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Environmental Change, Injustice and Sustainability

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Abstract This paper argues that a combination of increasing inequality, hypocrisy, population growth and adverse global environmental change imperils our civilisation. Selected examples of existing inequality and the immoral treatment of human beings are provided from countries of the Asia Pacific. There is also limited discussion of the global eco-social crisis, stressing the links between environmental scarcity and the human responses of resentment, conflict, terrorism and ill-governance. The essay contends that just as the lives of unborn humans similar to us are of interest and value to bio-ethicists, so too should be the lives and descendants of people who are unlike us, even if such people are perceived to be substantially different to ourselves in terms of status, culture and spending power. It is argued that it is in the interests of ourselves, society, and global civilisation that the lives of such people are considered and where possible improved in order to foster the “sustainability transition” needed to secure our collective future. The essay concludes with a discussion of an important element for securing our future: the development and implementation of alternative economic systems which will provide more accurate indicators of global progress.

Keywords Bioethics . Conflict . Ecology . Inequality. Sustainability

Introduction

This article is written by a person with no formal training in ethics or philosophy. It is however written by someone who believes that a combination of factors, including the world’s increasing inequality, is driving global civilisation towards a brink. This situation is not only extremely unjust, but also immoral and dangerous. I also believe that global resources, knowledge and technology are still sufficient to provide a low but adequate standard of living, wellbeing and health for most of the global population.

Yet claims that such a benign world will emerge should be considered utopian. The reality of this future is obstructed by multiple interlinked and systemic forces within human society. These factors are particularly clear when they are analysed at a global level. These combined factors impede the diffusion of technology and resources, both human and natural, which could otherwise supply minimal living standards, and thus health and wellbeing for all.

This paper will discuss a selection of these factors, causes, and likely consequences, including for health. Drawing from an area with about half of the global population – the nations of the Asia Pacific – it will focus on examples of inequality and the abuse of human rights. The paper argues that the scale of these injustices is symptomatic of elements that threaten civilisation. Many governments are complicit in these injustices. It will conclude with ideas for how this situation could be improved.

We are all members of an intensely unfair global social system, now approaching seven billion people in number. Many of the readers of this essay disproportionately benefit from this unfairness. This immense global population rolls through time like an enormous cartwheel, with an ever-increasing girth, whose circumference expands as its population and affluence grow. It is true that no individual – each of whom constitutes a faint pinprick on the surface of this circle – can shape the wheel's movement. On the other hand, it is clear that the cartwheel's direction does vary over time. Together, segments of the population which constitute the wheel can make a difference, for better or worse. However, attributing disproportionate blame to any section of the wheel (including governments) for the trampling of human rights is too simplistic. To varying extents we all share responsibility.

Bioethicists seek to improve human rights, justice and health by using evidence, logic and mathematics. Yet if the life and rights of unborn and unknowable humans have value and importance in the bioethical literature, then on what basis can it be argued that the lives and rights of existing humans who are personally unknown to us have lesser value and importance? While it is likely to be difficult to find texts or explicit statements which argue against this proposition, analysis of the topics or keywords used in bioethics and other scientific journals is likely to support this conclusion. That is, the revealed, if not stated attitude of scientists, including ethicists, appears to support the discounting of the suffering of people removed from us in status, culture and patterns of consumption.

Outline of This Paper

This paper will first discuss global inequality, because it is argued that inequality is a fundamental cause of the risk now faced by civilisation. It will then discuss possible pathways which could lead to the collapse of global civilisation. This discussion will focus upon the interacting effects of climate change, population displacement, resentment and inadequate and misleading measures of progress.

Forms of Global Inequality

The most obvious form of global inequality is the divide between rich and poor. Fifty years ago, this divide was mostly between the populations of rich and poor countries. However, as globalisation and its attendant philosophy of neoliberalism [1] has strengthened, this divide is increasingly between rich and poor populations. Inequalities have magnified within many nations and among the world population as a whole. Income distribution within the global population is now substantially more unequal than that within any single country [2].

