

Technological Singularity and Transcendental Monism: Co-producers of Sustainable Alternative Futures

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Abstract

The need for a fusion between technological singularity and transcendental monism is posited as the best compromise for sustainable alternative futures. Four possible futures could emanate from a combination of two types of technological progress and metaphysical monism: (a) Technological singularity and material monism could lead to the end of humanity as we know it and usher in the era of transhumanism. (b) Linear change and material monism could lead to an extrapolation of the present into the current future, i.e. development and under-development, haves and have-nots, ecological-environmental unsustainability. (c) Linear change and transcendental monism could lead to consciousness as the dominant causal reality in a low-technological world with sustainable naturalism. (d) Technological singularity and transcendental monism could lead to completely new futures where higher conscious humans use technology (innovation) as a means for sustainable higher order living expandable to the universe as a whole.

Keywords: technological singularity, linear change, transcendental monism, innovation, sustainability, consciousness

Introduction

The systematic application of new organised knowledge to new resources to produce new goods and new services, also termed "innovation" or "new" technology (Soltynski, 2006), within the context of a "glocalised"¹ world stands in sharp contrast to the preservation and pursuit of belief and value systems of faith underlying many Western and non-Western cultures. This market-driven quest for more innovation to achieve higher levels of profitability is increasingly becoming a zero-sum contest with disruptive and even destructive consequences for cultural and spiritual higher order living. This is apart from the impact innovation has on environmental issues.

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The problem is clearly illustrated by two vastly contrasting approaches. A recent issue of *trendwatching.com* categorically stated the following:

There's more innovation happening than ever before. New brands, new niches, new concepts, new products, new services and new experiences are flooding an equally fast expanding number of markets ("Innovation Avalanche," 2008, p.1).

They called this the "Innovation Avalanche". In contrast to the "innovation avalanche" the leaders of Bhutan categorically stated the following:

Our approach to development has been shaped by the beliefs and values of the faith we have held for more than 1,000 years. Firmly rooted in our rich tradition of Mahayana Buddhism, the approach stresses, not material rewards, but individual development, sanctity of life, compassion for others, respect for nature, social harmony, and the importance of compromise... we have deliberately chosen to give preference to our understanding of happiness and peace, even at the expense of economic growth... (Bhutan Planning Commission, 1999, p.19).

History has shown that the importance of technology in the advancement of the human race is unquestionable. The technological progression from the Agricultural age through the Industrial age to the current Information age illustrated that human advancement is not possible without technological advancement. However, it is the impact of innovation (new technology) on the contextual environment that leads to disruptive and even destructive consequences. This inevitably begs the question: What will be the next paradigm shift after the information age and what will be its disruptive or even destructive qualities, especially with regard to its impact on the belief and value systems of humanity?

Dostal (2005) posits that a paradigm shift from the information age into the information age would occur. In-formation (as hyphenated) is defined (Dostal, 2005, p.193) from its Latin meaning as "putting form into" or "bringing into being" and is distinguished from its quantitative meaning of "bits" of information to a more qualitative meaning where it informs and impacts matter and energy. Dostal (2005) also defines the belief and value systems of humans and its thought and social interaction as the psycho-sociosphere, a term that will be used throughout this study in a similar context.

The next paradigm shift to the information age is seen by Kurzweil (2006) as the inevitable merger of human biological thinking with the non-biological intelligence humans are currently creating through innovation, i.e. "bringing into being" a cyborg. Vinge (1993) and Kurzweil (2006) term this development the "Singularity". It is defined as "a future period during which the pace of technological change will be so rapid, its impact so deep, that human life will be irreversibly transformed" (Kurzweil, 2006, p.7). Kurzweil (2006) forecasts that the Singularity will occur as soon as the year 2048 while Vinge (1993) predicts that it will occur by 2030 because the linear trend of innovation was beginning to reach the so-called "knee of the curve", the point where an exponential trend becomes noticeable. He sees the impact of the Singularity as so profound that there would be no distinction, post-singularity, between human and machine or between physical and virtual reality (Kurzweil, 2006).

