, we can imagine a "great reset."*<sup>179</sup> In another paper, this foundation also sees the 4IR, and AI in particular, as the catalyst to reset the future of societies. It acknowledges important considerations about potential negative impacts, including an evolving digital divide, ethical concerns, and the future of work. However, in its opinion, making AI ethical by harnessing it for social good and working to mitigate the potential harms should do the work. Thus, it has funded the Algorithmic Justice League to launch the Algorithmic Vulnerability Bounties to prevent, report and redress harms produced by AI development.<sup>180</sup> Other than that, it fully supports the implementation of AI in every aspect of our lives.

The mass media is also contributing to normalising the need for rapid change to a new normal to be defined by those in power through the Great Reset. The consulting agencies of Marketocracy have also all jumped on the bandwagon of the Great Reset. McKinsey, for instance, perceives the pandemic as an "inflection point" to accelerate the adoption of digitalisation. It believes that it has reinforced the value of the 4IR. It is a win for companies that had already scaled digital technologies, a reality check for those still scaling, and a wake-up call for those who had not started on their industry.<sup>181</sup> *Amid one of the greatest bull markets ever for technology, semiconductor fabs must find ways to keep up. And all advanced-industry companies should organise for speed to sustain their current pace.*<sup>182</sup> Hence they felt that *Recent world events, most notably the COVID-19 pandemic, have led to significant disruptions on a scale unprecedented in recent times, affecting nearly every aspect of global industry and calling for a "great reset" across all*

<sup>176</sup> ↪ Vicky McKeever: [The coronavirus is expected to have cost 400 million jobs in the second quarter, UN labor agency estimates](#) — CNBC, 30 June 2020.

<sup>177</sup> ↪ Delphine Strauss: ["Pandemic knocks a tenth off incomes of workers around the world"](#). Financial Times. 23 September 2020. 23 September 2020.

<sup>178</sup> ↪ Valeria Saladino, Davide Algeri and Vincenzo Auriemma: [The Psychological and Social Impact of Covid-19: New Perspectives of Well-Being](#) — Frontiers in Psychology, Perspectives, 2 October 2020.

<sup>179</sup> ↪ Zia Kahn and John McArthur: [Rebuilding Towards the Great Reset: Crisis, Covid-19, and the Sustainable Development Goals](#) — The Rockefeller Foundation, 19 June 2020.

<sup>180</sup> ↪ Deepali Khanna and Jonathan Wong: [Harnessing AI To Reset The Future: How To Channel AI For Social Good?](#) — The Rockefeller Foundation, 4 November 2020.

<sup>181</sup> ↪ Mayank Agrawal, Sumit Dutta, Richard Kelly, and Ingrid Millán: [Industry 4.0 technologies played a decisive role in the pandemic response at many companies, but the crisis is putting the future of digital operations under new pressure](#) — McKinsey, 15 January 2021.

<sup>182</sup> ↪ McKinsey & Company: [COVID-19 and the great reset: Briefing note #20](#), 27 August 2020

sectors of the global economy: a decisive set of actions oriented toward delivering value not only to companies themselves but also to society as a whole.<sup>183</sup> PWC put together a compendium of cases—in the WEF meeting—to illustrate the enabling opportunities to transform essential services and boost economic recovery in the Great Reset.<sup>184</sup>

Summing it up, although the Great Reset has been widely denounced as the plan of the world's elite to preserve their

*Although the Great Reset has been widely denounced as the plan of the world's elite to preserve their structures of exploitation and depredation that have taken us to the Anthropocene, the entire capitalist apparatus: corporate think tanks, consulting firms, corporations and the governments of the metropolises of the system and their multilateral organisations have all jumped into the bandwagon of the Great Reset to save capitalism by repackaging it to deceive the Demos and impose their will.*

structures of exploitation and depredation that have taken us to the Anthropocene, the entire capitalist apparatus—corporate think tanks such as the WEF and the Rockefeller Foundation, consulting firms, corporations and of course the governments of the metropolises of the system and their multilateral organisations—have all jumped on the bandwagon of the Great Reset to save capitalism by repackaging it to deceive the Demos and impose their will one way or another, even with a demeanour that brings fascism to mind. Naomi Klein literally laughs out at the pretence of the pundits of the Great Reset to position it as an idea for the good of humanity: *The Great Reset is an attempt to create a plausible impression that the huge winners in this system are on the verge of voluntarily setting greed aside to get serious about*

*solving the raging crises that are radically destabilising our world.*<sup>185</sup> Nevertheless, she knows very well that the depredation and exploitation continue unabated: Meanwhile, the less fantastical but extremely real shock doctrine manoeuvres currently waging war on public schools, hospitals, small farmers, environmental protections, civil liberties, and workers' rights receive a fraction of the attention they deserve.<sup>186</sup>

#### ➔ Connecting COVID-19 with the Great Reset

The fundamental connection of COVID-19 and the Great Reset are the technologies of the 4IR, which would enable the complete digitalisation of our lives. This event would entail the loss of many of our human rights and the loss of our identity and privacy through these technologies by enabling their corporate and government drivers aforementioned above to monitor every aspect of our lives. In his book, *The Fourth Industrial Revolution*, Schwab explains that his Great Reset is characterised by a range of new technologies that are fusing the physical, digital and biological worlds, impacting all disciplines, economies and industries, and even challenging ideas about what it means to be human.<sup>187</sup> In the WEF's portal, Schwab asserts that

*The Fourth Industrial Revolution, finally, will change not only what we do but also who we are. It will affect our identity and all the issues associated with it: our sense of privacy, our notions of ownership, our consumption patterns, the time we devote to work and leisure, and how we develop our careers, cultivate our skills, meet people, and nurture relationships. It is already changing our health and leading to a "quantified" self, and sooner*

<sup>183</sup> ↪ Francisco Betti, Enno de Boer, and Yves Giraud: [The Fourth Industrial Revolution and manufacturing's great reset](#) — McKinsey, 14 September 2020.

<sup>184</sup> ↪ World Economic Forum in collaboration with PwC: [5G Outlook Series: Transforming Essential Services for Economic Recovery in the Great Reset](#), September 2020.

<sup>185</sup> ↪ Naomi Klein: [The Great Reset Conspiracy Smoothie](#) — The Conversation, 8 December 2020.

<sup>186</sup> ↪ Ibidem.

<sup>187</sup> ↪ World Economic Forum: [The Fourth Industrial Revolution](#), by Klaus Schwab,

*than we think it may lead to human augmentation. The list is endless because it is bound only by our imagination.*<sup>188</sup>

The idea of the digital fusion of our physical and biological identities anchored on the technologies of the 4IR—and implemented by the Great Reset using the COVID-19 pandemic to accelerate the process—also includes ideas of transhumanism or human enhancement (illustration 2).

According to the WEF, *transhumanism refers to an optimistic belief in the enhancement of the human condition through technology in all its forms. Its advocates believe in fundamentally enhancing the human condition through applied reason and a corporeal embrace of new technologies. It is rooted in the belief that humans can and will be enhanced by the genetic engineering and information technology of today, as well as anticipated advances, such as bioengineering, artificial intelligence, and molecular nanotechnology. The result is an iteration of Homo sapiens enhanced or augmented, but still fundamentally human.*<sup>189</sup> This could potentially materialise into the symbiosis of the human brain with AI described by Elon Musk, as previously noted.

Illustration 2: Human Enhancement from the World Economic Forum



The WEF believes that the technologies are arguably at hand—which they are and continue to evolve. The WEF seems not to take a clear position on this. It states that *One option is to take advantage of the advances in nanotechnologies, genetic engineering and other medical sciences to enhance the biological and mental functioning of human beings (never to go back). The other is to legislate to prevent these artificial changes from becoming an entrenched part of humanity, with all the implied coercive bio-medicine that would entail for the species.*<sup>190</sup> The WEF regards technologies as neutral, which is quite debatable. Thus they assert that “we must ensure that the digital revolution is a force for good”. That is a legitimate intention. But technology is not neutral. We just need to look at the technologies that have been developed explicitly to wage wars. People developing any kind of technology have a teleological reason, a specific purpose to fulfil. It follows that, from the moment of conception, developers already have a specific use for any technology. At such a point, they know many of the potential applications that a technology can be used for. They may fail to foresee other potential applications of technologies that harm people or the planet. But technologies are not neutral; they are conceived with a specific purpose from inception, including an evil purpose in many instances.