Global inequality has many other forms, including of resource consumption, life expectancy, media coverage and scientific research efforts. Collectively, these disparities are sometimes called the 10:90 gap. Health researchers refer to this situation as one in which roughly 90% of global health research resources are used to investigate the problems of approximately 10% of the global population.

Other important manifestations of global inequality are double standards and double speak. Examples of this hypocrisy include the possession of nuclear weapons and the analysis of the causes, consequences and remedies for climate change. The limited number of countries whose lack of “democracy” is deemed to justify invasion by Western powers also reveals this duplicity. The major nuclear powers claim to be committed to the rapid elimination of these terrifying instruments of mass destruction. Collectively, these powers intimidate most countries that try to emulate them (Israel is an exception [3], as was apartheid South Africa for a while, as honorary outposts of Europe). The invasion of Iraq is frequently justified by the US and its allies as an attempt to allow democracy to flourish. Yet numerous countries are grossly undemocratic (China, North Korea, Russia, Burma and Zimbabwe come to mind) and remain uninvaded – presumably because they either have weapons of mass destruction or lack resources which wealthy countries crave, such as oil.

Similarly, rich countries fail to acknowledge that their decades-long disproportionate contribution to greenhouse gas emissions entails any responsibility to assist developing countries accelerate the energy and other forms of technological transition. In Australia, the Federal government of John Howard has frequently asserted that Australia should not ratify the Kyoto Protocol, because it entails no immediate obligation for developing countries to restrict their emission of greenhouse gases. Although this argument plays well domestically its hypocrisy was and is obvious to developing countries.

Does Inequality Matter?

Some commentators argue that inequality within human society is unimportant, provided the living standards of the poorest are rising. The analogy that “a rising tide lifts all boats” is sometimes used to assert that as long as conditions for the poor are improving in absolute terms at all, then the extravagance, waste or unsustainable behaviour of the rich is irrelevant. However this argument ignores the possibility – indeed the likelihood – that increasing inequality will eventually reach a threshold that drives resentment, tension, and ultimately conflict and terrorism. This argument also ignores the associated moral dimension of worsening inequality and related evidence from evolution and game theory that human groups thrive and endure only when inequality is restrained [4, 5].

These arguments against inequality also ignore a positive feedback mechanism which is sometimes called the “Matthew Effect” [6]. This feedback means that higher incomes drive increasing returns, and thus higher income. This can also be stated as “to him that hath shall be given”. This phenomenon makes the reversal of growing inequality extremely difficult. Related to this is the Pareto Principle, which can be interpreted as saying that the only just

way to relieve poverty is to grow the economic cake rather than redistribute wealth away from the wealthy and towards the poor [7].

If left too long, the extent of global inequality is likely to reach a threshold which generates powerful self-correcting mechanisms that seek to reduce inequality. Just as peasant revolts and revolutions pepper history, so too terrorist plans, terrorist attacks and suicide bombings may be the symptoms of an unconscious global mechanism which seeks to attack the privileged and reduce their advantage [8, 9].

Inequality Within the Asia Pacific

Many forms of inequality exist within the Asia Pacific. In these examples, comparatively privileged populations mistreat segments of their own population, passively and sometimes actively. In Australia, domestic inequality is shown most clearly in the gap in life expectancy between its indigenous population and its more recently arrived inhabitants. Although many proximal causes for this gap exist and are potentially remediable, the most fundamental cause – the dispossession of an entire people from its land – cannot be reversed.

The last two decades have been marked by extraordinary economic growth, especially in India and China. Yet inequality in both countries is rising. In China, shadowy stories regularly appear of protests and uprisings, including many which attempt to remedy pollution and injustice [10]. The “floating population”, of well over 100 million people, perform the most menial and dangerous work in China [11, 12]. Members of this population endure multiple forms of discrimination, including lower pay, long working hours and poor or non-existent health care. If killed through negligence, compensation is lower [13]. The working conditions faced by this population are frequently disguised from them until it is too late. Once trapped, employers sometimes keep employees in servitude by retaining or confiscating the internal permits which this group needs in order to migrate legally within China. This cheap, and by necessity compliant, floating labour force underpins much of the Chinese economic miracle. Less well recognised, this semi-slavery also supports the global economy, facilitating the inexpensive production of myriad goods and services [14].

