

WHY THE FUTURE NEEDS ECOLOGICAL CIVILIZATION AND NOT SOCIETY 5.0

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ABSTRACT: The Japanese government, in response to the many social, economic and environmental problems they face, have embraced and are developing, in collaboration with universities and transnational corporations, a concept they call Society 5.0. This is a plan to integrate new technologies such as Industry 4.0, Artificial Intelligence and robotics. The Internet of Things will gather data which will be processed by AI which will provide for and even anticipate each individual's needs with minimal waste. This idea is not just Japan's but is being replicated in many developed nations and is seen as our inevitable future path. In this paper, however, I argue that this is a plan to create a totalitarian *Brave New World*, as Aldous Huxley imagined it. A world in which humans are enslaved to the machines that provide for their every desire and lose their ability to develop cognitively and ethically. This will be a world full of comfortable idiots living in an illusion of certainty. I will provide a range of criticisms of Society 5.0 but more than that, I will propose an alternative being developed by the global process philosophy community; Ecological Civilization. While Society 5.0 seeks its solutions through further abstracting humanity from the natural world it is destroying, locking us in a deterministic bubble, Ecological Civilization seeks to re-embed us in nature, repair our dysfunctional relationships with it and promote freedom through transcendence to higher levels of development.

KEYWORDS: Ecological civilization; Society 5.0; Brave New World

INTRODUCTION

The story of humanity's future is being written for us, whether many of us like it or not. It is being written in government offices, university laboratories and corporate board rooms. It is a story that many will be familiar with through popular science fiction. It is the story of humanity handing over its autonomy and agency to a machine intelligence in the hope that it will solve all the problems

humanity itself has created and has now become incapable of solving. It is a story of humanity losing faith in itself. Anyone familiar with such science fiction stories, however, will know that they do not tend to turn out well. In fact, they are usually dystopian stories in which humanity ultimately loses its freedom becoming subjected to some form of totalitarian rule. One of the more recent of these stories comes out of Japan and the Japanese Government's conception of Society 5.0. This is a plan to solve Japan's many social, economic and environmental problems through the technological innovation of integrating Industry 4.0, or The Internet of Things, with Artificial Intelligence, 5G communications networks and robotics. While there are unique aspects of Japanese culture which perhaps predispose it to such ideas, the basic idea is being developed in most of the developed world. In the spirit of some of our greatest dystopian science fiction stories, however, I argue that Society 5.0 will come at the cost of human freedom and our ethical and cognitive development.

The particular story I am thinking of is Aldous Huxley's *Brave New World*, written in 1931, in which he speculates about the existence of a completely scientifically ordered totalitarian society in which there is a genetically engineered caste system, the abolition of free will by methodical conditioning and '...servitude made acceptable by regular doses of chemically induced happiness.'¹ In his follow-up essay published in 1958, *Brave New World Revisited*, Huxley expressed his concern that the dystopia he had imagined was becoming a reality in far less time than he thought. He describes the early part of the 20th Century as a period of too little order and the society of *Brave New World* as too ordered and he believed the transition from one to the other would require a long interval. By 1958, however, he believed that an interval had failed to emerge and the world was moving swiftly from one extreme to the other.² Huxley believed that advances in science and technology would see totalitarian control by fear and punishment, brilliantly portrayed by George Orwell in his novel, *1984*, increasingly replaced by reward and manipulation, as the limits to fear and punishment became better understood.³

Partly inspired by Huxley's vision and my belief that the developed world was

¹ Aldous Huxley, *Brave New World Revisited*, (Vintage Books, London, 2004), p. 3.

² *Ibid.*, p. 4.

³ *Ibid.*, p. 4-5.

trending in this direction, I published a paper in 2012 on *The Triumph of Virtual Reality and Its Implications for Philosophy and Civilization*.⁴ In 2013, my colleague and fellow process philosopher, Arran Gare, published his paper on *The Grand Narrative of the Age of Re-Embodiments: Beyond Modernism and Postmodernism*.⁵ The aim of both papers was to reveal and deepen understanding of what is argued to be the fundamental problem humanity faces in its relationships with natural processes; that is, our capacity for reifying the abstract products of our imagination. Process philosopher, Alfred North Whitehead, famously characterized this as committing the ‘fallacy of misplaced concreteness’.⁶ Of particular concern to process philosophers, whose metaphysics is rooted in an active, vibratory and relational reality, is the dominance of synchronic approaches to understanding reality such as formal logic, where dynamic processes are reduced to static, independent, immutable structures. Such thinking can provide valuable insights into the complex nature of reality, but they can also act to hide the true complexity of reality in grossly over-simplifying it as well as stifling creativity and speculation. I will argue that Society 5.0 is a further example of such over-simplification which has a history of making our problems even worse.

In Gare’s paper, he reveals how our abstract concepts throughout history have led us to become increasingly deluded in believing we are disembodied and alienated from natural processes and part of the supernatural. Both Modernists and Postmodernists have in common the desire to create and inhabit the products of their fantasies. This has generated a new class of deluded macro-parasites who are destroying the conditions for life in order to fulfil their fantasies, while discrediting those seeking to expose such dangerous delusions. It is a world in which our farmers and teachers are regarded as less important than stockbrokers and tech billionaires.⁷ In my paper, the focus is on the growing body of research

⁴ Glenn McLaren, ‘The Triumph of Virtual Reality and Its Implications for Philosophy and Civilization’, *Cosmos and History: The Journal of Natural and Social Philosophy*, Vol. 8, No. 1, 2012 at <http://cosmosandhistory.org/index.php/journal/article/viewFile/292/1190>, pp. 383-411.

⁵ Arran Gare, ‘The Grand Narrative of Re-Embodiments: Beyond Modernism and Postmodernism’, *Cosmos and History: The Journal of Natural and Social Philosophy*, Vol. 9, No. 1, 2013, at <https://cosmosandhistory.org/index.php/journal/article/viewFile/345/580>, pp. 327-357.

⁶ Alfred North Whitehead, *Science and the Modern World*, (New York, The Free Press, 1925), p. 118.

⁷ Arran Gare, 2013, op. cit.

into the impacts of modern digital information technology on human development and cognition. I argue that the highly abstract and immersive nature of these technologies so blur the distinction between reality and fantasy, that they draw us in and obstruct our ability to create critical distance; the conditions for philosophy and civilization. These technologies are being effectively used to manipulate and fragment us by hindering the development of deep conceptual and narrative understanding, leaving us vulnerable to the predations of macro-parasites.⁸

My understanding of Society 5.0, a concept that is similarly being developed by other developed nations, is that, while it appears to be motivated by good intentions, it is another fantasy created by the simplistic misconceptions of macro-parasites and its ultimate impact will be to enslave humanity and render us incapable of both resisting this enslavement and conceiving of any alternative. Like *Brave New World*, it is a new model of an old tradition of imposing totalitarian control over humanity. In coming to this conclusion, I am not adopting a technological determinist position. As a process philosopher, I am deeply critical of both hard and soft determinism and a defender of real freedom and possibility in the universe. I am also a strong critic of reductionist approaches to understanding reality and a defender of holism. The particular technologies involved in Society 5.0 will be a major driver of cultural and social change but not the only ones, and they themselves will be understood to be derived from deeper metaphysical views on the nature of reality, such as mechanistic views which promote determinism. My thinking is more in line with phenomenological views which see technologies as being integrated with all of the products of human self-consciousness, which themselves are derived from complex natural processes. An example of this are the views of political theorist, Langdon Winner. In his paper on *Technologies as Forms of Life*, Winner argues that particular trajectories of technological progress are not inevitable but appear so due to what he calls, 'technological somnambulism' in which we are sleepwalking our way to being determined by technology due to a lack of critical engagement.⁹

