Eco-Utopia 4: Four Green Cities of the 22nd Century.

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Abstract

The futures of four cities across the globe (Macau, Panama City, Brasov and Beijing) are outlined via a single graphic scenario with textual support. These futures are presented in utopian terms, whereby each city is projected to exist within a peaceful and happy state and within a pronounced degree of ecological harmony. Some explanation about how each city can get to this utopian status by the year 2121 is offered along with a description about the social and economic background that may be present then and there.

Introduction

Utopia is that place, in thought or in reality, where society is harmonious and peaceful and where the individuals therein are--to a large degree--happy.To design a utopian future often means to be at once imaginative and optimistic but also critical and subversive. Thomas More (1515) carved out the template to this pattern; being both optimistic about an imagined Christian

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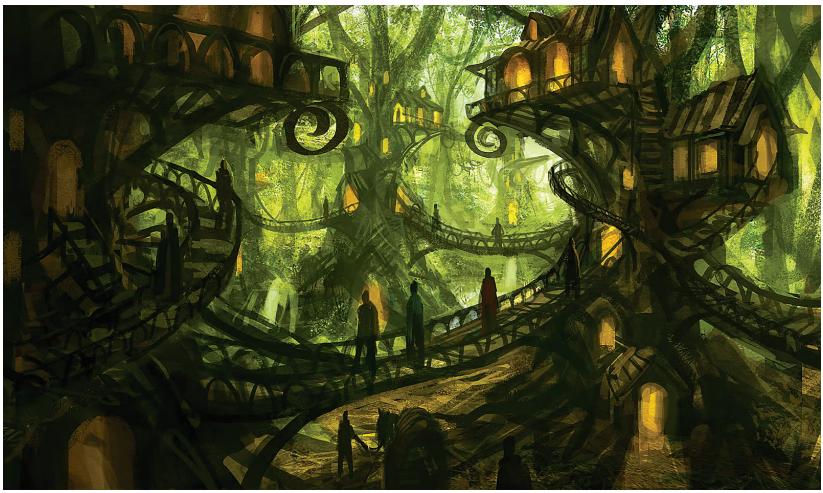
Utopia whilst being critical and subversive regarding Henry VIII's England (Marius, 1999, Halpin, 2011). Since then, when utopian thinkers have set out to design an ideal world for tomorrow, they are often highly critical of their present day society; often injecting their designs with copious doses of hope and satire (Claeys, 2011; Segal, 2012). This is the same impulse that flows through the utopian designs presented here, as I seek to imagine utopian cities for approximately one hundred years hence.

Since the onset of the environmental crisis, utopian ideas have also tried to add problems associated with ecological harmony (to those of social harmony and personal happiness) and this kind of utopia has been coined 'ecotopia' (for example, see Callenbach, 1975; DeGeus, 1999; Anderson, 2010). Since any posited utopia may only be sustainable if environmental well-being is of prime consideration, I here below posit varying ecotopian futures of four cities across the world. Each one of the designs contains a description of what the city's future consists of, and also some explanation of how they may get from where they are today to how they are as presented here below.

The future of the chosen cities is presented in a form of 'scenario art'. Lederwasch (2012) recently announced 'scenario art' to be a new and developing methodology for Future Studies. For her, this is a formalized way to get decision-makers to explore alternative future plans at a small or large-scale. I note this way of imagining, debating, and communicating decisions, but acknowledge

that art--in theory and in practice--has often reveled in intense speculation over and above any practical factors.

PANAMA CITY 2121



(PANAMA CITY 2121: Image by E. Mendoza, reproduced with permission)

Panama 2121 is a city of Biophilia. The idea of biophilia is that humans have an in-built love of nature (Keelart and Wilson, 1995). Biophiliacs thus would love more of nature in their cities. They also believe that cities with healthy wild settings amongst them will be more capable of providing both natural resource services and natural waste management services. Psychologists and sociologists have also indicated that being 'in touch' with wild nature increases the happiness of most city-dwellers.

Although the theory of biophilia can be criticized along a number of fronts, if it ascends to widespread popularity, then, sooner or later, it will lead to citizens and governments into making cities more livable and lovable by making them more natural and more sustainable.

In this design of Panama City 2121, biophilia is expressed liberally and enthusiastically so that the forests of the Metropolitan National Park (located between the city and the Panama Canal) are allowed to re-colonize the city itself; overtaking the concrete infrastructure that currently has kept it at bay. The architecture of Panama City 2121, both public and private, has become organic in form and in function. This architectural style is favored by 22nd century Panamanians because it is inexpensive and self-maintaining, with abundant fresh air and natural light made available. It's also rather romantic, fun and personal.