The 1990s also saw China use grotesquely negligent techniques to maximise the profits of suppliers of blood products, especially of the fluid part of blood, called plasma. These practices, which involved the reinfusion of pooled red cells to blood sellers in order to increase their frequency of being bled, led to the infection with HIV/AIDS, of tens of thousands of impoverished rural villagers [15]. Some claim the number is as high as one million. Allegations have also been made that the organs of executed prisoners and dissidents, including members of the Fa Long Gong, are being systematically harvested in China to facilitate a thriving trade in organ transplants [16, 17].

In 2007, the leader of China’s food and drug administration was executed after a spate of scandals including the use of the protein-like substance, melamine. This coal derivative was used in exported (and presumably domestic) animal feed. Relatedly, ethylene glycol was

used as a lethal ingredient in exported cough medicine [18]. Such abuses increase monetary profit in a poorly regulated market system, at least until they are discovered, when the harmed reputation is likely to reduce market share. It is likely that these cases are the tip of an iceberg which revealed because they involved exports, and where this abuse was revealed by freer speech. Similarly, the showcase execution of the overseer of this system is, by itself, unlikely to lead to fundamental reform.

These examples are not selected in an attempt to vilify the Chinese, many of whom are either ignorant or almost powerless to change the system in which they find themselves. Rather, they are described in order to illustrate the systemic inequality which exists within China, and from which many in the West benefit. These examples are also selected to make the point not only that Chinese inequality is high, but also that global inequality (and indifference) is substantial. The extent of this inequality is an important factor which imperils civilisation [2].

Inequality is not restricted to Australia and China. Many observers are dazzled by the growing prosperity in India. Yet a recent survey found that almost half of Indian children younger than the age of three continue to be underweight, and that child undernutrition in “prosperous” Indian states is actually increasing [19]. In 2006 Manmohan Singh, the Indian Prime Minister, described the resurgent and ancient caste system in his country, which affects a population roughly similar in number to that of the Chinese floating population [20] as a human rights atrocity which is worse than apartheid [21].

In India, heritable debt slavery effectively traps thousands of people, sometimes for multiple generations [22]. In India, too, a large but unknown number of farmers kill themselves in despair every year, driven by a combination of drought, crop failure and indebtedness [23].

Inequality and the abuse of human rights extend well beyond Australia and the two most populous nations of the Asia Pacific. Nor are abuses confined to occupiers, Hindus or irreligious Communists, as illustrated by examples from three Buddhist nations in South East Asia. In Thailand, in May 1993, 188 workers died in a factory fire at the Kader Industrial Company, while another 469 workers were forced to jump for their lives from the fourth floor [24]. In common with China’s floating population the abuse of these workers (evident by the lack of a fire exit) reduced the cost of the goods which they made. In 2004, Thai authorities transported 1,300 Muslims (suspected “insurgents”) packed facedown in trucks for 6 hours. Seventy-eight were reported to have been suffocated to death [25]. This ethnic discrimination is bound to engender hatred and is also relevant to the central theme of this paper.

In neighbouring Burma, Aung Sun Suu Kyi, the leader of the legitimately elected government, has been held under almost continuous house arrest since 1989, the same year as the massacre of democracy protestors in China’s Tiananmen Square. Reports of forced labour and child slavery, including for tourist attractions and facilities, rarely leak from this secretive country. In Cambodia sex slavery and food insecurity appear to be on the

rise [26]. This Buddhist country experienced one of the most brutal genocides of the twentieth century [27]. Its recent experience may presage even deeper trouble ahead.

Human rights violations also occur in Muslim countries of the Asia Pacific. Bangladesh is a land scarred by honour killings, acid attacks on young women, the incarceration of Muslim refugees from Burma in miserable camps, and the relentless and violent encroachment of the coastal Bengali population into the comparatively sparsely populated Chittagong Hills, the ancestral land of the Jumma hill tribal people.