This paper, therefore, can be understood as a 'wake-up call' to critically

⁸ Glenn McLaren, 2012, *op. cit.*

⁹ Langdon Winner, 'Technologies as Forms of Life', in Sandler R.L. (eds) *Ethics and Emerging Technologies*, Palgrave Macmillan, London, 2014, p.p 103-113.

investigate the nature and implications of a seemingly technology-driven concept such as Society 5.0 before it takes on a life of its own and appears to be inevitable. In doing this, it extends on Gare's and my work on the problems of abstract thought and reification. But this paper will go beyond a critique by arguing for an alternative future based in the concept of ecological civilization. This is an idea which, like Society 5.0, had its origins in addressing our current and emergent social, economic and environmental concerns, but seeks a different trajectory. While engineers, corporate executives and their captured politicians plot the conditions for an AI-controlled world, process thinkers are conceiving of an ecologically sustainable world in which humanity can heal their dysfunctional relationships with nature and regain some control over their destiny. I will argue that whereas Society 5.0 seeks solutions through further abstracting humanity from nature, imprisoning us in a deterministic bubble, Ecological Civilization seeks to re-embed humanity within nature and generate the potential for new life.

Ecological Civilization is a concept that, while originating in Communist Russia and China, has been embraced by the global process philosophy community because it is rooted in a holistic, complex, relational, process metaphysics, one that we understand to be more concrete and which seeks to augment the conditions for life more generally. Alternatively, Society 5.0, as I will argue, is based in a highly abstract, analytical and mechanistic metaphysics, one with a history of augmenting some life, but at the expense of life, more generally. In the interests of the future of life, therefore, our future relationships with our technologies will need to be mediated by Ecological Civilization and not Society 5.0. In making this argument, however, I first need to discuss in more detail what these concepts are.

WHAT IS SOCIETY 5.0?

In 1995, the Japanese Government enacted the Science and Technology Basic Law. This was to become the basis for the development of five year Science and Technology Basic Plans. The motivation for this was the desire for Japan to become a leader in addressing global and domestic problems through the

application of science and technology and not just be a follower of the West.¹⁰ The early emphasis of these plans was on securing government investment in research and development and strengthening research and development systems, strategies and facilities, as well as strengthening international exchange and collaboration. According to the Government, the five year plans have generated a strong demand for its R & D findings to be applied to giving back to society and creating social reform. The response to this social, problem-solving emphasis has been the creation of closer collaboration between universities, R & D institutions and the private sector and a focus on innovation.

After twenty years of these five year plans, however, things were not looking that good with Japan seeing a rapid weakening in its science, technology and innovation foundation. Research paper numbers were dropping, the building of facilities delayed and few opportunities existed for promising young students. Collaborations between academia and industry had also stalled with the mechanisms designed to bring them together failing. Universities in Japan were seen to be 'lagging behind' in the sort of organizational reform needed for such collaborations. This, according to the Government, was impacting Japan's ability to innovate. Confidence in Japanese science and technology also fell after the Great East Japan Earthquake and tsunami in 2011.¹¹ All of this saw stagnation in Japan's R & D investment growth. These failures over the first twenty years of Japan's five year basic plans, led to a sense of urgency and boldness in developing the 5th Science and Technology Basic Plan.

The fifth basic plan runs from 2016 to 2021 and seeks to address what the government sees are Japan's most pressing issues. These are:

...energy, resources, food limitations, a declining birthrate and aging population, and the impoverished rural economies and communities. In particular, the importance of stable and inexpensive supplies of energy and resources in supporting the basis of our economy and society was once again highlighted in the Great East Japan Earthquake. Additionally, the increasing social security costs that come with the progression of an aging society and our deteriorating infrastructure are increasing social costs and becoming a major constraint to upholding and

¹⁰ Council for Science, Technology and Innovation, Cabinet Office, Government of Japan, Report on the 5th. Science and technology Basic Plan, 18/12/2015, at https://www8.cao.go.jp/cstp/kihonkeikaku/5basicplan_en.pdf. (Accessed 3/5/2021), p. 4-5.

¹¹ Ibid, p. 6.

improving our economy, as well as the living standards of our citizens.¹²

Also acknowledged was security in relation to natural disasters, terrorism, income disparity and environmental problems such as climate change and loss of biodiversity.

The fifth basic plan was based on four policies directed towards the development of science, technology and innovation (STI's) aimed at targeting Japan's national image. These were 1) Sustainable economic growth and self-sustaining regional development; 2) Ensure safety and security for the nation and its citizens and a high-quality, prosperous way of life; 3) Address global challenges and contribute to global development and 4) Sustainable creation of intellectual property.¹³ From this, four policy pillars were to be promoted:

1. Acting to create new value for the development of future industry and social transformation. This involves making major changes in Japanese society through technological advancement and a commitment to creating prosperity for citizens through sharing information technology advances, both domestically and globally.
2. Addressing economic and social challenges through pre-emptive action to produce sustainable development.
3. Reinforcing the fundamentals for STI (science, technology and innovation) through strengthening the research base. As they say, 'These will focus on reform and functional enhancement for universities, along with training and career advancement for younger researchers, who will be the ones to lead us in an era of uncertain prospects.'¹⁴
4. Building a systemic virtuous cycle of human resource, knowledge, and funding for innovation '...through building real collaboration between companies, universities, and public research institutions, and by both creating and strengthening venture businesses.'¹⁵

They then go on to say that, 'Upon effectively and efficiently advancing the above four initiatives, it is essential to deepen the relationships between STI and the various stakeholders of society, and to strengthen the ability of these

¹² Ibid, p. 4

¹³ Ibid, p. 7

¹⁴ Ibid, p. 8

¹⁵ Ibid, p. 9

stakeholders to promote this STI.¹⁶ Acting on these policy initiatives will see the creation of what they refer to as a ‘super-smart society’, which they characterize as:

...a society where the various needs of society are finely differentiated and met by providing the necessary products and services in the required amounts to the people who need them when they need them, and in which all the people can receive high-quality services and live a comfortable, vigorous life that makes allowances for their various differences such as age, sex, region, or language.¹⁷

The Government of Japan, led by Prime Minister, Shinzo Abe, released this 5th Science and Technology Basic Plan on January 22, 2016 and introduced it as the concept of ‘Society 5.0’. At the World Economic Forum in 2019, Abe promoted Society 5.0 as reflecting a new reality in which it is ‘...no longer capital, but data that connects and drives everything.’¹⁸ The name, Society 5.0, is argued to be the latest evolutionary stage of human society, the first being hunter-gatherer society (Society 1.0), agrarian society (Society 2.0), industrial society (Society 3.0) and information society (Society 4.0). According to Bruno Salgues, all of these previous societies can be distinguished by particular characteristics and technologies and have contributed to the development of Society 5.0, which he argues ‘...appears as the will for balance in the search for optimization of the four previous societies.’¹⁹

At the core of Society 5.0 is the convergence of several, relatively recent technological advances. Fundamental here is the digital transformation of manufacturing and production that first emerged to make the German manufacturing industry more competitive, Industry 4.0, or the Fourth Industrial Revolution. As summarized by a Belgian publication, i-Scoop:

Industry 4.0 is used interchangeably with the fourth industrial revolution and represents a new stage in the organization and control of the industrial value chain. Cyber-physical systems form the basis of Industry 4.0 (*e.g.*, ‘*smart machines*’). They use modern control systems, have embedded software systems and dispose of