*We are at a crossroads between the capitalists’, the pandemic and the metabolic rift with the planet. All of this has exposed capitalism as utterly unsustainable and a force of harm, predation and destruction of life for all species and the earth’s resources. This has forced the marketocratic agents to invest all their efforts to use the pandemic as the accelerator of the 4IR towards a so-called new capitalist paradigm.*

We are at a crossroads between the capitalists’, the pandemic and the metabolic rift with the planet. Capitalists advocated by the WEF in Davos seek to save their marketocratic ethos that has produced a wealth of benefits for the less than 1% of the population at the expense of the great majority, with billions enduring enormous injustice. The ongoing

<sup>188</sup> ↪ Klaus Schwab: [The Fourth Industrial Revolution: what it means, how to respond](#) — World Economic Forum, 14 January 2016.

<sup>189</sup> ↪ David Trippett: [What is transhumanism and how does it affect you?](#) — World Economic Forum, 10 April 2018.

<sup>190</sup> ↪ Marc Benioff: [We must ensure the Fourth Industrial Revolution is a force for good](#) — World Economic Forum, 24 March 2017.

pandemic—assuming that the virus SARS-CoV-2 escaped its ecosystem and it did not come from a laboratory—is also the direct product of the unrelenting expansion of capitalism to every ecosystem of the world and has caused enormous hardship for humanity worldwide. The metabolic rift with the planet, also the direct product of capitalism, has taken us to the rim of the planetary threshold where we may not be able to save ourselves by preserving the planet as our home. All of this has exposed capitalism as utterly unsustainable and a force of harm, depredation and destruction of life for all species and the earth's resources. This has forced the marketocratic agents at Davos to invest all their efforts to use the COVID-19 pandemic as the accelerator of the 4IR towards a so-called new capitalist paradigm. This time, to be sure, they pretend that it will implicitly be a force for good, with the customary narrative of becoming socially and environmentally responsible and all that jargon that mocks true social, economic and environmental responsibility.

•Using the COVID-19 pandemic as a catalyst to accelerate the process of resetting the system. During the COVID-19 pandemic, we have been forced to surrender our rights to cope with it. Seizing this opportunity, as in “Carpe Diem”, the Great Reset pundits push to make the new context permanent. The elite efforts to advance the Great Reset are specifically banking on this context to impose a new social contract. This will permanently reduce our inherent fundamental civil liberties, our most basic human rights, such as our freedom to move, congregate, travel, and live our lives as usual in the cage imposed by capitalism. Instead, their plan intends to force us to surrender to a set of new quasi-fascist undemocratic social contracts. These contracts would impose norms that may include prominently the permanent monitoring of our movements and vital signs—such as body temperature, heart and breathing rates—even if the pandemic becomes endemic, seasonal and under complete control. These norms, to be sure, will not be all whatsoever. The result will be the imposition of a new ethos of permanent surveillance.

Before the pandemic, mobile phones and other digital devices, such as digital watches, enabled the monitoring of people's activity, including their movements, their vital signs, the type of activity they are performing, and their activity when they are on the internet. A myriad of apps has been developed and deployed everywhere to track people. Motor vehicles can now allow the permanent tracking of the drivers' movements on the roads and if they are using their phones or surfing the web. Apps track the number of hours we sleep, the calories we burn, the steps we take, if we are on a bike, running, swimming, hiking, or other activities.

*Who will guarantee the Demos that governments will not use these technologies to surveil every move we make?... With the advent of the 4IR—and the Great Reset—mass surveillance by public actors is bound to become endemic, ubiquitous and "normalised". Hence, the ongoing pandemic provides the perfect scenario for the proponents of the Great Reset to "seize the day".*

Tracking people's daily activity has become ubiquitous as mobile phones have become ubiquitous. Tracking is generally pushed as a benefit so that people can know more about what they do, how many hours they sleep, how much time they watch TV or spend using their phone or if they have lost or gained weight, to name a few

instances. People tend to surrender their privacy for a so-called benefit that is nothing more than an induced need.

With the pandemic, the ubiquitousness of mobile phones has enabled many countries, especially in Asia, to monitor 24 hours a day the movements of people and to track those who have been infected, such as in China. In fact, the World Health Organization advised governments to strengthen public health surveillance for case identification and contact tracing, including in low-resource, vulnerable, or high-risk settings and to maintain essential health services with sufficient funding, supplies, and human resources.<sup>191</sup> During the ongoing pandemic, China uses facial recognition software, a mandatory tracking app, and the government's security cameras on the streets as one of its tools. Russia uses

<sup>191</sup> ↪ WHO: [COVID-19 Emergency Committee highlights need for response efforts over long term](#), 1 August 2020.

facial recognition as well. South Korea and Singapore use a smartphone tracking app developed for COVID-19. Israel's government—not surprisingly—uses a previously secret counterterrorism programme that tracks a person's location via his or her phone.<sup>192</sup>

However, this monitoring can undoubtedly enable the surveillance of people for purposes that have nothing to do with public health or some of the applications mentioned above and instead be used to "big brother" people for political or "state security" reasons. Who will guarantee the Demos—in so-called democratic societies—that governments will not use these technologies to surveil every move we make? Some recommend that surveillance be regulated, which would relatively help. For instance, the Electronic Frontier Foundation recommends that any data collection and digital monitoring of potential carriers of COVID-19—or of any other epidemic or pandemic—should consider and commit to a set of principles: 1) Privacy intrusions must be necessary and proportionate; 2) Data collection based on science, not bias; 3) Expiration; 4) Transparency and 5) Due process.<sup>193</sup> Yet, these are just principles and not legal regulations. But even if a country passes binding regulation to manage this kind of surveillance, nobody can guarantee that when so-called "reasons of national interest" are invoked by a government, such regulations will not be breached and our civil rights violated. There is a mountain of evidence that governments monitor their citizenry on a systematic basis in many ways. With the advent of the 4IR—and the Great Reset—mass surveillance by public actors is bound to become endemic, ubiquitous and "normalised". Hence, the ongoing pandemic provides the perfect scenario for the proponents of the Great Reset to "seize the day" and accelerate the ethos of the 4IR—with a massive dragnet of mass surveillance prominently deployed—for the benefit of "the less than 1% per cent global elite".

#### ➔ The Profit Motive — Accelerating the maximisation of wealth

Fear of the pandemic has been the factor that has forced us to give up a portion of our civil rights. But stupidity as well, when we started years ago by conceding to give up our privacy to the digital profiteers who lent us their apps at no cost in exchange for our data, which has become the new commodity of the 21st century. Indeed, beyond the dangers posed by governments' surveillance, another equally-important danger and reality is the commoditisation of our private data as the new gold rush for the corporations of the 4IR's digital era. Huge new digital corporations have emerged, such as all the social media outfits—Facebook, Twitter, Instagram...— and others such as Amazon, Alphabet, Microsoft and many other digital companies that sell our data to advertisers and governments in exchange for hundreds of billions of dollars.

• **Jeff Bezos.** Some of these conglomerates are the most predatory, such as Amazon, by developing an empire with a ubiquitous presence in many spheres where we interact as consumers, including the brick and mortar sphere, with Whole Foods and Amazon's Fresh. Among all its business activity, it is quite likely that Amazon's worst interaction with consumers is through its business acting as a private vigilante that sells its services to governments for mass surveillance. For example, Amazon sells its "Ring" video doorbell to the general public, and then it sells surveillance services to local police and other levels of public safety and security entities. Ring is a classic example of the 4IR. It is a smart security device, best known for its video doorbell. The device allows users to see, talk to, and record people who come to their doorsteps. Amazon purchased Ring in 2018. Its wifi-enabled products integrate with its social media app called Neighbours.

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<sup>192</sup> ↪ Mike Giglio: [Would You Sacrifice Your Privacy to Get Out of Quarantine?](#) — The Atlantic, 22 April 2020

<sup>193</sup> ↪ Matthew Guariglia and Adam Schwartz: [Protecting Civil Liberties During a Public Health Crisis](#) — EFF, 10 March 2020.

Then users can post videos of suspicious activity and crimes outside their front doors and view posts from other people within a 5-mile radius.<sup>194</sup> In this way, Amazon has turned into a provider of surveillance services to police departments and to potentially any public security government entity that requests its services, such as the FBI. In addition, the automatic enrollment of buyers in its “Neighbours” app allows people to release all their prejudices, including, prominently, racism. This is why Amazon is accused of further encroaching on people’s privacy by profiting from the false perception that crime is on the rise by stoking fear. In fact, Neighbours is classified as a “fear-based social media app” whose focus on crime gives people the mistaken perception that crime is increasing.