The Singularity's impact on the psycho-sociosphere would be so destructive that it could be seen as the end of humanity as it is currently known. Such a prospect puts innovation in conflict with the proponents of the psycho-sociosphere. They argue that the modern scientific approach has not worked in the critical area of individual and social life as it fails to recognise that ultimately all societies found the basis for their deepest value commitments and sense of meaning in the realm of the transcendent and the spiritual (Harman, 1998).

Harman (1998, p.10) argues that consciousness as a causal reality needs to be taken into account because "...everyday experience seemed to confirm again and again that it is my decision to act that causes action." So, it is postulated that it is not just measurable aspects, as both the reductionists and positivists argue, that makes things real but also our consciousness. Harman (1998) calls the scientific approach "Materialistic Monism" and consciousness as causal reality is called "Transcendental Monism".

Alternative Futures

A holistic approach would be the best methodology to prevent the zero-sum contest between innovation and the psycho-sociosphere with its disruptive and destructive consequences for humanity, and to create the necessary framework for sustainable alternative futures. A four quadrant model is useful in providing an explanation and insight:

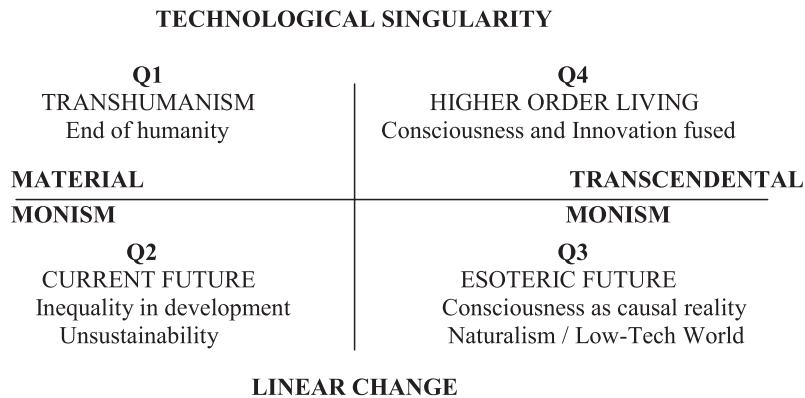


Figure 1. Alternative futures quadrant

In the Alternative Futures Quadrant (Fig. 1) the vertical axis represents two types of future technological progressions, viz. Kurzweil's Technological Singularity (i.e. the exponential growth trend) and Linear Change (i.e. the linear growth trend). The Technological Singularity is based on Kurzweil's law of accelerating returns which posits that the exponential growth trend rapidly becomes explosive once it reaches the "knee of the curve". The implications are an inherent acceleration of the rate of evolution, with technological evolution as the continuation of biological evolution

(Kurzweil, 2006). In contrast, Linear Change suggests that the rate of future technological progressions will be much the same as the current rate of progression, i.e. the present will evolve into the current future with alternative futures based on the achievements of the present in a horizontal linear way with no real surprises emanating from it.

The horizontal axis represents the two end points on the continuum of types of metaphysics underlying modern science, viz. materialistic monism and transcendental monism (Harman, 1998). In materialistic monism, reality is known by studying the rational world and where the universe consists solely of matter and energy. In transcendental monism, mind-consciousness is primary, and matter-energy arises in some sense out of the mind. In this context, consciousness is not seen as the end-product of material evolution but rather consciousness gave rise to the material world (Harman, 1998).

The combination of the two types of future technological progressions and the two types of metaphysics could lead to four alternative futures, each with its own ethos. Dostal (2005) defines ethos as all values and guiding principles of a system. A combination of the Linear Change with Materialistic Monism could lead to the Current Future (Quadrant Two). A combination of the Linear Change with Transcendental Monism could lead to the Esoteric Future (Quadrant Three). A combination of Technological Singularity with Materialistic Monism could lead to the Transhumanism Future (Quadrant One). A combination of Technological Singularity and Transcendental Monism could lead to the Higher Order Living Future (Quadrant Four).