¹⁶ Ibid, p. 9

¹⁷ Ibid. p. 13

¹⁸ Jack Moss, Society 5.0: How will Japan approach ‘Data Capitalism’, *Global Policy Journal*, at <https://www.globalpolicyjournal.com/sites/default/files/Society%205.0%20-%20How%20will%20Japan%20Approach%20Data%20Capitalism.pdf>, (2019). (Accessed 3/5/2021)

¹⁹ Bruno Salgues, Society 5.0: Industry of the Future, Technologies, Methods and Tools, Vol. 1, (Wiley ISTE, 2018), p. 8.

an Internet address to connect and be addressed via [IoT](#) (*the Internet of Things*). This way, products and means of production get networked and can ‘communicate’, enabling new ways of production, value creation, and real-time optimization. Cyber-physical systems create the capabilities needed for smart factories. These are the same capabilities we know from the [Industrial Internet of Things](#) like remote monitoring or track and trace, to mention two.²⁰

Along with the data producing power of the Internet of Things (IoT), Society 5.0 utilizes products of Industry 4.0 including artificial intelligence (AI), 5G communications networks and robotics. The idea here is to create a cybernetic feedback loop cycling between the physical world and cyberspace. The masses of data collected by the IoT are necessarily processed by AI and robots are utilized to deliver to individual citizens the goods and services they need in the most efficient way with the least waste.

Society 5.0 is strongly supported by the powerful Japan Business Federation, or *Keidanren*. According to them, Society 5.0 is the latest and superior Japanese version of similar plans in other countries. *Industrie 4.0*, for example, emerged from the German High-Tech Strategy 2020 released in 2010. In the US in 2012, the General Electric Company proposed its ‘Industrial Internet’ scheme, which led to the development and dissemination of the ominously named ‘Predix’ software platform. Estonia has been promoting itself as e-Estonia since 2000 and Singapore is establishing itself as a ‘Smart Nation’.²¹ In *Analytics Insight* magazine, Apoorva Komarraju reports that China may become the world’s IoT industry leader by 2024, thanks to its expansion of its 5G network and data analytics capacity.²² Society 5.0 can therefore be understood as part of a global trend.

What the Japanese Government claims will distinguish Society 5.0 from these other plans, is that theirs is aimed at creating a people-centric society. Deguchi et. al., attempt to explain this by using the analogy of air-conditioning. Deguchi et. al. are themselves part of a Society 5.0 directed collaboration between The

²⁰ Industry 4.0: the fourth industrial revolution – guide to *Industrie 4.0*, *i-Scoop*, at <https://www.i-scoop.eu/industry-4-0/#origins-and-history-of-industry-4-0>. (Accessed 4/5/2021).

²¹ Keidanren Policy and Action, Toward realization of the new economy and society: Reform of the economy and society by the deepening of Society 5.0, Keidanren (Japan Business Federation), at http://www.keidanren.or.jp/en/policy/2016/029_outline.pdf. (2016), (Accessed 4/5/2021)

²² Apoorva Komarraju, China Might Become the World’s IoT Leader in 2024, *Analytics Insight*, at <https://www.analyticsinsight.net/china-might-become-the-worlds-iot-industry-leader-in-2024/>, (2021), (Accessed 4/5/2021).

University of Tokyo and the Hitachi Corporation, a major manufacturer of the kinds of technologies that Society 5.0 runs on. Together, in 2016, probably under the auspices of the Council on Competitiveness-Nippon, a government body designed to bring universities and industry together,²³ they formed the H-UTokyo Lab and the Habitat Innovation Project. In 2020 they published an e-Book titled, *Society 5.0: A People-centric Super-smart Society*.²⁴ The air-conditioning analogy relates to Society 5.0 as a cybernetic feedback mechanism that regulates the environment. As they argue, this becomes far more complex when applied to societies as a whole:

Originally, the purpose of an air conditioner was to keep a room at the desired temperature. The matter is simple enough if temperature control is our sole objective, but things start to get more complicated once our goal is a people-centric society. The government's 2017 comprehensive strategy describes a human-centered society as one that can "balance economic advancement with the resolution of social problems ... to ensure that all citizens can lead high-quality lives full of comfort and vitality." The authors of the strategy described it as such because they understood how difficult it can be to balance economic development, resolution of social problems, and quality of life. Society 5.0 was thus proposed as a way to attempt this feat.²⁵

Note the utilitarian emphasis on 'lives full of comfort and vitality', which is assumed to be the aspiration of all individuals. The more general aspiration of Society 5.0, however, is to find a balance between continued economic growth and the acknowledged problems associated with that such as mass production and consumption, inequality and environmental destruction and the drab and uncomfortable realities of a 'Spartan' existence, in which the economy would stall. As they argue, the challenge of solving social problems without sacrificing quality of life, also requires finding a balance between the needs of society and the needs of the individual. The answer, according to them, is habitat innovation, or the ability to influence human behaviour through cybernetic processes aimed at meeting every individual need in the most efficient way. Beyond this, however, the researchers seem to have hit a dead-end. As they question:

²³ Bruno Salgues, op. cit., p. 8.

²⁴ Hitachi U-Tokyo Laboratory, *Society 5.0: A People-centric Super-smart Society*, (Springer Open, Singapore, 2020).

²⁵ Ibid, p. 4.

Could you reconcile or find an acceptable balance between the interests of the society and that of the individuals in it? This challenge is linked at a fundamental level to the question of what we mean by “high-quality lives full of comfort and vitality.” There are many different definitions and measures of wellbeing. Wellbeing is not like the temperature of a room; you cannot quantify it in most cases. It will take us much more time until we can derive clear-cut solutions to this problem, but for the time being, humanities and social science researchers are delving into the peripheries of the matter and considering how best we can approach the core. The vision of society that Society 5.0 describes requires us to think about two kinds of relationships: the relationship between technology and society and the technology-mediated relationship between individuals and society.²⁶

This is where the humanities and social sciences assume some importance in Society 5.0. According to Deguchi et. al., ‘In Habitat Innovation, the insights of engineering, social sciences, humanities, and many other disciplines are used to analyze what QoL means at an individual level and to identify the role that policy and technology should play in enhancing it.’²⁷ Habitat Innovation primarily requires changes in values; the creation of new ones and the overcoming of prevailing ones preventing change. As they argue, ‘Society 5.0 is not the logical extension of today’s society; Society 5.0 is a revolutionary break with prevailing ideas and practices.’ This ‘revolutionary break’ on the surface appears to contradict the idea that Society 5.0 is a logical extension or development of previous forms of society, but what new values are being called for do not seem that revolutionary. For example, they are calling for new ways of thinking such as enabling the elderly to stay in their homes, giving people more choices about their living and work arrangements and allowing local communities to take the initiative in identifying their attractive features. These are all values they suggest may seem obvious, but are very difficult to implement under current thinking.²⁸

Take the last one, for example. Local governments in rural Japan are dealing with the existential threat of shrinking populations. The Society 5.0 approach is that local governments do not have the resources to be able to gather the data they need to be able to identify the problems and model possible solutions. Society 5.0 would be one in which such resources would be available to all and

²⁶ Ibid, p. 5.

²⁷ Ibid, p. 25.

²⁸ Ibid, p. 87

therefore, decision making could be kept local. This will also apply more widely as it is claimed that the technology in Society 5.0 will remove the need for centralized and market-based planning and instead allow the ‘will of the people’ to determine habitat design and development. Such autonomy is a major theme in Society 5.0. For example, the view is that such a society would drastically cut accident and disease rates, some of the biggest factors in increasing dependency, through better designed environments incorporating assistive technologies.