The Failure of Diplomacy

Diplomacy, while often successful at facilitating trade and preventing conflict, is far less successful at improving human rights. Diplomats occasionally mention human rights abuses in countries such as Burma, China and Indonesia. However judged by their actions, most governments would appear largely indifferent to the average citizen in poor countries, including their freedom to be democratic. Martin Moorland, former British ambassador to Burma, provided a rare insight into this indifference when commenting on the brief expression of Burmese protest tolerated in the 1980s. He said: “There was a degree of repression in the Burmese system which I thought the Burmese people took for granted and I discovered in 1988 they did nothing of the kind. My assumptions had been wrong. They wanted the same human rights, broadly speaking, as we want in the West” [28].

While a few people might support the opinion of Mahathir Mohamad, the former prime minister of Malaysia, when he stated that Asian values uniquely preclude individual human rights, it is more likely that this conceit can be used to justify a status quo in which population human rights are scarce, and the comfortable living conditions of the politically powerful are protected. Australian officials have also participated in faint attempts to improve human rights in the Asia Pacific. For example Tim Fischer, former Australian Deputy Prime Minister, asserted that “democracy is coming” to Burma. Fischer was also seduced by the scenic and cultural attractions of another Buddhist country – Bhutan, praising that country while neglecting to criticise Bhutan for its “ethnic cleansing” of thousands of Nepalis [29].

Worse to Come?

The above examples illustrate milestones and highlights (or perhaps lowlights) of the recent and current approaches to health and human rights in the Asia Pacific. Most of the countries so far mentioned are marked by inequality, poverty and a weak application of law. Yet most official forecasts of global economic and social conditions predict a generally optimistic future in which poverty will decrease and affluence and freedom will spread. Such forecasts may prove as illusory as predictions that were presumably made in the 1920s, prior to the Depression and rise of totalitarianism. Abuses on a wider scale may be in store in the near future.

The evidence for this assertion does not rest on trivial or esoteric indicators, but is based on life expectancy and income, widely collected measures of fundamental importance and wide collection. Take life expectancy. While global life expectancy has continued to rise, life expectancy for many groups and populations is either static or in decline [30]. In the last 30 years, life expectancy has plateaued or fallen in over 20 countries, though, to date, the only countries in the Asia Pacific region where this has been well documented are North Korea, Russia and Cambodia. Life expectancy must have also declined temporarily in China during its most recent famine, from 1959 to 1961 [31].

Life expectancy also declined precipitously (though briefly) in the genocides of Cambodia and Rwanda. However, life expectancy more commonly falls incrementally in response to factors which accumulate over decades. Indeed, even in the cases of Cambodia and Rwanda (and now Darfur), genocides arguably do not occur spontaneously but erupt after an evolving coalition of social, political and economic forces, often combined with ongoing population growth until the onset of the genocide [1,27, 32].

Even using “conventional” thinking, declines in future life expectancy are foreseeable in other parts of the Asia Pacific, including Papua New Guinea, which is highly vulnerable to a runaway epidemic of HIV/AIDS, on a scale much larger than in most other parts of Asia [33]. However, “unconventional” thinking makes far worse scenarios plausible, through means such as climate change, sea level rise and a large expansion in the number of refugees. Although such scenarios are scarcely mentioned and barely tolerable in the mainstream literature [1], it is in fact far from inconceivable that climate change could drive substantial conflict, exacerbate terrorism and entrench poverty for additional hundreds of millions of people, in addition to those who are currently poor.