Nowadays, in the 2010s, Panama City has a disturbing air pollution problem but the Panama City air of 2121 is green and fresh due to the cleansing character of the forest canopy and due to the city's adoption of new ecological industries (such as Green horticulture, eco-medicine and ecotourism, not to mention eco-architecture and sustainable forestry).

Currently, in the 2010s, Panama City's bays and canals are also polluted; their waters being sometimes unusable and impossible to work with or play within. But Panama City 2121 has waterways refreshed by the forest's expanded natural filtering

system. Children can drink the water of the canals around their homes and they can swim safely in the Panama City bay.

In Panama City 2121, the trees also provide electrical power. Tree-electricity flows from plants to micro-energy-using devices. This process is currently being investigated today by teams of researchers who believe that tree-electricity can be harvested for energy and communications (see, for instance, Barros, 2009). The desire to tap into this free micro-energy will likely drive a burgeoning market in innovative micro-energy technology.

Meanwhile, here in the early 21st Century, Panama's forests still suffer from massive ongoing deforestation. In 1950, more than 70 percent of Panama was forested whereas nowadays it is less than 30 percent forested. Millions of hectares of vegetation disappear every year. All this deforestation threatens the economic value of the country's most important income-earner, the Panama Canal.The water in the Canal, which keeps everything afloat and mobile, is slowly being drained away due to the declining capacity of the receding rainforests to produce silt-free water (Harmon, 2007).

So how do we get from the Panama City of today to Panama City 2121? According to advocates of biophilia (see for example; Kellert and Wilson, 1995; Kellert, 2005; Kellert *et al* 2008;and Beatley, 2010) there are five steps to follow:

- education about biophilia (in schools, in universities, and at the public level),

- practice and experimentation with biophilic techniques and products (by inventors, entrepreneurs, researchers and 'do-it-yourselfers' who wish to bring nature into their backyard and into experimental sites),

- expansion from the backyard (and experimental sites) into the schoolyard and into the courtyard of government buildings and corporate R&D sites,

- commercialisation of biophilia techniques and products (sometimes with Government help and sometimes not), and then:

- a rise to common usage.

So, in the beginning, somewhere in Panama City right now, enthusiastic urban experimentalists must work on their biophilic designs to perfect them, and work with teachers to educate children about the role and possibilities of biophilia. When the children grow up to become biologists, urban farmers, educators, and professionals in all manner of spheres, they, then, are ready to press for investment in more research, for more ecological instruction in schools, and for more ecological practices in the public and private spheres. Within a few generations people will be making money from biophilic designs, and new industries, including biophilic architecture, will take their place within the economy and lifestyle of Panama City. Aided by the desire to preserve the Panama Canal, and with ecological awareness growing year by year, a biophilic land use policy becomes the logical pathway for future urban planners.

This is a process of long-term social learning and technological change. One of the most important things to learn will be the idea that the economy can change from one dependent on old-fashioned materials and processes-like concrete and metals and combustion--to one utilizing the organic processes of photo-synthesis, respiration, growth and recycling. Panama City society as a whole, will be involved in this process: from the youngest school children to the oldest leaders in business and in Government.

The transport companies that use and fund the Panama Canal will also be important stakeholders, as they will likely maintain an interest in trying to preserve the canal's hydrological operations at a peak level. This means they will probably want to invest in Public-Private partnership projects that enable this, such as the reforestation of Panama City.

BEIJING 2121

(Beijing 2121: Image by author)

In Chinese culture, there's a special fondness for Gold, regarding it as 'pure', 'lucky', 'noble', 'glorious', and as being something more trustworthy than just about anything else in the universe (Hsu, 2000).

The Chinese government shares this attitude and it has set about getting its hands on as much gold as it can. It's unclear how much gold the Chinese government has accumulated in the past decade or so but by all estimations it is a lot and it is growing (Goldhill, 2014). According to some, gold-hording is part of China's attempt to 'de-Americanise' the world by challenging the long-term staying power of the US dollar as the standard trading currency (Mourdoukoutas, 2013; Chumley, 2013; Mitchell, 2013; Forbes and Ames, 2014).

Currently, the exact total of government-owned gold in China is shrouded in mystery but in this scenario outlined here, some day in the 2050s, the Beijing authorities will instigate a plan to publicize its gold holdings in the most conspicuous way.The 'Gold City' of Beijing; a new commercial and administrative center in the inner suburbs of the capital will display, for all the world to see, the new glorious financial power of China.