Current Future

The Current Future has materialism as its ethos. The current future is an extension of the past (Dostal, 2005) – the inherent dynamic of a system as its functions currently, i.e. its values, regulations, behaviour patterns and structures, is perpetuated into the future in a horizontal linear way. This is an undesirable situation as both advances and problems of the current system or situation is perpetuated into the current future. The danger exists that current problems could overwhelm the current advances as progression is made into the future leaving humanity in a worse predicament.

Soltinsky (2006) believes that technology through innovation could prevent a dystopian future developing out of the current situation through economic development of a nation and the improvement of the quality of life of its citizens, who need to be well educated. However, this only holds true within the current globalised world in so far as the world economic (and technological/innovation) playing field is level. Inequalities in development as well as the unsustainability brought about by innovation exacerbate the situation even further. Quality of life as measured by the level of wealth in a nation is also a questionable notion as the approach of Bhutan clearly illustrates – quality of life is measured by Bhutan in terms of Gross National Happiness (GNH) of its population rather than the conventional Western concept of GDP (Bhutan Planning Commission, 1999).

The risks and opportunities associated with the current world situation is succinctly given by the Millennium Project in its 2007 State of the Future (Glenn, 2007, p.6) in terms of 15 Global Challenges. These are as follows:

- Achieving sustainable development for all;
- Providing sufficient clean water for everyone, without conflict;
- Bringing population growth and resources into balance;
- Ensuring the emergence of genuine democracy from authoritarian regimes;
- Making policymaking more sensitive to global long-term perspectives;
- Speeding the global convergence of information and communications technologies that work for everyone;
- Encouraging ethical market economies to help reduce the gap between rich and poor;
- Reducing the threat of new and re-emerging diseases and immune micro-organisms;
- Improving the capacity to decide as the nature of work and institutions change;
- Reducing ethnic conflicts, terrorism, and the use of weapons of mass destruction through shared values and new security strategies;
- Ensuring that the changing status of women improves the human condition;
- Stopping transnational organised crime networks from becoming more powerful and sophisticated global enterprises;
- Meeting growing energy demands safely and efficiently;
- Improving the human condition through accelerated scientific and technological breakthroughs;
- Incorporating ethical considerations into global decisions more routinely.

It is posited that the current future based on the Linear Change paradigm and combined with materialistic monism is undesirable as it will see a perpetuation or, in a worse case scenario, even a deterioration of the 15 global challenges. This is because the current technological paradigm is impacted by two important considerations, *viz.* the market driven nature of technology and the need for financial investment to sustain technological progress (Twiss, 1992). The market and financial investment stand in opposition to any enabling issue that would be necessary to overcome the 15 global challenges.

Esoteric Future

The Esoteric Future has spiritualism and consciousness as its ethos. It embodies the Bhutan approach with GNH by emphasising happiness and peace, mind and spirit over any form of material gain. Harman (1998) boldly proclaims that the materialistic approach (material monism) was declining and that transcendental monism was on its way to becoming the dominant meta-physic in most of the world. He calls this the "second Copernican revolution" where humanity will develop a greater understanding of "inner" space in contrast to the first Copernican revolution that brought understanding of outer space.

The risks and opportunities associated with this future mainly impacts current technological advancement. It is posited that an emphasis on transcendental monism would lead to a slow down of technological progression and innovation as it would emphasise a multitude of enabling issues. It would be a world dominated by naturalism and one where technology would take on a secondary role. A visioning of such a world given the present situation would be a stretch of the imagination; nevertheless, it would at least provide an opportunity for humanity to re-evaluate its current unsustainable ethos.

The Esoteric Future is the least likely to develop within the four quadrant model. There is currently no evidence suggesting an exponential growth pattern (similar to Kurzweil's technological exponential growth trend) within the transcendental monism sphere that would bring about a "transcendental singularity" that would be required to achieve the Esoteric Future.