Moreover, the app is open for use by people who do not buy the device. They can read and post comments on its social media.<sup>195</sup> This exacerbates racial profiling in a country where racism remains endemic in a major segment of the population. Ring is, of course, selling worldwide, and it estimated shipping about 200 million devices by the end of

*Ring is a classic example of how a 4IR technology is used to maximise profit by encroaching our civil rights, in this specific case by exacerbating a culture of fear and hatred and eliciting unregulated surveillance of people among public agencies.*

2020.<sup>196</sup> Recent data shows that an ethical controversy prompted Max Eliaser, an Amazon software engineer, to state that Ring is “simply not compatible with a free society”. This is corroborated by recent media commentary that sourced it from Ring’s quarterly report. During all of 2020 through the end of April 2021, law enforcement placed more than 22,000 individual requests to access content captured by Ring. Because civilians own Ring cameras, law enforcement does not need a warrant to acquire the content that would otherwise be protected under the fourth amendment. In

this way, law enforcement circumvents a constitutional and statutory protection.<sup>197</sup> And of course, this contributes to fulfilling the ulterior motive by maximising the profits of mogul Jeff Bezos and his shareholders, which is the only motive they care about. This is a classic example of how a 4IR technology is used to maximise profit by encroaching our civil rights, in this specific case by exacerbating a culture of fear and hatred and eliciting unregulated surveillance of people among public agencies.

But that is not all. Amazon also surveils its workers with an assortment of apps, algorithms and high-tech devices. In 2018, Amazon patented two ultrasonic wristbands to track how “associates” in their fulfilment centres work fulfilling orders.<sup>198</sup> In 2020 it also added high-definition surveillance cameras inside of its contractors’ delivery trucks. The devices capture both video and audio from inside the trucks’ cabins, allowing management to watch and listen to every move of their workers. UPS also began to do the same around the same time in some regions. The practice has become ubiquitous, and many delivery services already use it as a standard business practice. FedEx, for example, began to use it back in 2017.<sup>199</sup>

In December 2020, Amazon added more surveillance technology with its AWS Panorama. The idea is that Amazon and other companies can better assess the productivity of its workers. *Its new hardware and software development kits (SDK) are embedded with additional machine learning (ML) and computer vision capabilities for said purpose.* In the case of the wristband, it points the “associates” hand ‘in the right direction to fulfil an order. Of course, it tracks every move,

<sup>194</sup> ↪ Rani Molla: [How Amazon’s Ring is creating a surveillance network with video doorbells](#) — Vox, 28 January 2020.

<sup>195</sup> ↪ Ibidem.

<sup>196</sup> ↪ Rani Molla: [Amazon Ring sales nearly tripled in December despite hacks](#) — Vox, 21 January 2020.

<sup>197</sup> ↪ Lauren Bridges: [Amazon’s Ring is the largest civilian surveillance network the US has ever seen](#) — The Guardian, 18 May 2021.

<sup>198</sup> ↪ Ceylan Yeginsu: [If Workers Slack Off, the Wristband Will Know. \(And Amazon Has a Patent for It.\)](#) — New York Times, 1 February 2018.

<sup>199</sup> ↪ Matt Smith: [Amazon and UPS Are Spying on Drivers – Workers Should Fight Back](#) — Socialist Alternative, 15 September 2020.

including when workers take a break to go to the restroom, further encroaching on their right to privacy.<sup>200</sup> Amazon is also selling its AW Panorama to other companies, a technology that poses a number of workplace rights issues to any employer using it. Spandau, a guitar maker, is already listed in Amazon's client list for this technology. According to Kate Rose, a digital security expert and founder of the anti-surveillance clothing line Adversarial Fashion, who explained possible dangers in the use of such technologies: *We know from every other algorithmic audit of these kinds of systems that there are people for whom this kind of tracking and evaluation performs more poorly, and they are the populations already most likely to be surveilled at work and in their communities. Will the motions of employees of colour, of older*

*This is clearly the new Taylorism of the 4IR and the Great Reset, with a new cohort of 4IR technologies to apply ad maximum the "scientific management" of the 21st century by robotising people or simply making them obsolescent. This is the new 4IR version of the Modern-Slave-Work ethos.*

*employees, employees with disabilities be more likely to be misread or determined to be substandard or inefficient, and threaten their employment?*<sup>201</sup> Since this is the standard in many aspects of life, it is quite likely that this is indeed the case. It is not surprising to read in the news about the many strikes by Amazon's workers or the many accidents reported, including deaths. Between 2013 and 2018, Amazon had seven deaths in its warehouses.<sup>202</sup> This is why Amazon is repeatedly listed in the Dirty Dozen list of the National Council for

Occupational Safety and Health as one of the most dangerous workplaces.<sup>203</sup> This is clearly the new Taylorism of the 4IR and the Great Reset, with a new cohort of 4IR technologies to apply ad maximum the "scientific management" of the 21st century by robotising people or simply making them obsolescent. This is the new 4IR version of the Modern-Slave-Work ethos.

• **Bill Gates.** Other moguls profit directly from the pandemic. This is the case of Bill Gates through the Bill & Melinda Gates Foundation (BMGF), which is considered the largest private foundation in the world, with \$50 billion in its trust endowment.<sup>204</sup> Since Bill Gates stepped down as Chairman of Microsoft's Board in 2014, he has devoted most of his time to philanthropic projects, primarily in health and climate change. The BMGF has donated so many funds to the World Health Organisation that it nearly matched the funds provided by the U.S. Government. This made the foundation the top donor briefly when Trump "terminated" the U.S. relationship with the WHO.<sup>205</sup> Just in 2019, the foundation donated \$1,45 billion to all its recipients.<sup>206</sup> The BMGF is currently listed with grants to the WHO of \$573,5 million, accounting for 8,4% of the WHO's total budget and 87,5% of total philanthropic grants to the WHO. By comparison, the U.S. provides funds of \$381,9, which represents 6,8% of the WHO's budget and 15,4% of countries' funds. The UK is next followed by Japan.<sup>207</sup> Therefore, as of the latest data, it appears that the BMGF is the most important funder of the World Health Organisation. This provides the BMGF, and particularly Bill Gates, with undoubtedly powerful influence on the WHO's policies and priorities. In the past, this has resulted in criticisms that *Gates' priorities have become the WHO's. Rather than focusing on strengthening health care in poor countries — that would help, in their view, to contain future outbreaks like the Ebola epidemic — the agency spends a disproportionate amount of its resources on projects*

<sup>200</sup> ↪ Syndicate Staff: [How Amazon \(NASDAQ: AMZN\) Disciplines And Controls Its Workforce Using High-Tech Surveillance And Phone Apps](#) – The News Room Syndicate — Wall Street Window, 10 February 2021.

<sup>201</sup> ↪ Jack Morse: [Amazon announces new employee tracking tech, and customers are lining up](#) — Mashable, 1 December 2020.

<sup>202</sup> ↪ Donna Fuscaldò: [Amazon, Tesla Among the Most Dangerous for Workers](#) — Investopedia, 30 April 2018.

<sup>203</sup> ↪ National Council for Occupational Safety and Health: [Dirty Dozen Reports](#)

<sup>204</sup> ↪ Bill & Melinda Gates Foundation: [Foundation Fact Sheet](#), as of 19 May 2021.

<sup>205</sup> ↪ Deidre McPhillips: [Gates Foundation Donations to WHO Nearly Match Those From U.S. Government](#) — U.S. News and World Report, 29 May 2020.

<sup>206</sup> ↪ Bill & Melinda Gates Foundation: [2019 Annual Report](#), as of 19 May 2021.

<sup>207</sup> ↪ World Health Organisation: [How are we financed?](#) - as of 21 May 2021.

with the measurable outcomes Gates prefers, such as the effort to eradicate polio.<sup>208</sup> He is accused of effectively privatising the WHO and transforming it into a vehicle for corporate dominance, facilitating the dumping of toxic products onto the people of the Global South, and using the world's poor as guinea pigs for drug experiments. Dr Vandana Shiva, a founder of India's Research Foundation for Science, Ecology and Technology, states that she has watched many governments give up their sovereignty because of the BMGF. Yet, Gates is pampered by the corporate media and addressed as the top world's advisor on dealing with the pandemic.<sup>209</sup>

One of the major priorities of the BMGF has always been vaccinations. For many years, the BMGF has prioritised funding for the development of vaccines and vaccination programmes. In this way, the foundation provided funds for \$1,5 billion—period 2016-2020, only second to the UK to GAVI,<sup>210</sup> a public-private global health partnership to increase access to immunisation in poor countries. With the COVID-19 pandemic, vaccinations are the top priority for the Foundation. Indeed, Bill Gates asserted that creating and distributing a Covid-19 vaccine to everyone on Earth is “the ultimate solution” to the outbreak.<sup>211</sup> The BMGF followed by declaring that *a successful vaccine has to be made available for 7 billion people.*<sup>212</sup> Besides the Foundation being the second funder to GAVI, it also funds the Coalition for Epidemic Preparedness (CEPI), which with the WHO have put together COVAX (or Covid-19 Vaccines Global Access), a plan to bring vaccines to countries around the world. However, the scheme of the BMGF and its partners in this public-private partnership is that poor countries will only get not more than 20% of the vaccines they need from COVAX and the rest they would need to buy from Big Pharma.