At first, in the middle decade of the 21st Century, the Beijing Gold City will be planned to be ostentatious and glamourous. However, things may change a decade or so later, when China likely suffers from a myriad of large-scale environmental crises like those listed below:

- air and water pollution becomes so intense that it's no longer possible to hide the fact it kills tens of millions of Chinese citizens per year, especially the young and the old.Even now, just by walking to school and home again, many urban Chinese children are smoking the equivalent of two packs of cigarettes a day (Economy, 2010). By the middle of the 21st Century, with continued industrial expansion, it may be much worse (see for instance, discussions in Ho and Vermeer, eds, 2006, and Beardson, 2013),

- several nuclear plants near China's coastal cities are hit by violent earthquakes, provoking multiple nuclear meltdowns and the release of massive radioactive clouds.Entire cities have to be evacuated and abandoned (Bortz, 2012); decimating China's industrial and agricultural production (Chew, 2008),

- record monsoon rains over the course of just one season cause the worst floods in Chinese history simultaneously along the Yellow River, the Yangtze River, and the Pearl River. These floods will force partial evacuation of China's hundreds of river cities; a process affecting hundreds of millions of people (Shapiro, 2013).

- The panda is announced extinct in the wild and the remaining zoo specimens die-out as they are unwilling or unable to reproduce (Mackay, 2000; Chew, 2008).

All the above calamities may very well pan out in quick succession sometime in the 2070s. These years will become known as the 'dirty decade' in China. They will force China into a massive re-evaluation of industrial progress, the value of technology, and

the way the country is governed. By their end, confidence in the communist party will have waned beyond repair and massive public protests and dissent will become widespread. Because people will be demanding an input into the management of the 'life and death' situation that the ongoing environmental crisis is presenting, calls for democracy and human rights will become louder and more strident than ever before.

The Gold City will have to adapt its image to these changing circumstances. To start with, the Gold City will be a show of Chinese success, of glory, of wealth and power. But as the decades roll by and the building plan is put into effect, these sentiments do not reflect the changing values of the Chinese public and the project has to be redeemed somehow. The answer is this: 'The Eco-Gold City'.

Currently, the world's gold is pulled from the ground in various ecologically and socially dubious ways:

- Gold-mining usually involves massive clearing of vegetation (Rabinowitz, 2004),

- Gold-mining usually involves exploitation of workers, especially immigrants and often children (Childs, 2007; Hilson, 2010),

- Gold-mining usually involves the polluting of waterways, both underground and on the surface (de Lacerda and Salomons, 1997),

- Gold-mining encourages all manner of violence and

aggression, from petty crimes to international war (Klare, 2002; Akpalu and Parks, 2007; Hiscock, 2012; Mitchell, 2013),

Chinese gold mining companies have been implicated as the cause of such problems, too, both at home and abroad. Chinese mining companies in Tibet and in Africa, for instance, have caused landslides, deforestation, environmental pollution, and various social ills (from trafficking of sex-workers to exploitation of local labour). Chinese mining companies are also usually amongst the most strident to reject any form of investigation into their practices and and react against any form of regulation of their activities (whilst exhibiting little discernible contribution to local employment and economic improvement in the areas where they mine).

Gold-mining is sometimes held to be one of those industries that is inherently stinky, dirty, and profiteering, and no amount of green technology or CSR will change that. However, if the business model is changed, and if only non-toxic gold-mining techniques are used, and if the industry is policed according to international law and fair labour agreements, and if wilderness protection is undertaken and supervised in concert--by top managers, by local authorities, by national and international agencies, as well as by the local communities, employee unions, NGOs, traders, and consumers, all working together--then it's possible for gold-mining to become far better than it is today. Of course, that's a lot of 'ifs' but when satisfied, this design here above represents the positive result. Here, each brick is an eco-gold brick, coming from a gold

industry universally adjusted by adopting three fundamental policies:

- the 'no stink policy' (gold-mining should not change the natural aroma of the air, thus vegetation has to be preserved, toxic chemicals have to be abandoned, natural resources like fisheries and forests have to be conserved, and mining sites have to be restored).

- the 'common heritage of mankind policy' (gold-mining from land that was publicly owned by any government should be pronounced as the 'common heritage of mankind'. Thus, gold can be rented by Chinese companies, from African governments (and the rent monies used for public projects by the mined countries) but the ownership of the gold cannot be transferred outside of the mined country). The gold can thus then be used for the ongoing benefit of the general population of the nation where it is mined.

- the 'random watchdog policy'; whereby randomly-chosen community members are enlisted to supervise the operations and finances of gold-miners (with guidance from randomly-chosen international scientists, lawyers and accountants).

The Gold City may be envisioned to become a symbol of power and glory, resplendent in Chinese financial dominance but after the 'Dirty Decade' (and after the change in Chinese people's attitudes and Chinese industrial practices) it can become a symbol of ecological modernization.