It is similarly possible to conceive that the quality of governance could decline in many poor countries, contributing to higher emissions of greenhouse gases, to “irruptive” population growth (i.e. booms and busts), and to declining health. Such a world is likely to embrace an even lower concern for universal and equitable human rights than exists today. In short, this bleak future must if possible be prevented. This scenario may seem unrealistically pessimistic to some. But it is not only the decline in regional life expectancy (of sufficient scale to slow the rate of improvement in global life expectancy) which is providing this warning. Although average monetary income continues to rise, there is an accumulating body of work which shows that the “inclusive” per capita wealth of many countries is in decline. This measure accounts for the depreciation in natural resources, such as fertile soil, fossil fuels, ground water and climatic stability [34]. There is also overwhelming evidence that the quality and quantity of commonly owned natural capital is declining, as fish stocks fall, as biodiversity plummets and as greenhouse gas concentrations soar. Because the human population is continuing to rise by over 70 million per year and now exceeds 6.5 billion, it follows that the per capita level of inclusive wealth is also in decline, even though, for many, life has never been more comfortable or healthy.

Although the mainstream scientific literature rarely discusses these dark possibilities, there are some glimpses to this possible future. Rob Swart used the term “barbarisation” to describe a plausible world, arising through “a spiralling escalation of environmental degradation and social instability”, in which “dwindling natural resources (can) weaken administrative capacity and government authority” [35].

A paper published in Nature which showed that the fish catch in Lake Tanganyika has declined because of climate change, rather than over-fishing, concluded:

“The human implications of such subtle, but progressive, environmental changes are potentially dire in this densely populated region of the world, where large lakes are essential natural resources for regional economies” (emphasis added) [36].

Several authors have warned that this century may be the last one for some time in which global civilisation can be regarded as advanced. These warnings cannot be dismissed as coming from crackpots, the mentally ill, or from youth, even though many young people are increasingly apprehensive about the future [37]. Warnings have been issued by some of our most eminent scientists and environmental activists, including the father of the Gaia hypothesis, James Lovelock [38], the President of the Royal Society, Martin Rees [39], the polymath Jared Diamond [40] and Maurice Strong, the main organiser of the 1992 Earth Summit [41].

Climate Change, Ecology Global Security and New Economics

More recently, there has been belated and welcome public recognition that climate change has important security implications. In March 2007, the new UN secretary general Ban Ki Moon predicted that “in coming decades, changes in our environment and the resulting upheavals from droughts to inundated coastal areas to loss of arable land are likely to become a major driver of war and conflict” [42]. The following month, the UN Security Council sponsored a meeting on the topic of climate change and security. This meeting may have contributed to the announcement in June 2007 that the US is (finally) prepared to shoulder a leadership role in overcoming climate change. Adding to the pressure to act on climate change by populations in developed countries has been the growing recognition by religious leaders that climate change is a major moral issue, particularly because of its likely impact on future generations [43].

These changes are welcome, but the struggle to prevent catastrophic climate change and our other problems is in its infancy. Our problems have many elements, including inequality, human greed, and the Matthews Effect, discussed above. The hostility and suspicion between Islam and the West must also be addressed. Reducing the extent of Western hypocrisy would neither eliminate this hostility nor modernise Islam, but it would surely help. Encouragingly, Sheikh Mohammed bin Rashid al-Maktoum, the leader of Dubai, has recently pledged billions of dollars to improve education in the Middle East [44].

Three issues stand out. Firstly, our society exhibits an excessive faith in technological rescue. Of course, modern technology is miraculous. However the scale of the problems which now confront humanity, including global climate change, ocean acidification, oil depletion, biodiversity loss and nuclear weapon proliferation is as daunting as our technology is amazing. In many cases, technology has exacerbated or even triggered our problems, from fisheries depletion to climate change and stratospheric ozone depletion.

A second central element in the arising and continuation of our global problem is that the economic and information systems upon which our civilization relies provides insufficient feedback concerning problems such as the link between a failing environment, economy, and human security and human well-being [45]. In fact, several alternative economic systems which aim to do a better job have been developed, but remain marginalised or suppressed. Instead, around the world, governments and economists continue to painstakingly accrue national accounts which have limited value. These accounts measure the flow of currency but ignore or forget that such measures are flimsy indicators of genuine wealth. For example, in recent decades billions of barrels of oil have been extracted from beneath the Middle East. This fossil fuel, once combusted, can never be replaced. This extraction has generated enormous monetary fortunes, but at the same time depleted the natural capital of countries such as Saudi Arabia and Iran. Concurrently the burning of oil is the main source of carbon dioxide, the most important greenhouse gas. Like oil depletion, this cost is not counted by conventional economic measures.