Even worse is the case of the Oxford University vaccines. Oxford originally planned to offer its COVID-19 vaccine royalty-free to any manufacturer. However, under instigation from the Gates Foundation, Oxford signed a deal with AstraZeneca pharmaceutical. This made the pharmaceutical company's shares increase significantly. It also became evident that the BMGF was against making COVID-19 vaccines available royalty-free to support poor countries that cannot afford to get them at market prices.<sup>213</sup> It follows that the Foundation is committed to protecting intellectual property and treating vaccines as a private good instead of making vaccines a public good, as they should be as a matter of public health.<sup>214</sup> This is quite a cynical posture, given that these projects receive public subsidies from taxpayers. In May of last year, it was reported that world leaders pledged € 7,4 billion of public funds to research COVID-19 vaccines.<sup>215</sup> In this way, the COVAX scheme is controlled by Gates and other actors with a keen interest in the scheme of socialising research and development risks but protecting

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<sup>208</sup> ↪ Natalie Huet and Carmen Paun: [Meet the world's most powerful doctor: Bill Gates](#) — Politico, 4 May 2017.

<sup>209</sup> ↪ Jeremy Loffredo and Michele Greenstein: [Why the Bill Gates global health empire promises more empire and less public health](#) — GRAIN, 18 July 2020.

<sup>210</sup> ↪ GAVI - The Vaccine Alliance: [Current Period 2016-2020](#), as of 19 May 2021.

<sup>211</sup> ↪ The Daily Show with Trevor Noah: [Bill Gates on Fighting Coronavirus](#) | The Daily Social Distancing Show, 2 April 2020.

<sup>212</sup> ↪ Paul Handley: [Gates Foundation Says We'll Need to Work Together to Vaccinate 7 Billion People](#) — Science Alert, 18 April 2020.

<sup>213</sup> ↪ Nick Dowson: [The Gates Factor](#) — The Internationalist, 26 April 2021.

<sup>214</sup> ↪ Regina Mihindukulasuriya: ['Vaccine racist': Bill Gates says no to sharing vaccine tech with developing nations, draws ire](#) — The Print, 1 May 2021.

<sup>215</sup> ↪ Patrick Winton: [World leaders pledge €7.4bn to research Covid-19 vaccine](#) — The Guardian, 4 May 2020.

*This is a classic example of the neoliberal economic ethos: socialising costs and privatising profits.*

shareholder value by privatising profits.<sup>216</sup> This is a classic example of the neoliberal economic ethos: socialising costs and privatising profits.

This classic capitalist approach is ingrained in the third and fourth industrial revolutions and the Great Reset. It is evident that there is an inherent conflict of interest between the BMGF's proclaimed mission and the double standard that emerges when it acts to protect intellectual property rights in the effort to confront a global pandemic, which is a matter of global public health. Hence, it is not surprising to observe the composition of many of the Foundation's key executives by looking at their corporate background. It is a classic revolving door case in the current marketocratic ethos. Penny Heaton, the current head of BMGF's Medical Research Institute, worked at Merck and Novartis. Trevor Mundel, the Foundation's President of Global Health, was a top executive at Novartis and Pfizer; preceding him was Tachi Yamada, a former top executive at GlaxoSmithKline. Kate James, the Foundation's Chief Communications Officer, worked for GSK.<sup>217</sup> By the same token, Richard Wilder, CEPI's General Legal Counsel, used to be Associate General Counsel for Intellectual Property Policy at Microsoft. Wilder stated that pharmaceutical companies, biotech firms and academic labs will refuse to share COVID-19 technologies and scientific processes. There is "simply no time now" to do anything different than usual. But, again, the cynicism is blatant, for, as Larry Sanders, spokesperson on health issues for the Green Party of England and Wales, says, using the patent system for pharmaceuticals is "a complete rip off," noting that governments spend most of the money on the development of new medicines.<sup>218</sup>

Gates is no longer on Microsoft's board but still has billions in shares and much influence.<sup>219</sup> It follows that the scheme in this so-called public-private partnership for the public good is a way to get taxpayer subsidies to then make lots of

*It is clear that Gates is leveraging his clout as a major, when not the primary funder of GAVI, CEPI and WHO, to press for a vaccine development scheme that protects intellectual property's dividends that will draw billions in income to the BGMF.*

money through the backdoor. Indeed, Gates owns shares of Pfizer since 2002 and bought shares of BioNTec<sup>220</sup> in October 2019—which is the German pharmaceutical company that partners with Pfizer to produce their mRNA messenger vaccine. By the same token, the BMGF invested \$40 million in 2017 in privately-held British biotech company Immunocore to support its development of immunotherapies for infectious diseases. Immunocore works closely

with AstraZeneca.<sup>221</sup> Hence, it is clear that he is leveraging his clout as a major player, when not the primary funder of GAVI, CEPI and WHO, to press for a vaccine development scheme that protects intellectual property's dividends that will draw billions in income to the BGMF when not to him personally. In fact, according to Forbes, Bill Gates's private wealth, estimated at around \$115 billion, increased by more than \$10 billion during the pandemic.<sup>222</sup> In other words, the scheme monetises philanthropic work to fulfil an ulterior profit motive. Indeed, at the start of the last decade, Gates had a net worth of €44.7 billion, but by 2019, his fortune more than doubled due to soaring stock markets and favourable tax policies.<sup>223</sup>

<sup>216</sup> ↪ Nick Dowson: [The Gates Factor](#) — The Internationalist, 26 April 2021.

<sup>217</sup> ↪ Jeremy Loffredo and Michele Greenstein: [Why the Bill Gates global health empire promises more empire and less public health](#) — GRAIN, 18 July 2020.

<sup>218</sup> ↪ Alan Story: [A patented Covid-19 vaccine could price out millions](#) — Green World, 7 May 2020.

<sup>219</sup> ↪ Kathryn Underwood: [How Bill Gates Boosts His Billions](#)—Investment Portfolio Explained — Market Realist, 21 May 2021.

<sup>220</sup> ↪ Keith Speights: [4 Coronavirus Vaccine Stocks the Bill & Melinda Gates Foundation Is Betting On](#) — The Motley Fool, 24 September 2020.

<sup>221</sup> ↪ Market Screener: [AstraZeneca : Gates Foundation invests \\$40 million in UK immunotherapy company](#), 18 September 2017.

<sup>222</sup> ↪ Tim Schwab: [While the Poor Get Sick, Bill Gates Just Gets Richer](#) — The Nation, 5 October 2020.

<sup>223</sup> ↪ The Irish Times: [Bill Gates doubled wealth to \\$100bn in last decade, gave billions away](#), 3 January 2020.

Lastly, as long as Gates remains an important shareholder with Microsoft—with an estimated net worth of about \$26,1 billion, he will benefit from the company's developments in the cutting edge of the 4IR and the Great Reset. This is the case of Microsoft Research Cambridge, where scientists work on computation inside living cells, as described by Georg Seelig in a short video.<sup>224</sup>

Neil Dachau,<sup>225</sup> another scientist asks the interviewer to *imagine to have the most sophisticated diagnosis that can happen automatically inside cells*. Andrew Phillips, head of bio computation, says *imagine a biological computer operating inside a living cell. If the cell is cancerous, you can trigger the death of the cell*. Seelig continues explaining that *we are talking about little molecular systems that will try to sense, analyse and control molecular information*. Dachau and Phillips explain that *we are trying to use DNA as programmable material, because it is highly programmable just like a computer and we can programme a whole range of complex behaviours using DNA molecules. We are working on phenomena call DNA strand displacement to detect and treat diseases at a level of precision that has never been done so far*.<sup>226</sup> *Ultimately we can build biological computers that can operate at the molecular scale*.<sup>227</sup> Their research includes developing AI machine learning techniques to help augment and make clinicians productive to cope with the growing healthcare demand.<sup>228</sup>

To be sure, some of these projects may lead to increasing the quality and effectiveness of medical prophylaxis to cure many diseases. Yet the context remains the marketocratic perspective, ergo the profit motive. Namely, that healthcare is seen as a business opportunity where medical services will be provided as a commodity at a profit to those who can afford it instead of the ethical perspective of improving medicine to provide access to healthcare as a human right. Undoubtedly, suppose Gates reckons that vaccines must hold intellectual property rights. In that case, DNA and AI developments in medical and biological science, such as the research projects mentioned above, must deliver a profit, an exchange value instead of a use value. Nothing should be regarded as a public good. Profit must always prevail. This is an extremely perilous context. We live in a world where the only ethical tenet is money dictated by those in power on the lives of our species and all living things.