Despite all of the data already being collected and analyzed, much of this remains speculation and so Society 5.0 is being proposed as an experiment and a work in progress as the following quote reveals:

Society 5.0 remains somewhat ephemeral in terms of its key ideas, including the resolution of social issues with development, the supersmart society where all can live comfortable lives, and real-time exchanges between cyberspace and physical space (real world). However, efforts are being made to flesh out these ideas. Ever since the arrival of the Internet of Things, vast quantities of data from the physical space (real world) are sent to cyberspace, and from the data, new information is produced, which is then fed back instantaneously into the physical space (real world). Emotions such as discomfort and stress can be detected by sensors. Sensory perceptions and atmosphere can be extrapolated and communicated to others or relayed to remote locations. It will then be possible to forecast energy consumption and behavior. Society 5.0 will offer great value in terms of how information, sensory perceptions, and forecasts can be employed in real time. The ability to forecast and broadcast subjective human experience will help people adopt more pleasant behaviors; moreover, it will make it possible for the small choices that people make to generate sizable social value.²⁹

Deguchi et. al. reveal this to be underpinned by process thinking. It is about ‘Human Capitalism’ and ‘Human Becoming’; ‘...humanity neither as laborer, nor as consumer, nor as humans as nodes of difference, but as value. Once advanced technology emancipates or deprives us from labor and consumption, what aspect of humanity will become the focal point of capitalism?...To put it bluntly, the value for humanity is the transformation of humans themselves.’³⁰ Influenced by process thinker and Chinese scholar, Roger Ames, they argue that:

The twentieth-century imagination of the future society lacked a possibility that

²⁹ Ibid, p. 109.

³⁰ Ibid, p. 138.

humans would fundamentally be transformed. Philosophically speaking, the idea that humans will be transformed equates to the idea of the human as becoming something human, as opposed to the Western traditional idea of the human as being or having. I propose to think of human becoming instead of human being...³¹

With this understanding of Society 5.0 and its influences and motivations, the question I now pose is; what could possibly go wrong? Here I address some relevant criticisms.

SOCIETY 5.0; SOME CRITIQUES

Before proceeding, let us be clear about what is being proposed here by proponents of Society 5.0. This is a model of a society in which a range of seemingly intractable social, economic and environmental problems can be solved using Industry 4.0 and 5G technology to continually collect data on individuals. Such massive amounts of data will then be necessarily processed by an artificial intelligence. This AI will be able to calculate what every individual needs and utilizing robotics and drone technology provide for these needs with a minimum of waste. The AI will, perhaps, not only provide for your needs but anticipate them, so that a pizza arrives at your doorstep before you even consciously decide to order it. It is proposed then that this AI-controlled cybernetic feeding tube will create the conditions for happy, comfortable and vital human lives. It is a post-scarcity world in which technology removes obstacles in the path of human desires.

Having made that clear, there is actually little direct criticism of Society 5.0 to be found. Issues are raised by some that may be concerning or act as obstacles to progress, but most literature on Society 5.0 is largely supportive of its implementation. For example, Salgues raises the issue that distraction will be an important source of activity in Society 5.0 to prevent boredom. Society 5.0 will be a distraction economy according to him, continuing the trend towards the growth of the entertainment industry. While he talks about distraction interrupting reflection and being an escape from reality, no judgement is made as to whether this is a problem for Society 5.0; it is just one of its characteristics.³²

³¹ Ibid, p. 139.

³² Bruno Salgues, *op. cit.*, p. 13

Alternatively, in my paper on *The Triumph of Virtual Reality*, I discuss a growing scientific literature revealing the destructive effects of distraction economies on human cognitive development.³³ It seems clear that society 5.0 would be a world in which life would be so boring and meaningless that we would spend our time, as Neil Postman famously characterized it, amusing ourselves to death and regress to become like children, totally dependent on the AI.³⁴ This vision of the human world seems to be to create one huge retirement village. Philosophers for millennia have understood that the conditions for intellectual and moral development of human beings, as well as meaning creation, require the challenges of encountering and overcoming obstacles.³⁵ It is difficult to see therefore, what pathways to intellectual and moral development and meaning there could be in such a frictionless world of technological dependency.

There are a vast range of more general criticisms that can be directed at Society 5.0, many of them focussed on problems with AI. As AI continues to develop with the acceleration of processing power, a growing literature is emerging warning of some of the implications of this power both in the present and future. A major theme here is the inadequacies of AI despite the claims made by its proponents. Ellen Broad, for example, in her book on AI ethics, *Made by Humans: The AI Condition*, argues that despite the confidence people in the AI industry have in the sheer volume of data they collect presenting an accurate picture of reality, they are only collecting shadows, ‘...the bits of an interaction online that can be recorded as data.’³⁶ AI cannot capture the broader contexts in which we live. As the title of her book suggests, Broad also argues that AI cannot be abstracted from the humans creating it, which is also a theme in Kate Crawford’s *Atlas of AI: Power, Politics and the Planetary Costs of Artificial Intelligence*. Crawford’s answer to the question, what is AI, reveals its true complexity.

Artificial Intelligence then, is an idea, an infrastructure, an industry, a form of exercising power, and a way of seeing; it’s also a manifestation of highly organized capital backed by vast systems of extraction and logistics, with supply chains that wrap around the entire planet. All these things are part of what artificial intelligence

³³ Glenn McLaren, op. cit.

³⁴ Neil Postman, *Amusing Ourselves to Death: Public Discourse in the Age of Show Business*, (Penguin, 2005).

³⁵ Georg Hegel for example, argued that moral and self-consciousness development progressed through a dialectical process of abstract ideas encountering negating ones leading to higher synthesis.

³⁶ Ellen Broad, *Made by Humans: The AI Condition*, (Melbourne University Press, Carlton, 2018), Part 1.

is – a two word phrase onto which is mapped a complex set of expectations, ideologies, desires and fears.³⁷

From within this complex understanding, Crawford is able to reveal the impacts of AI research and implementation on labour practices, data security, power relations and perhaps most importantly, the natural environment. While Society 5.0 makes claims about cutting waste, it says nothing about how it is part of the problem of greenhouse gas production in the enormous amounts of energy and natural resources the AI industry and research consumes. Another issue raised by both Broad and Crawford as well as Virginia Eubanks, is the human bias and prejudice built into AI algorithms, challenging the view of proponents that AI provides the most objective and rational solutions. In her book, *Automating Inequality: How High-Tech Tools Profile, Police and Punish the Poor*, Eubanks provides examples of AI controlled welfare programs reinforcing socioeconomic and racial prejudices, rather than providing fairer outcomes.³⁸ From this, it is difficult to imagine that in Japan, for example, cultural stereotypes of conformity and respect for authority would not be programmed into the Society 5.0 algorithms.

One of the most obvious criticisms I see is that the designers and proponents of Society 5.0 seem to have a profoundly naïve understanding of the history and nature of capitalism. The researchers at the Hitachi-UTokyo Lab argue that Society 5.0 will be a new form of ‘Human Capitalism’ in which value of transformation will become more important than money, property and material objects, more generally. With all data being accessible and all individual needs efficiently met, human beings will become nicer and less competitive, so avoiding the worst aspects of capitalism. The question that I would ask is, however, is whether this is compatible with capitalism at all. Jack Moss raises the problem with Society 5.0 that much of what is communicated about it from both the Japanese Government and the G20, which supports the idea, are vague statements lacking detail of how it might overcome some major hurdles. One of these hurdles he identifies as ‘data capitalism’ which he defines in the following:

Data capitalism can be broadly understood as “a system in which the

³⁷ Kate Crawford, *Atlas of AI: Power, Politics and the Planetary Costs of Artificial Intelligence*, (Yale University Press, New Haven, 2021), p. 18-19.