Of course, the energy of fossil fuels can be used to construct goods such as cars or photovoltaic cells and to provide services such as primary health care, which can be used to add to the built and human wealth of any society. Conventional accounts do record the wages used to pay for constructing a building or running a clinic, but they do not provide information about the quality of the building or health services. Indeed, if the building collapses its construction cost will be counted twice, creating an exaggerated impression of wealth.

The evolution of more accurate economic feedbacks is vital if we are to develop a sustainable civilisation. In biology, pain is essential to limit physical and emotional damage, and to inhibit excessive risk taking. In personal relationships, disapproval and hostility provide feedbacks which modify behaviour, thus limiting conflict and permanent harm. In parallel, we are likely to spend our funds judiciously if we know that once they are gone we will face penury. We can predict this through price signals and a knowledge of our credit rating. As a civilisation we are now rapidly destroying an immense treasure of natural capital, such as fossil fuel, minerals, forests and ecosystems. Other environmental public goods, particularly a predictable climate and a stable sea level, are also being damaged [46]. This harm is far more than academic, because a sufficient scale of damage to these goods has the potential to undermine the ecological and environmental foundations of health and well-being, not just for the poor, but also for the global middle class.

A third mechanism complements excessive technological faith and the failure of proper feedback systems. This is the issue and the extent of inequality. Whether consciously or not, the global economic system, which pays homage only to the purchasing power of consumers, acts to place the poor at overwhelming risk of the scarcity likely to evolve as a consequence of climate and other adverse environmental change. If global fish supplies run low then prices will rise, especially of those species that are comparatively clean [47]. If sea levels rise then floods will damage the houses of people living in low lying slums well before those living on higher and dearer ground.

As the century progresses, other environmental factors such as drought and higher food prices resulting from climate change are likely to force substantial population displacement. More than a decade ago, Norman Myers predicted that climate change could generate 150 – 200 million environmental refugees by the middle of this century [48]. The 2006 Stern Report notes that “while this estimate (Myers’) has not been rigorously tested, it remains in line with the other evidence presented (in this report) that climate change will lead to hundreds of millions more people without sufficient water or food to survive or threatened by dangerous floods and increased disease. People may also be driven to migrate within a region” [49]. Many of these migrants are likely to come from the countries of the Asia Pacific, including India, Bangladesh, Indonesia and low-lying islands.

Conclusion

An important reason for the failure of ecological economic measurements to take root lies in the Matthews Effect [6]. Alternative indicators which more accurately reveal the gathering crisis threaten the status quo. They are thus unlikely to be promoted until the powerful in society regard a changed measurement system to be in the self-interest of themselves and their descendants. This is likely to occur in association with the realisation that life within the evolving “fortress world” is worse than its alternatives – a genuine engagement with the poor. The great challenge for both scientific and other activists is to generate this understanding before it is too late.

Inequality, overconsumption of natural resources, population growth and outmoded economic theories and policies are forcing civilization farther along a slippery and thinning branch. The global problem of unsustainability requires ambitious and global strategies on the scale of a new Manhattan Project [50], to develop and disseminate the environmentally friendly technologies and the social changes required. Demographers and economists need to rediscover the negative economic effects of rapid population growth to promote the political will to reduce illiteracy and promote family planning [51]. A fairer world will lead to a more genuine attempt to achieve the Millennium Development Goals.

This world of value changes sounds utopian, yet so did the near-global abolition of slavery, space travel, and internet communication. The panic induced by the SARS outbreak in 2003 illustrates a deep residual fear of epidemics among the educated, global middle class, which led to profound behavioural change. Could this instinct for self-preservation be harnessed to

change behaviour in ways that promote sustainability? To effectively address these challenges also requires better education, fairer trade and more genuine global democracy – all of which are in our collective self-interest [52]. Much more discussion of these ideas, including among the bioethical community, is required if we are to rescue our human and ecological world.

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