*If Gates reckons that vaccines must hold intellectual property rights. In that case, DNA and AI developments in medical and biological science, such as the research projects mentioned above, must deliver a profit, an exchange value instead of a use value. Nothing should be regarded as a public good. Profit must always prevail. This is an extremely perilous context.*

#### ➔ The Ethical Imperative

The entire architecture of the 4IR and the Great Reset edifice is anchored on preserving its autocratic power to benefit a tiny elite of plutocrats to eternally profit over people and the planet. Their attempt to change our identity as a species rests exclusively on a moral framework whose only value is, again, wealth and power. This is the only ethic at the core of the attempt of the Great Reset to change life as determined by nature. On this basis, it pursues the convergence of the technologies of the 4IR to materialise its new design for life on this planet. They have taken on the role of demigods, thereby stripping themselves of all humility in the face of natural science, which we will never fully understand, let alone change. And so they undertake the alleged fusion and convergence of technologies, under the exaltation of a

<sup>224</sup> ↪ BigTechtopia: [Microsoft in 2016: We can program a range of complex behaviors using DNA](#), and [YouTube video](#) 26 February 2021.

<sup>225</sup> ↪ Neil Dachau: [Microsoft Research Cambridge](#)

<sup>226</sup> ↪ Shalin Shah and Yuan-Jyue Chen: [Researchers use a strand-displacing DNA polymerase to do biocomputing](#), Microsoft Research Cambridge, 23 July 2020.

<sup>227</sup> ↪ Andrew Phillips: [Microsoft Research Cambridge](#)

<sup>228</sup> ↪ Microsoft Research: [Project InnerEye – Democratizing Medical Imaging AI](#)

Prometheanism that has led them to believe that although natural laws cannot be changed, it is possible to adapt them to their follies. Moreover, they seem convinced that the enormous progress in the digitalisation of life has provided them with a masterful power to determine and design the future at will.

Andrew Maynard offers a subtle narrative of what he calls the "mastery of the code base" and what it implies for the future of humanity. Base code is the backbone of the 4IR, which is the vehicle that the Great Reset is using to materialise the new architecture of the future on this planet. The mastery of the base code enables the fusion of digital, biological and physical technologies. Maynard argues that we are increasing our mastery of base code to think about the future. Thus, he ponders *what if we could go beyond digital technologies though, and do the same with the tangible world we inhabit? What if we could manipulate the "base code" of the physical and biological systems around just us as easily as we can upgrade our phone, or write a new app?*<sup>229</sup> The mastery of the base code promotes a convergence that realigns traditional disciplinary boundaries between different fields of science. One trend is the convergence of nanotechnology, biotechnology, information technology and cognitive technology. The manifest aim is to improve human lives in many ways, improving human performance, as described in their book by Rocco, Bainbridge and Sims.<sup>230</sup> It is at this juncture of technologies where disruptive things begin to occur, particularly when they are allowed to control the physical world. However, Maynard explains that

*there is an underlying trend that far exceeds many of the more obvious benefits: the creation of a completely new dimension that we are already operating in: cyberspace. By mastering it, we have the power to write and edit the code that ultimately defines everything that happens here... we might achieve it if we could write and edit the code that underlies the physical world we inhabit. And this is precisely what we are beginning to do with biological systems... the more we learn, the closer we're getting to being able to design and engineer biological systems with the same degree of finesse we can achieve in cyberspace... this is allowing [scientists] to discover how to make DNA behave in ways that have never previously occurred in nature. It's even opening the door to training AI-based systems how to code using DNA. But this is only half of the story. The other half comes with the increasing ability of scientists to not only read DNA sequences into cyberspace, but to write modified genetic code back into the real world.*<sup>231</sup>

Maynard acknowledges that we cannot create materials that defy the laws of nature. But he believes that this puts us at a pivotal point, "a real game-changer". Nevertheless, he warns us that despite this mastery, there is a greater likelihood than ever of making severe and irreversible mistakes. Consequently, he follows, there is an urgent need to understand and navigate the potential impacts of our newfound capabilities before it is too late. If we are already dealing with challenging planetary boundaries, rewriting the base code of the planet we inhabit, he warns us, is far more challenging.<sup>232</sup> Hence, he concludes that

*if we're to think critically and strategically about our growing abilities to transform the future, we need to come to grips with our capacity to rewrite the underlying code that profoundly impacts all aspects of that future, and how **we can do this responsibly and ethically**. If we don't, it's going to become increasingly hard to avoid the planetary*

<sup>229</sup> ↪ Andrew Maynard: [How our mastery of biological, physical and cyber "base code" is transforming how we think about the future](#) — Medium, 25 February 2021.

<sup>230</sup> ↪ Roco, Mihail C., Bainbridge, William Sims (Eds.): [Converging Technologies for Improving Human Performance](#) — Springer Reference, 2003.

<sup>231</sup> ↪ Andrew Maynard: [How our mastery of biological, physical and cyber "base code" is transforming how we think about the future](#) — Medium, 25 February 2021.

<sup>232</sup> ↪ Andrew Maynard: [How our mastery of biological, physical and cyber "base code" is transforming how we think about the future](#) — Medium, 25 February 2021.

*version of the Blue Screen of Death somewhere down the line — and that would not be good for our global futures!*<sup>233</sup>

The driving force of the Great Reset through the 4IR is to relentlessly pursue the preservation of the completely unsustainable—by the laws of nature—marketocratic paradigm. The ethical imperative plays no role in the Great Reset, except in the form of a meaningless discourse as they try to sell it as a plan for the good of humanity and seek to accelerate it by exploiting events such as COVID-19 through a pandemic-mongering effort to force us to surrender our civil liberties permanently.

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#### ➔ Consolidation of the marketocratic paradigm of the Great Reset

Jeff Bezos, Bill Gates and, even more so, the World Economic Forum are paradigmatic examples that illustrate how the 4IR and the Great Reset will be driven if the marketocratic paradigm prevails, which so far does not look like it is in real danger from the peoples of the world, only from the overwhelming power of our home: Planet Earth. Indeed, all the governments are in bed with this paradigm. As agents of the less than 1% elite, they will do anything in their power to secure the unrelenting power of 21st-century capitalism.

The underlying concern with its consolidation is the fact that the pundits of the marketocratic ethos are now tinkering with science and natural law at a level that they are threatening the possibilities of life on our planet, not just human, but all forms of life as they have existed and evolved through millions of years. In this case, we do not mean the threats the Anthropocene has so far posed to life in our home, the ecological rift with the planet to the point that it has become unsustainable and will have cataclysmic consequences on its inhabitants. Instead, we are referring to the convergence of the latest scientific developments that Maynard illustrates and that are deliberately pursuing to transform the future for all forms of life radically. We are talking about what Klaus Schwab means when he says that the Great Reset will change our identities and not only what we do but who we are. We are talking of issues that the WEF addresses in its campaign for the Great Reset, such as enhancing the human condition through technology in all its forms by the corporeal embrace of new technologies such as genetic engineering, cyberspace, bioengineering, artificial intelligence, and molecular nanotechnology.<sup>234</sup>

The fundamental factor in their narrative and actual developments that are fluidly evolving as we write is the ulterior motive underneath their proposal. Although their narrative is, of course, altruistic—they speak of "a new social contract that honours the dignity of every human being" and of the need to "establish, wherever possible, a new equilibrium among political, economic, social, and environmental systems toward common goals"—their sole purpose is to preserve their system for profit and power to continue to dominate the peoples of the world and our planet. Such posturing is truly laughable, for it is quite evident in the journey followed by the capitalist industrial revolutions and the supplanting of a truly democratic ethos with a marketocratic ethos that all they care about is the maximisation of capital at any cost.

Above all, there can be no "common goals" between capitalism and its need to relentlessly consume resources at the expense of everyone and everything else—including changing our nature and identity—and the planet's need for true

<sup>233</sup> ➔ Andrew Maynard: [How our mastery of biological, physical and cyber “base code” is transforming how we think about the future](#) — Medium, 25 February 2021.

<sup>234</sup> ➔ David Trippett: [What is transhumanism and how does it affect you?](#) — World Economic Forum, 10 April 2018.

sustainability to ensure the life of all living beings for generations to come. Capitalism and true sustainability are utterly incompatible; they constitute an oxymoron. Yet, the Great Reset attempts, with a rather hubristic demeanour, to allure us to a Promethean promise that the digital fusion of our biological and mental identities and the merger or convergence of 4IR technologies to enhance and augment the reality of so-called "homo sapiens" is a good thing for humanity.