³⁸ Virginia Eubanks, *Automating Inequality: How High-Tech Tools Profile, Police and Punish the Poor*, (Picador, New York, 2018).

commoditization of our data enables an asymmetric redistribution of power that's weighted toward the actors who have access and the capability to make sense of information", or, in simpler terms, a system whereby large tech companies with expert data analysts can manipulate their expertise to concentrate power.³⁹

According to Moss, in promising an open data ecosystem within a capitalist framework, proponents of Society 5.0 cannot say how they will gain access to the technologies and data currently in the hands of private interests. This is perhaps not surprising because as I revealed earlier, researchers in Society 5.0, particularly those in the social sciences and humanities, which in reality is mainly psychology and economics, are still working the details out. The likely reality, I argue, rather than the fantasy, is that Society 5.0 will be a continuation, if not an acceleration of what Shoshana Zuboff calls, 'Surveillance Capitalism'.⁴⁰ No matter what name we give it or in what country, Society 5.0 is a surveillance society, one with a scale of projected electronic monitoring of human behaviour never before seen in our history. If it remains wedded to a capitalist framework, then it will become a surveillance capitalist society of a scale we have not seen.

The bones of Zuboff's argument can be seen in the eight-part definition she gives for Surveillance Capitalism, which can be related to Society 5.0. Surveillance capitalism is:

1. A new economic order that claims human experience as free raw material for hidden commercial practices of extraction, prediction and sales.

Despite the language of citizenship, Society 5.0 will similarly treat its citizens, or perhaps more accurately, subjects and their experiences as 'free raw material' which, while being within the logic of capitalism, will still be mined by private corporations as well as levels of government. In fact, Society 5.0 could not function unless it had such access from its subjects. Virtual reality technology pioneer, Jaron Lanier, in his book, *Who Owns the Future?*, is deeply critical of a system in which human data is collected for free by what he refers to as 'siren servers', which he defines as '...an elite computer or coordinated collection of

³⁹ Jack Moss, op. cit.

⁴⁰ Shoshana Zuboff, *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power*, (Hachette Book Group, London, 2019).

computers, on a network. It is characterized by narcissism, hyperamplified risk aversion, and extreme information asymmetry. It is the winner of an all-or-nothing contest, and it inflicts smaller all-or-nothing contests on those who interact with it.⁴¹ Lanier makes the case for siren servers giving micro-payments to users for their data. My own reservations about this is that if it is based on quantity of information only, it could encourage more time spent online and a profusion of more junk data.

2. A parasitic economic logic in which the production of goods and services is subordinated to a new global architecture of behavioural modification.

As revealed earlier, a fundamental goal of Society 5.0 is to create the ability to forecast and broadcast subjective human experience to help people adopt more pleasant behaviours. Much of this, I argue, is motivated by determinism. In an article by Steve Taylor, *How a Flawed Experiment “Proved” That Free Will Doesn’t Exist: It did no such thing – but the result has become conventional wisdom nevertheless*, he points to a history of philosophers and scientists obsessed with proving that humans have no free will and that we are fully determined by our micro-components. He discusses how the infamous Benjamin Libet experiments in the 1980’s, which claimed to show that the decision to make a movement is made prior to our conscious awareness of it, is used by determinists to reject free will. Taylor, however, reveals the many flaws in these experiments which undermine these determinist claims. He quotes Alfred North Whitehead who said ironically that, ‘Scientists animated by the purpose of proving themselves purposeless constitute an interesting subject for study.’⁴² For process philosophers, free will is real and emergent and exists in a dialectical relationship with determinism. The danger of applying deterministic approaches to modifying human behaviour is that rather than reflect a deterministic reality, it generates a deterministic belief which then seeks to mould humans to its logic. Society 5.0, rather than augmenting the reality of free will, will impose a form of brainwashing to generate

⁴¹ Jaron Lanier, *Who Owns the Future?*, (Simon and Schuster, 2014).

⁴² Steve Taylor, ‘How A Flawed Experiment “Proved” That Free Will Doesn’t Exist’, *Scientific American*, December 6, 2019, at <https://blogs.scientificamerican.com/observations/how-a-flawed-experiment-proved-that-free-will-doesnt-exist/>, (Accessed 24/7/2021).

more deterministic behaviours.

The many pathologies associated with this have been profoundly explored by Dutch psychiatrist, Joost Meerloo, in his book, *The Rape of the Mind*, in which he explores his own and other experiences of brainwashing and torture; what he calls, ‘menticide’.⁴³ According to Meerloo:

Menticide is an old crime against the human mind and spirit but systematized anew. It is an organized system of psychological intervention and judicial perversion through which a powerful dictator can imprint his own opportunist thoughts upon the minds of those he plans to use and destroy. The terrorized victims finally find themselves compelled to express complete conformity to the tyrant’s wishes.⁴⁴

In the case of Society 5.0, the terror will not be generated by physical violence but from fear of the discomfort and uncertainty of reality.

3. A rogue mutation of capitalism marked by concentrations of wealth, knowledge, and power unprecedented in human history.

The scale of this form of capitalism can be argued to be unprecedented, but to call it a rogue mutation feels like something someone would say who is defending a naïve view of capitalism. Monopoly capital, the emergence of the large, monopolistic corporations towards the end of the 19th. Century, which Marx did not foresee, signalled the end of free competition. As Paul Mason describes it, in his book, *Postcapitalism: A Guide to Our Future*, corporate magnates and not the market, acted, in cooperation with governments, to suppress competition arguing for monopoly, price-fixing and protected markets. What followed were mergers, the creation of cartels and government imposed restrictions on imports. The creation of these giant corporations were facilitated by re-organization of the finance industry. As Mason puts it, ‘...finance took a controlling stake in industry, carving out monopoly positions where possible, suppressing market forces – and the state was directly aligned to the whole project.’⁴⁵ The emergence of Neoliberalism in the early 1980’s did not free up markets, rather, it enabled big corporations to profit more through the creation of internal markets by privatizing public goods. The emphasis on collaborations with the private sector

⁴³ Joost Meerloo, *The Rape of the Mind*, (Martino Publishing, 2015).

⁴⁴ Ibid, p. 28.

⁴⁵ Paul Mason, *Postcapitalism: A Guide to Our Future*, (Allen Lane, UK, 2015), p. 56-57.

and the deep involvement of transnational corporations like Hitachi in its development, suggests that the power of corporate monopolies will be protected and enhanced in Society 5.0.

4. The foundational framework of a surveillance economy.

Zuboff identifies Google as the pioneer of ‘Surveillance Capitalism’ and ‘surveillance economics’. Her argument is that

‘...although surveillance capitalism does not abandon established capitalist “laws” such as competitive production, profit maximization, productivity, and growth, these earlier dynamics now operate in the context of a new logic of accumulation that also introduces its own distinctive laws of motion...surveillance capitalism’s idiosyncratic economic imperatives [are] defined by extraction and prediction, its unique approach to economies of scale and scope in raw-material supply, its necessary construction and elaboration of *means of behavioural modification* that incorporate its machine-intelligence-based “means of production” in a more complex system of action, and the ways in which the requirements of behavioural modification orient all operations toward totalities of information and control, creating the framework for an unprecedented *instrumentarian* power and its societal implications.’⁴⁶

Despite some vague claims about autonomy and empowerment of individuals, I have seen nothing in Society 5.0 which does not conform to this economic model.