Transhumanism Future

The dominant ethos of the Transhumanism Future is materialism but with a clear movement away from the ethos associated with the current psycho-sociosphere and embracing a new paradigm associated with non-biological intelligence, i.e. transcending biology. This is achieved through Kurzweil's law of accelerating returns which turns the Linear Change into a continuing exponential (Kurzweil, 2006) as opposed to Soltynski's (2006) more placid view of a continuum of progress managed by the human factor. The law of accelerating returns is fuelled by a competitive market place which is also the driving force of technology, and Kurzweil (2006) boldly states that a repeal of capitalism and every vestige of economic competition would be required to prevent this progression from happening.

Comprehension of the technological singularity and its implications for humanity is difficult from today's vantage point. Nevertheless, most literature on the singularity points to the possibility that it would be the end of humanity as it is known today:

- Bostrom ("Scientists", 2008) refers to the era of transhumans which will come about through the use of biotechnology, molecular nanotechnologies, artificial intelligence and other types of cognitive tools that will improve the human intellectual capacity, its physical capabilities and emotional well-being. It will be a "post-human" life that will not resemble current humanity.
- Ramming (2007) distinguishes between two pathways in the post-singularity era, *viz.* "transhumanism" that is similar in notion to Bostrom's approach but with the retention of the human culture, and "transitional human" which lies somewhere between the humanity of today and humanity to evolve from its new found capacity and capabilities.
- Vinge (2003) calls it the posthuman era of "superhumanity" which will lead to the physical extinction of the human race depending on whether the singularity comes as a "hard takeoff" or a "soft takeoff".
- Kurzweil (2006) believes that there will be no distinction between humans and technology with the human component becoming extinct as machines will have progressed to be like humans and beyond.

- Joy (2000) is clearly concerned by the prospect that humans might be creating technological tools that could replace the human species. He takes Kurzweil head-on by questioning the notion that humans could achieve eternity through a technological approach as its pursuit brings clear dangers for humanity. He argues for a re-think of humanities utopian choices.

The risks and opportunities associated with the technological singularity can only be seen within the context of what Taleb (2008) calls a "Black Swan" event, i.e. an event that lies outside the realm of regular expectations and that carries with it an extreme impact. The technological singularity lies outside the regular expectations of most scientific observers (and probably the rest of humanity); this is because of what Kurzweil (2006) calls the "intuitive linear" view of history instead of the "historical exponential" view that results in forecasters underestimating the power of future developments. The extreme impact of the event could probably be upgraded to "ultra-extreme" considering the real possibility that current humanity will come to an end as a result of its own innovation.

Higher Order Living Future

The ethos of the Higher Order Living Future is based on consciousness as well as innovation. It is an attempt to fuse the best of innovation with the best consciousness can offer. As this future lies within the realm of transcendental monism it assumes that humanity will use consciousness as causal reality to manage the exponential growth of innovation to ensure the future preservation of humanity albeit in an enhanced paradigm. The management of the exponential growth of innovation is geared towards preventing the technological singularity from having the "hard takeoff" postulated by Vinge (2003) and guide it towards his "soft takeoff". Vinge (2003) defines the "soft takeoff" as a transition that could take decades or even a century where planning and thoughtful experimentation predominates.

In order to achieve the Higher Order Living Future, a change is needed in the ways society perceives, thinks, values and acts with regard to the future, especially its technological future. A more balanced approach is called for: recognising the dangers of the world's current unsustainable actions (deriving in part from technological progress) but providing escape routes to more sustainable alternative futures. Harman (1998) posits that such a change is only possible if consciousness as causal reality is taken into account. Inayatullah (2008) echoes Harman's sentiments on consciousness as a casual reality when he states that the decisions to be made about the future do not only entail means-ends type of planning decisions but also inner and outer transformation – changes in the fields of reality. The prophet Ezekiel (The Bible – Amplified, Ezekiel 18:31) more explicitly expressed these views thousands of years ago when he told ancient Israel that they needed to adopt a new consciousness in an attempt to achieve a more desirable future through making for themselves "a new mind and heart and a new spirit".