The great danger is that first, we know for a plethora of facts that the ulterior motive is to preserve the less than 1%

*The great danger is that they are going about their tinkering with science and natural law—which cannot be changed or controlled. How can they pretend to make a fusion of our minds and bodies—and many other living things—and impose the "corporeal embracement of new technologies" that would change our identity, with total disregard for the dignity of people, as if they were demigods exercising their ethereal powers? They intend to play god and create life, with complete disregard for anything else.*

system of profit and power. Second, they intend to impose it through undemocratic means that remind us to some extent of a subtle form of fascism, given that, as we have explained, there is no open debate, but only conversations among the less than 1% elite. Third, they are going about their tinkering with science and natural law—which cannot be changed or controlled—with no other ethics other than their own. How can they pretend to make a fusion of our minds and bodies—and many other living things—and impose the "corporeal embracement of new technologies" that would change our identity, with total disregard for the dignity of people, as if they were demigods exercising their ethereal powers? They intend to

play God and create life, with complete disregard for anything else.

Unless people understand what the elite of the less than 1% intend and how they plan to impose their will, we are destined to see the end of life and our species as we know it as they consolidate their dominance over humanity. The only certainty and solace are that if this continues, the consolidation of their power will be short-lived, as the very laws of nature—which they can never control and let alone change—will unravel the very fabric of their paradigm. However, the human cost and the cost to the entire planet will be punitive, devastating and final.

## Final Reflections

**W**hen I planned the outline of this assessment, I felt the need to follow a course that presented the journey followed by the capitalist mode of production through its revolutionary stages. This course exposes how consistently capitalism alienates people from nature, thereby producing a gradual metabolic rift with the planet until we reach an insurmountable abyss. This rift that evolves into the Anthropocene emerges as the expansion of capitalism breaks the balance necessary between the consumption of resources that human activity (labour) takes from the planet in a specific period and the time that the planet needs to replenish them for their continual consumption sustainably. With capitalism, as it progresses through subsequent revolutions, the rate of consumption gradually surpasses the rate of replenishment. It destroys ecosystems and the sustainability of our planet. Without the sustainability of the conditions that the planet provides for life to all its members, we have no future.

With the second and third industrial revolutions, the rift of the social metabolism with nature becomes far more evident as it accelerates the rate of destruction and the size of the fracture between our activity and our home. However, capitalism deliberately neglects to acknowledge that humans are part of nature as just another species. Our relationship with the planet, as members of the natural world, and our activity and the activity of all species consume resources for our reproduction. But in the higher life form—in terms of our rational capacity to process information—that constitutes our species, our activity transforms nature to an extent capable of breaking the balance required for the planet's sustainability to provide the conditions necessary for the life of all species. This was detected early on since the First Industrial Revolution, such as in the destruction of the soil's metabolism, detected in the nineteenth century by Von Liebig.<sup>235</sup> Marx and Engels also became keenly aware of the metabolism between humanity and nature and the ecological rift that capitalism produces. Many other thinkers of the time, such as Lankester, Ruskin, Morris, Owen and others in Victorian England, clearly identified it and our alienation with nature.

Humans are sensuous beings that, as part of nature, are capable of knowing the natural conditions necessary for our reproduction and the interactions between us and, specifically, through our productive role as conscious beings that transform the world around us. But in the appropriation and transformation of nature by the capitalist mode of production, our metabolism as part of nature breaks and becomes unsustainable because it transgresses the natural laws.<sup>236</sup> Yet capitalism treats nature as a free gift—advanced by Malthus<sup>237</sup>—that we are free to enjoy, and as an externality of its mode of production. In Engels' critique of capitalism, he rebukes the notion of such freedom: *Freedom does not consist in any dreamt-of independence from natural laws, ... but in the knowledge of these laws, and the possibility this gives of systematically making them work towards definite ends*, which, as Bellamy Foster rightly stresses, *must remain within nature's laws as a whole*.<sup>238</sup>

The transformation that our species makes of nature by appropriating it for our reproduction leaves an ecological footprint. Before capitalism, our ecological footprints were sustainable. This does not mean that we did not deplete some ecosystems. For instance, many forests in Europe were destroyed to build the imperial fleets used for exploration, conquest and imperialism in the times of mercantilism from the sixteenth century to the First Industrial Revolution. But

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<sup>235</sup> ↪ Justus Von Liebig: [1862 Preface to Agricultural Chemistry](#) — Monthly Review, July-August 2018, pp. 146-150.

<sup>236</sup> ↪ John Bellamy Foster. "The Return of Nature: Socialism and Ecology" — Monthly Review Press, New York 2020. p. 14.

<sup>237</sup> ↪ John Bellamy Foster: Marx's Ecology, Monthly Review Press, New York, 2000, pp. 615-616 (ePub).

<sup>238</sup> ↪ John Bellamy Foster. "The Return of Nature: Socialism and Ecology" — Monthly Review Press, New York 2020. p. 16.

the ecological footprints of our species were not yet putting our social metabolism with nature in peril. With capitalism's inherent and unrelenting quest for permanent growth in the reproduction and accumulation of capital, resource consumption and resulting ecological footprints gradually became unsustainable. The third industrial revolution accelerated the trend with the new technologies developed for war and the consolidation of a world organised as societies of consumption as the inherent and sole *raison d'être* of living.

This is now the only purpose in our life. Instead of being, we do not exist if we do not own to consume. We are now "homo consumerus". In this way, our predatory impact on nature is many times greater and utterly unsustainable. Democracy was supplanted long ago by Marketocracy. The states are now designed to serve the private goods of the system's owners instead of fulfilling their responsibility of pursuing the welfare of every rank of society and with emphasis on the dispossessed.

This is why most countries have put all-out efforts to reactivate consumerism by placating the pandemic in the interest of reviving the marketocratic economy. Thus all governments are acting unethically and irresponsibly by fear-mongering people to get vaccinated indiscriminately. Instead of putting together an effort by following a protocol that duly informs people about the risks and determines which vaccine is appropriate for each person—or if the person should not be vaccinated—they go about it as if any of the vaccines each government approves fits all as if one size fits all. In this way, they launched canvassing campaigns to convince people to get the jab, sometimes offering prizes, such as tickets for sporting events or lotteries for money, as is the case in some U.S. states. This has resulted in tens of thousands of hospitalisations and thousands of deaths, just in the U.S. And no one is taking responsibility for the human cost of this approach. The market reigns supreme over the lives of people and the sustainability of the planet.

We are now at this planetary crisis threshold with the highly likely impossibility of return and rectification. Yet the

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capitalist system continues unrelentingly attempting to persevere and accelerate the process of consolidation of itself. With a Promethean discourse sometimes referred to as "ecomodernism", its pundits and agents attempt to submit the laws of nature to their will through the deployment of the new technologies of the 21st century. They attempt to solve the metabolic rift: climate change, global warming, the destruction of ecosystems, the

invasion of previously pristine reserves, pandemics, the extinction of many species of flora and fauna and many other problems that are the direct product of the dominant economic system, with more of the same. They are doubling down on it with the promise that by accelerating their Great Reset and the Promethean technologies of the 4IR, we will be ok; we will solve all major issues. Additionally, they are also attempting to deploy a massive system of surveillance that will track our every move and thought, which tells a lot about how confident they are about their promises and the ulterior motive of complete domination of humanity.

Hence, we are in a truly existential crisis because this hubristic idea disregards the incredible complexity of the laws of nature and limits our capacity to understand them. The pundits and apologists of the marketocratic paradigm entirely disregard that we are just another species that is a part of and belongs to nature. Their haughtiness, their superciliousness, blinds them to the fact that the planet cannot be dominated, and in their attempt to do so, they are playing with the life of all species, starting with our own. We are dealing with a suicidal existential crisis.