5. As significant a threat to human nature in the twenty first century as industrial capitalism was to the natural world in the nineteenth and twentieth.

Here I believe Zuboff is referring to the ways in which the Internet of Things has given governments and commercial businesses more power than ever to determine what was complex human behaviour, obliterating chance and spontaneity. Ubiquitous digital devices do not only collect our data, they are used to generate action by nudging us in particular directions. Tech executives and engineers boast of their ability to manipulate us. They do this by running continuous experiments on us that only digital technology is capable of. Worse than this, according to Zuboff, ‘...surveillance capitalists declare their right to modify others’ behaviour for profit according to methods that bypass human

⁴⁶ Shoshana Zuboff, op. cit., p. 66-67.

awareness, individual decision rights, and the entire complex of self-regulatory processes that we summarize with terms such as *autonomy* and *self-determination*.⁴⁷ What this suggests to me is that surveillance capitalism is in the process of destroying all that humanity has gained in the development of self-consciousness over the past two millennia, reducing us to predictable machines. I fail to see anything in the logic of society 5.0 which would not have the same effect.

6. The origin of a new instrumentarian power that asserts dominance over society and presents startling challenges to market democracy. 'Instrumentarian power' is Zuboff's term for the use of technology by government and corporations to control and manipulate people, reducing them to predictable instruments to be used to achieve their goals. Market democracy is an oxymoron. Its proponents claim that governments can rely on the market to evenly and fairly distribute goods, services and opportunities. Samuel Arnold, however, argues that it does neither. He argues that '...a market democracy, then, may be a land of liberty. It may be a land of prosperity. But in the end, it is not a land of fairness or opportunity.'⁴⁸ Zuboff contrasts the radical indifference of today's surveillance capitalists to the perhaps romanticized reciprocity between capital, labour and consumers in earlier twentieth century market capitalism.

7. A movement that aims to impose a new collective order based on total certainty.

Zuboff discusses how market capitalism is based on ignorance and freedom. Both Adam Smith and later, Friedrich Hayek, argued that it is a system in which the whole is the sum of its parts but the parts can never know the whole. This is a condition for freedom as there is no ultimate source to guide them which reveals the limits to our ability to control markets and nor should we try. Surveillance capitalism, on the other hand, makes the market visible in its infinite detail. Surveillance capitalism, Zuboff argues, '...replaces mystery with certainty as it substitutes rendition, behavioural modification, and prediction for the old

⁴⁷ Ibid, p. 298.

⁴⁸ Samuel Arnold, Market Democracy: Land of Opportunity? *Critical Review*, Vol. 26, Issue 3-4 (Taylor and Francis, 2014) at <https://www.tandfonline.com/doi/full/10.1080/08913811.2014.947740>. (Accessed 11/5/2021)

“unsurveyable pattern”.⁴⁹ It also does something contrary to the Neoliberal order from which it emerged in privileging collectivism and a hive mentality. Through the combination of freedom and knowledge, surveillance capitalists are able to divide learning and accelerate the asymmetry of power between them and the societies in which they operate.⁵⁰

It is the quest for certainty, more generally in philosophy and science which has motivated the counter tradition of process philosophy and its support for speculative philosophy. It is a quest underpinned by analytical traditions in philosophy which have produced discredited epistemologies such as Logical Positivism, the view that indubitable knowledge can be achieved through the sheer quantity of data accumulated. Enough data can produce unquestionable facts which can eventually lead to making questioning unnecessary. Process thinkers like Gare and Whitehead, however, argue that this is a flawed process of abstractly imposing closure on nature’s open systems, a process with a long and destructive history.⁵¹ Despite its talk of humans as processes of becoming, I argue that Society 5.0 is based in this discredited epistemology of Logical Positivism, seeking certainty through data. The concept of Society 5.0 is itself a speculation with many uncertainties around whether it is possible and how it could work. The comfort and certainty it is speculated it could produce amongst its inhabitants will be an illusion, just like in *Brave New World*, actively produced by inhabitants who are unquestioning due to being kept unaware of alternative realities, or the chaos that surrounds their perfect order.

The implications of this quest for certainty is profound. Society 5.0 promises a life of comfort and vitality but while it may deliver comfort, I argue that vitality is the condition of living with a level of uncertainty. In previous papers of mine, such as *Health in an Ecological Civilization: Towards a Process Understanding of the Dialectics of Health*, I have endorsed the view of process thinkers that reality is vibratory and life exists as a dynamic balance between order and chaos; order

⁴⁹ Shoshana Zuboff, op. cit., p. 497.

⁵⁰ Ibid, p. 496-497.

⁵¹ Arran Gare, in his discussion of speculation, reveals how the concept has been discredited through the emergence of scientism, the view that the scientific method is privileged because it gives us certain knowledge. As Gare and Whitehead show, however, speculation is fundamental to scientific inquiry being conducted at all and creates the conditions for questions to be continually generated. Arran Gare, ‘Speculation’, in Glăveanu V. (eds) *The Palgrave Encyclopedia of the Possible*. (Palgrave Macmillan, 2020).

and chaos exist in a dialectical relationship with the synthesis being complex life.⁵² Remove the chaos and you destroy the conditions for life. As Huxley argued, *Brave New World* forms of society are too ordered. As Sociologist, Frank Furedi has argued in his work on fear, the promise of certainty is creating an obsession with safety and security which is generating a disproportionate 'culture of fear' leaving us more and more vulnerable to and impacted by, uncertainties.⁵³ Our fear leaves us particularly vulnerable to con-artists, totalitarians and others promising a certain, comfortable and predictable future, such as the proponents of Society 5.0. This then brings us to Zuboff's last definition.

8. An expropriation of critical human rights that is best understood as a coup from above: an overthrow of the people's sovereignty.

Zuboff concludes by arguing that,

Surveillance capitalism's successful claims to freedom and knowledge, its structural independence from people, its collectivist ambitions, and the radical indifference that is necessitated, enabled and sustained by all three now propel us toward a society in which capitalism does not function as a means to inclusive economic or political institutions. Instead, surveillance capitalism must be reckoned as a profoundly antidemocratic social force.⁵⁴

Zuboff goes as far as to say that what we are seeing is a new form of tyranny. The question that needs to be asked therefore, is whether Society 5.0 will also be a new form of tyranny. Evgeny Morozov warns us against the fantasy of digital democracy arguing that anti-democratic regimes are as much, or more effective in using digital technologies to serve their ends.⁵⁵ Zuboff reveals how Google and Facebook have provided governments with a model for how to create tyranny; how to disguise the centre of power behind the infrastructure of what she calls the 'Big Other' and how to create a population of politically apathetic subjects. But, while I agree with this analysis of Zuboff, the idea of a purely top-down coup

⁵² Glenn McLaren, 'Health in an Ecological Civilization: Towards a Process Understanding of the Dialectics of Health', in *Cosmos and History: The Journal of Natural and Social Philosophy*, Vol. 15, No. 1, 2019 at <http://cosmosandhistory.org/index.php/journal/article/view/773/1322>, p.p. 427-484, (Accessed 25/7/2021).

⁵³ Frank Furedi, *How Fear Works: Culture of Fear in the Twenty First Century*, (Bloomsbury Continuum, London, 2018).

⁵⁴ Ibid, p. 512.