A new mind, heart and spirit are, therefore, needed in the application of new organised knowledge to new resources to produce new goods and new services that will ensure a sustainable future for a new humanity. The physicist Anton Zeilinger

(2007) is optimistic that humanity will find a completely new way of looking at the world which will transcend its present materialistic paradigm, and he takes his cue from quantum physics that taught us that all concepts of material existence evaporate, leaving us only with probability fields. A new mind, heart and spirit for higher order living is achievable through Ziegler's (2005) seven principles of the spirit, adopted for the purpose of this study briefly as follows:

- *Deep listening* by emptying yourself of the predominant zero-sum market-driven approach of technological advancement and listening to the positive alternatives that ranges from the materialistic-empiricist to the transcendental level.
- *Deep questioning* by exposing the destructive nature of the zero-sum market-driven approach of technological advancement and its technological singularity outcome.
- *Deep learning* by realising the power of the positive ethos embedded in the multitude of cultures of humanity's psycho-sociosphere in creating higher order living.
- *Deep imaging* by envisioning higher order living through a fusion of consciousness and innovation.
- *Intentioning* by seeking common cross-cultural ethos for establishing higher order living.
- *Discerning* by constantly analysing the pathways of innovation to determine ways and means of managing technology to achieve higher order living.
- *Dialogue* through cross-cultural and cross-disciplinary interaction to find a common, purpose driven approach to technological advancement for achieving higher order living.

Conclusion

The discussion about technological progression and innovation and its impact on the future of humanity is not to develop new enabling issues to stall progress but to find ways and means to fuse the technological singularity with consciousness as causal reality. The Singularity appears to be inevitable within the context of the exponential growth trend approach; it might not be within the timelines as forecasted by Kurzweil but it will happen sooner rather than later.

Humanity is unique within the confines of the known universe and cannot be allowed to transform into mere intelligent non-biological entities. This uniqueness is embedded in the human spirituality which forms the basis of consciousness. This "spiritness" will not survive in non-biological intelligent form where artificial intelligence could override it as it will not make logical computer sense to entertain the "logic" of the spirit – it would lead to a conflict of interests in the same way it does today, *viz.* the current stand-off between religion and science.

Technological Singularity is not a technology problem but an ethos problem. The challenge is to align the value system of the psycho-sociosphere with technological progression and thinking. If the ethos problem is not solved it would be difficult to prevent the Transhumanism Future paradigm. The ethos problem needs to be solved in an attempt to direct and manage innovation to achieve the Higher Order Living

Future. Therefore, the immediate challenge would not be the fusion of technology with consciousness but rather to achieve global consensus among the global thought leaders about the diverse value systems within the psycho-sociosphere to be incorporated into innovation and which will form the guiding principles for the new paradigm. This consensus-building process needs to occupy the debate between now and the advent of the technological singularity.

The ultimate fusion of technology with consciousness could provide a rare (and maybe unique) opportunity for dissolving the global challenges as presented by the Millennium Project. For the first time in history, humanity through technology might be in a position to reprogramme itself (i.e. its future non-biological intelligence component) to cut-out the weak characteristics currently responsible for co-producing the multitude of global challenges. This means that the machine logic of the non-biological intelligence component would operate within the boundaries of the new spiritual (or consciousness) value system thus preventing humanity from transgressing its own guidelines for sustainable development. This synergetic cooperation between intelligence and consciousness would be the ultimate achievement in the Higher Order Living Futures paradigm.

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Notes

1. Glocalised is derived from the term "glocal": A term used by social scientists of transnationalism and globalisation to refer to the concurrent localization and globalisation occurring across popular culture, business, government and more diffusely people's identities (Khor & Marsh, 2006, p.4).

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