How are we to save ourselves from our genocide? I would start by saying that the only way is to become aware, informed and educated about the imminent and terminal dangers we face now in our existence and the ominous future, or non-future, that is our legacy for the next generations. This is the existential challenge that we are facing. In an excellent essay, Jonathan Rowland delves into the kind of attitude and vision that we need to deal with such a crisis. In

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his view, *the complexity of our world is overwhelming the complexity of our minds in our challenge to attempt to create a viable and desirable future*, and he proposes as a way to address it the concept of Bildung, a sort of transformative and civic education. It is, in his words, *the sense of fulfilling one's nature or purpose in response to the challenges of a particular historical and societal context. It entails a dynamic world view that values the independence of mind and spirit grounded in ecological and social interdependence.*<sup>239</sup>

In other words, and on the question at hand, to address the challenge of saving ourselves by saving the planet, we must get informed, educate ourselves and understand the complexity of the crisis that exists between the ecological chasm created by humankind and the lack of understanding of the underlying causes. To accomplish this, we need to break with the tenets of the prevailing system, particularly with the current educational systems designed to serve capitalism. When one goes to school, the context is always the market, and the values advocated are always being able to have in order to consume so that one can have an identity to exist. Suppose one goes after a degree in economics. In that case, one will be indoctrinated into all the reasons why capitalism is the best economic paradigm and a force for good, despite its imperfections and contradictions. It follows that we need to transform our education to a new educational corpus led by society by also transforming the state. We need to have our states' support, albeit the state is also in a fluid state of transformation due to the crises.

Hence, we need a new social contract designed to build a radically different paradigm that can only be envisioned to take care of the people and the planet at large and by no means to take care of the market. In the new paradigm, the market would become only a vehicle for the trade of the goods and services deemed appropriate in the new design. We can call the new paradigm ecosocialism or use another name, but the fundamental principle is that it must be designed to procure the sustainable welfare of people and our home, our Planet Earth, and all its members.

This needs a complete break with the tenets of capitalism, such as growth, reproduction, accumulation and use value. Instead, we need a new economy in terms of its ecological footprint. It would have to go through a period of degrowth in the shortest possible time until we reach a stationary state or steady-state economy (SSE), as propounded by Herman Daly. That is, to cut down the size of our economy, we need to embark on a strategy of degrowth in our consumption for decades until we finally achieve human and environmental sustainability and therefore move into a steady-state economy of no growth.

Nevertheless, to produce equity and social justice, degrowth must be designed in a way that we increase consumption levels of the billions of dispossessed by capitalism, both in the Global North and South, including the precariat, to provide a frugal but dignified quality of life. A realistic concept that can be incorporated into the process as an absolute

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<sup>239</sup> ↪ Jonathan Rowson: [Bildung in the 21st Century –Why sustainable prosperity depends upon reimagining education](#) — The Jus Semper Global Alliance, June 2021.

limit to our ecological footprint is the valerist system proposed by Erald Kolasi, where we can achieve dynamic stability with a maximum consumption of 70.000 kilocalories per capita per day —in the U.S., the current consumption is 200.000.<sup>240</sup> By the same token, we must drastically cut consumption of the privileged and middle classes, both North and South, to bring it down to dignified but frugal levels. It follows that, at the end of the process, the ecological footprint of humanity drops to sustainable levels, and the gaps between the higher and the lower new standards of living diminish drastically.<sup>241</sup>

If we fail to meet the challenge, I believe that we are destined to face a very ominous future before the end of the present century. Rowson quotes the prognosis of German Philosopher Tomas Metzinger:

*Conceived of as an intellectual challenge for humankind, the increasing threat arising from self-induced global warming clearly seems to exceed the present cognitive and emotional abilities of our species. This is the first truly global crisis, experienced by all human beings at the same time and in a single media space, and as we watch it unfold, it will also gradually change our image of ourselves, the conception humankind has of itself as a whole. I predict that during the next decades, we will increasingly experience ourselves as failing beings.*<sup>242</sup>

Currently, we seem to be numbed by the system and hence fail to take seriously the impending dangers of the existential crises that we hear about daily, such as the growing scarcity of water and consequently of food, the rise of oceans that are flooding or will flood many communities on the oceans' coasts or islands that will disappear such as the Maldives, or the great damage to some of the most critical ecosystems, such as the Amazon's basin, due to agribusiness or mining, or the destruction of many ecosystems in the oceans due to overfishing. This is suicidal, and yet we seem not to react forcefully to put a stop to it. Capitalism has put many of us in such a precarious situation that many can only think of how to survive the next day and are unable to consider the imminent dangers to themselves and future generations, with the entirely realistic possibility of a future of collapse, of self-extinction, due to the interest of humanity's most perverse instincts among those who rule.

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Rowson is right when he stresses that, for some inherent traits in our species, we have the propensity to "fuck" things up.

*We urgently need to awake and think in terms of what we can imagine as the ethos that provides a future of truly sustainable prosperity that is completely disassociated with the ideas of growth and consumerist values advanced by capitalism because such elements are antithetical to our quest for true sustainability.*

And yet, we hear about all the existential perils emerging due to human activity because of our Anthropocentric era, and we still do not act. It is as if we do not want to know. Or, as Neo-Confucian philosopher Wang-Ming rightly puts it (quoted by Rowson): *To know and not to act is not to know.*<sup>243</sup>

<sup>240</sup> Erald Kolasi: [The Ecological State](#) — The Jus Semper Global Alliance, June 2021, pp. 8 - 10.

<sup>241</sup> ↪ Álvaro J. de Regil: Transitioning to "[Geocratia](#)" — the People and Planet and Not the Market Paradigm — First Steps, The Jus Semper Global Alliance, May 2020, p. 23.

<sup>242</sup> ↪ Metzinger, T. (2017) Spirituality and Intellectual Honesty. Lecture. Available online: [https://www.blogs.uni-mainz.de/fb05philosophieengl/files/2013/07/Metzinger\\_SIR\\_2017\\_English.pdf](https://www.blogs.uni-mainz.de/fb05philosophieengl/files/2013/07/Metzinger_SIR_2017_English.pdf), quoted by Rowson in his: [Bildung in the 21st Century –Why sustainable prosperity depends upon reimagining education](#) — The Jus Semper Global Alliance, June 2021.

<sup>243</sup> ↪ Jonathan Rowson: [Bildung in the 21st Century –Why sustainable prosperity depends upon reimagining education](#) — The Jus Semper Global Alliance, June 2021.

We urgently need to awake and think in terms of what we can imagine as the ethos that provides a future of truly sustainable prosperity that is completely disassociated with the ideas of growth and consumerist values advanced by capitalism because such elements are antithetical to our quest for true sustainability. We need to imagine a prosperity that would genuinely sustain our home so that it is able to adequately replenish what we take with our interaction with it, with our labour. In this way, instead of following a trajectory of doom, because we keep widening the metabolic fracture with the planet, we build a stable and sustainable relationship with nature, just as all other life forms customarily do. That is the challenge of building a good life that we can enjoy without the predatory practices imposed by the capitalistic mode of production in a quasi-fascist fashion.

This awakening must start at the very least with the billions that have enough slack to make a pause and think and ponder about the complexity of times that we are living in and the impending existential dangers that we are already experiencing. If we awake and react, we can become part of the change by changing our lifestyles, our families and seeking to congregate to create a critical mass with enough power to meet the challenge. In my previous work about Geocratia—government by the Earth—the new paradigm for people and planet, I propose that we start by creating citizen cells that can start the process just by together thinking about, reflecting and imagining a new order for our home and all its members.<sup>244</sup> The challenge pertains to our attitude towards life, our environment and our fellow human beings. The challenge is about the disposition that we adopt to get rid of our individualism ingrained since birth into us by a system of competition and social Darwinism, and transition into one of cooperation for the sake of a shared future in our home, our planet and ourselves as part of it. Among all living things, we alone have the intellectual capabilities to destroy or save our home and take good care of it. Hence, as in the process of formative civic education advanced by Bildung and Rowson, we must evolve emotionally, spiritually, morally and intellectually from our reality to envision a new future with the tenets and pillars of a good sustainable life for all the members of this planet. Quoted by Rowson, Lene Rachel Andersen and Tomas Bjorkman, encapsulate the idea of Bildung's formative praxis as:

*the way that the individual matures and takes upon him or herself ever bigger personal responsibility towards family, friends, fellow citizens, society, humanity, our globe, and the global heritage of our species, while enjoying ever bigger personal, moral and existential freedoms. It is the enculturation and life-long learning that forces us to grow and change, it is existential and emotional depth, it is life-long interaction and struggles with new knowledge, culture, art, science, new perspectives, new people, and new truths, and it is being an active citizen in adulthood. Bildung is a constant process that never ends.*<sup>245</sup>

Hence we need to imagine and build a new ecosocial architecture, a new edifice, with shared responsibility, with a set of values designed to produce happiness, as in the epicurean ethos, for ourselves and all our planet members. We need to love ourselves by loving our home. Bellamy Foster advances that the defence of nature:

*is a story that concerns art as well as science—the two principal means of ascertaining our sensuous relation to the world as a whole. It is the synthesis of the scientific and aesthetic critiques of capitalism that constitutes the basis of the modern ecological critique, leading to the pivotal notion of sustainable human development. As Epicurus said in antiquity, “The justice of nature is a pledge of reciprocal usefulness, neither to harm one another nor be harmed.”*<sup>246</sup>

<sup>244</sup> ↪ Álvaro J. de Regil: Transitioning to [“Geocratia” — the People and Planet and Not the Market Paradigm](#) — First Steps, The Jus Semper Global Alliance, May 2020, p. 46.