⁵⁵ Evgeny Morozov, *The Net Delusion: The Dark Side of Internet Freedom*, (Public Affairs, Philadelphia, 2011).

is too simplistic. As Romele et. al. argue, this is an example of panopticism associated with Michel Foucault's application of the perfect circular prison modelled by Samuel and Jeremy Bentham.⁵⁶ This does not fully explain, however, why despite an expanding critical literature and increased awareness of the level of surveillance embedded in our digital technologies, little tends to change in people's practices. Here they introduce the concept of 'voluntary servitude', first coined by Etienne de la Boetie, in the 16th. Century. They argue that there is a strong proximity between desire of freedom and desire of servitude often related to a mistrust of emancipatory movements which can turn into new forms of domination. So, a dialectic recognizing a population's agency in supporting their tyranny needs to also be considered. Gare recognizes this in his characterization of 'house-slaves' and their often enthusiastic complicity in their oppression.⁵⁷

I have argued that Society 5.0, despite its rhetoric of democracy, openness, inclusiveness and vitality, is fundamentally a surveillance society. By presenting itself as a new form of capitalism it is also therefore, surveillance capitalism. Based on the nature of surveillance capitalism as characterized by Zuboff, Society 5.0, rather than being a people-centric society, is more likely to be part of the new form of tyranny being generated by the tech corporations which form an essential part of Society 5.0. Such a tyranny does not improve the comfort or vitality of human lives but reduces humans to passive, unquestioning instruments of the powerful, as many political ideologies have done in the past. This should not, therefore, be our only future. What we need is an alternative that is truly people-centric; an Ecological Civilization.

WHAT IS ECOLOGICAL CIVILIZATION?

In my paper, *Health in an Ecological Civilization: Towards a Process Understanding of the Dialectics of Health*, I argue that, 'An ecological civilization is one which augments the conditions for life, rather than destroys it, on the relational understanding that

⁵⁶ Alberto Romele et. al., Panopticism is Not Enough: Social Media as Technologies of Voluntary Servitude, *Surveillance and Society, Surveillance Studies Network*, 2017 at <https://www.tandfonline.com/doi/full/10.1080/08913811.2014.94774>. (Accessed 12/5/2021). P. 16-17.

⁵⁷ Arran Gare. 'Against Posthumanism: Posthumanism as the World-Vision of House-Slaves', in *Borderless Philosophy*, 4 (2021), p.p. 1-56.

what is good for life in general is also good for human life; humans are within nature, not outside of it.⁵⁸ Here I refer to the problem I discussed in the Introduction of the human capacity for abstracting ourselves from nature, treating it as an external object. The concept of ecological civilization developed by Arran Gare and myself, is rooted in a more concrete, complex understanding of reality; process metaphysics. Process metaphysics holistically understands fundamental reality as relational, vibratory and dialectical. Structure emerges through the constraining of activity and creates and maintains itself as dynamic tension between opposing forces. Process metaphysics also recognizes emergence and the reality of emergent composite structures which display behaviours not reducible to their components. Humans as processes, go through development processes in which opposing forces are encountered and synthesized into new levels of tension. As stated earlier, it is this process orientation of Ecological Civilization that has led to it being embraced by the global process philosophy community resulting in the establishment of the Institute for Ecological Civilization.

In 2021, the Institute published an anthology of essays on the theme, *The New Possible: Visions of Our World beyond Crisis*. The first chapter, written by process thinker Jeremy Lent, is titled, *Envisioning an Ecological Civilization* and sets the tone for the essays which explore the natural, social, political and economic conditions needed to create an Ecological Civilization.⁵⁹ Like Society 5.0, Lent argues that creating an Ecological Civilization will require a radical change in human values. As he says:

The depiction of humans as selfish individuals, the view of nature as a resource to be exploited, and the idea that technology alone can fix our biggest problems are all profound misconceptions that have collectively led our civilization down this madcap path to disaster. We must recognize the destructive nature of the dominant mainstream culture and reject it for one that is life-affirming, embracing values that emphasize the growth in the quality of life rather than in the consumption of goods and services. We must emphasize core human values of fairness, justice, and compassion as paramount – extending them through local neighbourhoods to state

⁵⁸ Glenn McLaren, op. cit., p. 428.

⁵⁹ Jeremy Lent, 'Envisioning an Ecological Civilization', in Philip Clayton, Kellie M. Archie, Jonah Sachs and Evan Steiner (eds.), *The New Possible: Visions of Our World beyond Crisis*, (Wipf and Stock, Eugene, 2021), p.p. 3-12.

and national government, to the global community of humans, and ultimately to the community of all life...We must move from a civilization based on wealth accumulation to one based on the health of living systems: an *ecological civilization*.⁶⁰

There are similarities here with the values argued to be required for Society 5.0, but the fundamental difference is that whereas Society 5.0 begins with the conditions for comfortable human life, Ecological Civilization begins with the conditions for life more generally. Lent argues, for example, that an ecological approach reveals that cooperation, or symbiosis within ecosystems is as important to the proliferation of life as competition. The circular economies of natural ecosystems, in which waste products are continually recycled within systems, stand in stark contrast to the linear growth economies which now dominate human societies. Lent emphasizes the balance that is generated within healthy ecosystems that allows them to sustain themselves indefinitely.⁶¹ Lent is particularly critical of Neoliberalism, an ideology which promotes private interests over that of the common good. The importance of cooperation in nature reveals the importance of democracy in an Ecological Civilization in which public institutions can represent the public will and promote and protect the commons against the private actions of those in the market. For example, Lent advocates a Universal Basic Income, private corporations being required to promote the common good, online networks being turned over to the commons and for ceilings to be imposed on excessive income levels. In regard to food production, Lent suggests that we move past current destructive practices to embrace regenerative agriculture with locally owned cooperatives replacing private corporations. In regard to cities, communities and education, Lent proposes that:

Cities would be re-designed on ecological principles, with community gardens on every available piece of land, essential services always available within a twenty minute walk, and cars banned from city centres. The local community would be the basic building-block of society, and face-to-face interactions would again become a central part of human flourishing. Education would be re-envisioned, its goal transformed from preparing students for the corporate marketplace to cultivating the wisdom, discernment, and emotional maturity that are required for each student to embark on a lifetime of pursuing their own wellbeing as valued

⁶⁰ Ibid., p. 5.

⁶¹ Ibid., p. 6.

members of society.⁶²

This all sounds like a wonderful utopian vision, but again, many of the aspirations sound similar to that of Society 5.0, particularly when Lent talks about Ecological Civilization making human lives more comfortable. To get to a deeper appreciation of the differences, we need to turn to the extensive work of Arran Gare on the history and nature of Ecological Civilization. In his paper, *The Eco-socialist Roots of Ecological Civilization*, Gare reveals better the dialectical relationship between Ecological Civilization and Society 5.0.⁶³ Gare traces the origin of the term Ecological Civilization to a Central Commission Report of the Chinese Communist Party in 2007, but he sees the deeper roots of this idea in the concept of ‘ecological culture’, emerging within the Soviet Union in the 1970’s. What Gare is arguing is that Ecological Civilization needs to be understood as a movement against Capitalism, as well as environmental destruction within Communist countries. He argues that:

Ecological civilisation is often characterized as what comes after industrial civilisation, and this can be interpreted to mean that China has to fully industrialize before it can afford to fully deal with ecological problems. It can also be interpreted as dealing with ecological problems generated by industrialization by utilizing technological solutions, much as in Western capitalist countries. A more radical view is that the centralization of power engendered by capitalism and industrialization needs to be challenged, and that ecological civilisation requires institutions to subordinate markets and empower people at local levels.⁶⁴

Gare’s argument reveals that Ecological Civilization is a form of Eco-socialism, a fact that Lent hints at, but does not express explicitly. It is heavily influenced by the works of Karl Marx, as well as other key figures in process philosophy and post-reductionist science who find themselves on the margins in a Capitalism dominated world. He argues that Ecological Civilization cannot be anything but socialism in saying that:

In fact, ecological civilisation not only brings into focus the ultimate failure of capitalism and the ultimate reason why it must be replaced; it also clarifies what socialism is and what humanity should be striving to create. It can provide the

⁶² Ibid., p. 10.