<sup>245</sup> ↪ Jonathan Rowson: [Bildung in the 21st Century –Why sustainable prosperity depends upon reimagining education](#) — The Jus Semper Global Alliance, June 2021.

<sup>246</sup> ↪ John Bellamy Foster. “The Return of Nature: Socialism and Ecology” — Monthly Review Press, New York 2020. p. 4.

Building the new ethos, in the context of a genuinely democratic social contract between humanity and our planet,

*Building the new ethos, in the context of a genuinely democratic social contract between humanity and our planet, where the Demos is in the driver's seat of the public agenda, may include the realignment of how societies choose to organise.*

where the Demos is in the driver's seat of the public agenda, may include the realignment of how societies choose to organise. This could be any democratic arrangement. For example, nation-states cease to exist and are replaced by many smaller, preferably autonomous communities, from city-states to a federation of autonomous towns or regions. With the Demos guiding its transformative social change in pursuit of a new paradigm, all communities embark on this journey and share responsibilities for the successful transformation of societies.

In this ethos, the commons, the lands and resources of the human communities, are managed in a sustainable way to procure dignified qualities of life for all its members, including all species, and our labour produces sustainable ecological footprints. We transition into sustainable, dignified, frugal and comfortable lifestyles. Frugal is the fundamental element in our new life systems to drastically reduce our ecological footprints and achieve a truly sustainable paradigm. We transition to the new paradigm by gradually transforming our culture from the current consumeristic ethos to a new culture of frugality, as in Geocratia, the paradigm for the welfare of people and planet and not the market:

*Transitioning to Geocratia — the People and Planet and Not the Market Paradigm — First Steps*  
*In Geocratia capitalism has ceased to exist, but we still function as societies that work and continue to consume a plethora of natural resources for our functioning. However, we no longer have the capital-labour relationship with the inherent surplus value and the customary and systematic exploitation of labour in favour of the shareholder value of capitalism, nor do we generate unsustainable levels of consumption. In the new paradigm, people work under completely different organisational and production arrangements and earn a remuneration for their work, as part of their contribution to the well-being of the community and its ecological systems. The remuneration people earn for their contribution is of a living sort, of a dignified nature, that enables people to fulfil all of their basic necessities for food, housing, clothing, energy, water, transportation and all the other inputs necessary to enjoy a dignified quality of life standard, but frugally and sustainably. It follows that the concept of the living wage becomes a moot point. People will have a basic income plus a remuneration for their community work, whatever it may be, and, additionally, far more personal time to be used for leisure, community work, cultural activities, aesthetics and so on. People will also have the right to free education and healthcare as well as social services, such as childcare, when needed. All of this, once it is implemented across nations, would lift billions of dispossessed people out of poverty permanently.<sup>247</sup>*

By taking good care of our home, the commons, we will take care of ourselves and enjoy freedom and happiness. This can only happen in an ethos deprived of all the excesses associated with capitalism and its ethics of consumerism and individualism. It follows that the technologies of the 4IR—when deemed necessary and sustainable—will be managed strictly to provide all the elements that fulfil our needs—in the commons and for each family—for the good life sustainably (health, food, energy, education...) but none of the superfluous, frivolous and unsustainable needs of the

<sup>247</sup> ↪ For a detailed exposition of how the new Geocratia paradigm for the welfare of People and Planet will work, such as how our global ecological footprint will decrease while concurrently lifting billions of people out of poverty and into dignified comfortable and frugal lifestyles, see its four fundamental pillars: Planetary Sustainability, True Democracy, Social Justice and A Healthy Environment (pages 22-37) as well as the Core Components of a Planetary Sustainable Ecology: Energy, Economy, Currency, Taxes, Degrowth and Steady State, Enterprise, Work and labour Rights, Markets, human rights, wellbeing and responsibilities, Private Property, High Quality of Life Standards, A Culture of Frugality, Poverty, Population, Food and Land Use, Transportation, Housing, Locality, Technology (pages 38-44) in Álvaro J. de Regil: [Transitioning to "Geocratia" — the People and Planet and Not the Market Paradigm — First Steps](#), The Jus Semper Global Alliance, May 2020.

*By taking good care of our home, the commons, we will take care of ourselves and enjoy freedom and happiness... Instead of thinking about individual futures, we think and work in terms of a shared future for people and the planet. As in Geocratia, we organise and work for the preservation of our home. We plan our future with this mission at the centre of our paradigm. This would be the kind of Great Reset that we need, and we must put all our efforts to materialise.*

consumerist culture of capitalism. In the new paradigm, we consume goods and services with a sustainable use value, but none have exchange value, profit, reproduction, and accumulation. Instead of thinking about individual futures, we think and work in terms of a shared future for people and the planet. As in Geocratia, we organise and work for the preservation of our home. We plan our future with this mission at the centre of our paradigm. This would be the kind of Great Reset

that we need, and we must put all our efforts to materialise.

As stressed in the prologue of this work, the current events must make us saving our species and our planet the

*Saving our species and our planet the fundamental issue and the overarching and quintessential cornerstone of our effort to transition to a new sustainable paradigm. It cannot be one of many key issues, but the single element driving our vision to achieve sustainability, determining how we draft our vision for our new paradigm.*

fundamental issue and the overarching and quintessential cornerstone of our effort to transition to a new sustainable paradigm. It cannot be one of many key issues, but the single element driving our vision to achieve sustainability, determining how we draft our vision for our new paradigm. It is in our self-interest to become cognisant about the damning catastrophe that we are facing, stop our numbness and individualism and coalesce to change the

current doomed trajectory and veer to an eco-revolutionary tipping point—as proposed by Paul Burkett—where all ecological, communitarian and urban movements coalesce as an ecological ecosocialist movement against this system of monopoly-finance Marketocracy, the tiny elite who thinks it owns our planet.

The Great Reset of Capitalism is a diabolic subterfuge to double down on capitalism to preserve the interests of a tiny elite of demented plutocrats that will undoubtedly accelerate the existential crises that we are enduring to a point where

*The very least that we can do is start today by changing our way of life as much as possible, by seeking to congregate and create a critical mass of people with enough power to derail 21st-century capitalism and by working to create a humanistic Great Reset for the welfare of people and planet.*

we can no longer rescue ourselves and the planet from its cataclysmic reactions to the damage we have inflicted on it. It may even be already too late to react. However, the very least that we can do is start today by changing our way of life as much as possible, by seeking to congregate and create a critical mass of people with enough power to derail 21st-century capitalism and by working to create a humanistic

Great Reset for the welfare of people and planet. Rowson comments that it is easier to imagine the end of the world than the end of capitalism. Nonetheless, suppose we remain submitted to the prevailing system. In that case, we will undoubtedly face no future other than enduring the increased of natural catastrophes, violence, insecurity, pandemics, increase surveillance, loss of rights and civil liberties and fall into a state of numbness and depression from which we will never awake. That will secure the end of humanity and our planet due to the demented genesis advanced by the most perverse instincts of our species. This potential end of our species is the spectre of the challenge we are facing.

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❖ **About Jus Semper:** The Jus Semper Global Alliance aims to contribute to achieving a sustainable ethos of social justice in the world, where all communities live in truly democratic environments that provide full enjoyment of human rights and sustainable living standards in accordance with human dignity. To accomplish this, it contributes to the liberalisation of the democratic institutions of society that have been captured by the owners of the market. With that purpose, it is devoted to research and analysis to provoke the awareness and critical thinking to generate ideas for a transformative vision to materialise the truly democratic and sustainable paradigm of People and Planet and NOT of the market.

❖ **About the author:** Álvaro J. de Regil is the Project initiator and Executive Director of The Jus Semper Global Alliance since 2003. At a broader level, his work is currently centred on advancing a "people and planet" paradigm. As part of this transformative concept, he is active in the areas of labour rights, business and human rights, no-growth / degrowth / steady-state economics, basic income and the drastic reduction of humanity's environmental footprint on our planet as the only way to achieve real sustainability of life on our home: planet earth. Álvaro is also a founding member and facilitator of the International Living Wage Observatory at La Salle University (Mexico City campus), a contributor to the transformative vision and praxis of the Great Transition Initiative of the Tellus Institute in Boston, Massachusetts and consultant on the underlying causes of immigration with various community organisations in California.



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