⁶³ Arran Gare, ‘The Eco-socialist Roots of Ecological Civilization’, in *Capitalism Nature Socialism*, 32:1, p.p. 37-55.

⁶⁴ Ibid., p. 2.

coherence required for an alternative hegemonic culture capable of overcoming the hegemony of capitalist culture and the opposition between the sciences and the humanities. Civilisation has usually been defined in opposition to barbarism and decadence, and in late capitalism we are facing a combination of hi-tech barbarism with the decadence of consumerism.⁶⁵

Here Gare calls into question whether we are currently living in a civilization, as Lent assumes. The late-Capitalism in which we are living is barbaric in that it is actively disempowering and de-civilizing us, turning us into mindless consuming automata who mistake freedom for irresponsible self-indulgence. Rather than freedom, we are seeing oppression in the deterioration of our economies, our democracies, our cognition and our natural environments. Alternatively, he characterizes socialism as ‘...the form of society in which people gain control over their destinies and recognize themselves as creative participants in a creative nature.’⁶⁶ This is perhaps the most significant difference between Ecological Civilization and Society 5.0. Ecological Civilization, underpinned by process philosophy, recognizes and seeks to augment human agency and creativity seeing, through cooperation, potential for creating different futures. Society 5.0, on the other hand, in seeking to create ‘human capitalism’, is in fact further reifying the status quo; one that is enslaving humanity and destroying the conditions for life. Gare concludes his paper in saying:

Ecology, including human ecology, is providing the forms of thinking required to remake economics and the other human sciences, ethics and politics. Marx wrote of a future in which the free development of each will be the condition for the free development of all. The triumph of ecological civilization will involve creating an order generalizing this idea from individuals to communities and to communities of communities. ‘Communities of communities’ will include the whole of humanity along with biotic communities, the current regime of the global ecosystem among them.⁶⁷

ECOLOGICAL CIVILIZATION, NOT SOCIETY 5.0

In previous works of mine that I have referred to in this paper, I have argued in agreement with those such as Georg Hegel, that human growth and freedom is

⁶⁵ Ibid., p. 12

⁶⁶ Ibid., p. 9.

⁶⁷ Ibid., p. 12-13.

created and developed through a dialectical movement from abstract to negative to concrete. Our speculations and abstract over-simplifications encounter resistance, or the negative which generates self-reflection and experimentation to reveal the concrete, or true complexity of reality. A healthy development process is one in which we start off naively whole, unable to distinguish ourselves and then through our engagement with external objects and others and abstractions such as language, suffer the trauma, fragmentation and alienation of becoming distinct. We are then launched on a journey of moral and intellectual development through learning to understand our relationships with others, nature and ultimately, the universe. Ultimately, depending on how successfully we integrate and transcend opposing forces, we become whole through developing an informed holism in which we consciously understand that we were never fundamentally distinct at all. There is no guarantee of transcendence with many ending their lives fragmented and confused, but without encountering resistance there is no possibility for it.

As Joost Meerloo argues in relation to technology:

The growth of technology may confuse man's struggle for mental maturity. The practical application of science and tools originally were meant to give man more security against outside physical forces. It safeguarded his inner world; it freed time and energy for meditation, concentration, play, and creative thinking. Gradually the very tools man made took possession of him and pushed him back into serfdom instead of toward liberation. Man became drunk with technical skill; he became a technology addict. Technology calls forth from people, unknown to themselves, an infantile, servile attitude...Technical security paradoxically may increase cowardice.⁶⁸

Society 5.0's aspirations are not courage and transcendence through dialectical processes, but comfort and vitality through cowardly servitude. It is ethically a hedonistic utilitarian theory designed to increase happiness by removing the constraints of having to think and act on one's own volition. Its proponents argue that by anticipating and providing for every human need you can create a post-scarcity environment in which humans are free to pursue their individual self-interest without harming others. To achieve this, the engineers of Society 5.0 do what engineers do best; they dampen vibrations in order to

⁶⁸ Joost Meerloo, *op. cit.*, p. 208-209.

channel energy efficiently from point A to point B. By over-dampening vibrations, however, they remove levels of resistance, or friction necessary for development. Society 5.0, therefore, like surveillance capitalism more generally, is designed to stunt human development creating a population of compliant, comfortable idiots. A world in which, despite its proponents support for philosophy, the conditions for philosophy cannot be created. An ecological civilization, alternatively, is one in which vibrations are not over-dampened but better understood and humans are still exposed to the oscillating dangers and challenges of changing, indeterminate realities. This is necessary for us to learn to anticipate uncertainty and not get locked into a fixed determinate pattern. Such fixed positions leave us vulnerable to the indeterminate vicissitudes of process reality. Society 5.0 will therefore accelerate the process of us becoming less mature, more fragmented and more vulnerable than we now are.

Like Society 5.0, I cannot be too specific about what an Ecological Civilization would look like as it is a work in progress, and over-specifying is not consistent with the vagueness and openness of process thinking. But, as I have said, there are many process thinkers in the world today working on the specifics. Arran Gare, for example has rigorously investigated the philosophical foundations of Ecological Civilization in his manifesto, showing how it is rooted in the tradition of process philosophy.⁶⁹ Jeremy Lent and his colleagues from the Institute for Ecological Civilization have presented a range of measures that need to be put in place to transform our politics, economy, energy and food production and approach to nature and Political Philosopher Paul Mason has, I believe, put forward some promising ideas of how our high-tech information technology can be used in a post-capitalist, eco-socialist Ecological Civilization. These are the intellectuals we should be listening to. Think, for example, of the Japanese problem of the death of small rural village life. Society 5.0's answer is to make more data, mediated by the AI, available to rural communities to give them more individual autonomy; more data equals better solutions. In an Ecological Civilization, the roots of the centralization of wealth in neoliberal capitalism and the deterioration of democracy that is treating rural communities as economically

⁶⁹ Arran Gare, *The Philosophical Foundations of Ecological Civilization: A Manifesto for the Future*, (Routledge, New York, 2017).

unviable would be addressed, giving rural communities real power.

Finally, as a philosopher my concern is that whatever path we take into the future, humans will be able to develop the capability to distance themselves from their machines and take a critical perspective, as this paper seeks to exemplify. Society 5.0 represents increasing efforts to fully integrate us with machines to blur these boundaries. As AI corporate executive, Kai-Fu Lee asks of us, in his book, *AI Superpowers: China, Silicon Valley and the New World Order*:

If AI ever allows us to truly understand ourselves, it will not be because these algorithms captured the mechanical essence of the human mind. It will be because they liberated us to forget about optimizations and to instead focus on what really makes us human: loving and being loved...Let us choose to let machines be machines, and let humans be humans. Let us choose to simply use our machines, and more importantly, to love one another.⁷⁰

The possibilities for this will be created within an Ecological Civilization.

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⁷⁰ Kai-Fu Lee, *AI Superpowers: China, Silicon Valley and the New World Order*, (Houghton Mifflin Harcourt, New York, 2018), p. 231-232.

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