Perhaps, though, the real ecotopian element here though is the clean clear blue skies above the Gold City. The magnificence of the gold buildings is only visible from across the city lakes because Beijing 2121 has cleared its skies of poisonous smog.

How could we possibly to get to this smog-free state? That's another story, but the same attitudes and values and behaviours that demand the Gold City go 'eco' will be the same attitudes and values and behaviours that demand the Beijing authorities clear the city's air.

BRASOV 2121

(Brasov 2121: Image by author)

Amongst the landscapes of 21st century post-socialist East Europe are remnants of half-finished grandiose megaprojects of the 20th century communist era (Karakiewcz, 2005; Gallagher, 2008). These range in kind from crumbling power plants and decaying factories, to silted-up canals and weather-beaten monuments. This design, here, is a pointer to the possible use of the physical remains of such projects; a vertical towering suburb in the Romanian city of Brasov; as tall as a small mountain. This is no planned tower but more of an unplanned, organically-organised, communal dwelling fashioned together from old industrial remnants in an informal way over many years. This 'Recycled Tower' is a testament to the power of recycling.

Within Eastern states of the EU, there are some eight million Roma people, an ethnic group often referred to as Gypsies by English-speakers (Saul and Tebbutt, eds, 2005).Romanians are usually at pains to make sure foreigners understand that Roma and Romanians are ethnically distinct; the former having origins in ancient India and the later having a mixed Roman and Thracian heritage (Hitchins, 2002). According to popular prejudice within East Europe, the Roma are responsible for inordinate damage and destruction to public buildings, including their own state-sponsored housing (Kligman, 2001). Another popular story about the Roma is that they are dealers of garbage. More often than not, this story is cast about to admonish the Roma lifestyle, which is often segregated from the mainstream wage system (Mayall, 2004). In Brasov 2121, a time and place where environmental sensitivity is

much higher than today, garbage-recycling has become more of an honourable activity. The RecycledTower intimates that the Romanian government should hand over the decaying infrastructure of their abandoned 'White Elephants' to the nearby Roma people. This will give an opportunity for the Roma to show how they can build communities in their own way. They can surely do no worse than the Romanian government.

MACAU 2121

(Macau 2121: Image by author)

Macau's location on the Pearl River estuary makes it enormously vulnerable to rises in sea level. Over the course of three centuries, the city has sought to reclaim land from the sea to allow the city to grow (Hao, 2011). Yet, if the sea level rises by just a few metres, as is currently predicted, these reclaimed zones of the city are likely to be submerged again or eroded during high-tides and storm surges. The land upon which the city sits is also increasingly vulnerable to land subsidence because of increased groundwater extraction (Fuchs, 2010). Macau is sinking. The seas are rising.

How is Macau to deal with this situation? Since Macau is one of the gambling capitals of the world, the business people there should be sensitive to the need to calculate risks. Sometime in the early 21st Century, these risk-calculators will be bound to advise Macau's businesses that drastic adaptive measures will need to be implemented to preserve the profitability of the gambling and tourist sectors. Risk assessors in the insurance industry are also likely to have an impact since their risk advice about future potential environmental change will suggest that the casinos, the hoteliers, the tourist agencies, and the airlines will have to pay more and more each year for insurance.

To deal with such environmental change, this scenario of 2121 depicts the casinos of Macau to be condensed and contained with one circular gambling zone and then surrounded by a huge walled-barrier to protect it from sea-level floods and hurricane

storm-surges.The rest of the city then has to be rebuilt on the nearby hills of Macau.

This massive re-organization and reconstruction of the city might be manageable under the command economy of the People's Republic of China but at the moment, Macau enjoys a special status (via a Treaty signed with Portugal) which guarantees Macau's social and economic system (and lifestyle) to remain unchanged for at least 50 years (that is 50 years beyond the 1999 transfer of sovereignty from Portugal to China). So, until 2049--despite hurricanes wiping-out government buildings, despite the mounting insurance costs for businesses, despite the increasing erosion of the coastal ecosystems--it is probably not in the financial interests for Macau's government and industry to unite and change things around too much.

However, come the 2050s, if China's controlled economy is still intact, then the central Government in Beijing may have the desire to secure lucrative tax revenues from the casinos. If this is so, they'll be inclined to embark on an expensive reconstruction of Macau like that envisioned here above.

The physical wall-barrier will do nothing to abate the causes of climate change, for sure, but it makes survival during climate change seem technically feasible. And within the walled city, casinos can proudly claim to be a form of 'eco-gambling' since they've reacted so visibly to an impending environmental catastrophe.

The casinos will also adopt other soft green CSR measures like switching to new low-power gambling machines and donating

a portion of their profits to biodiversity projects in Macau and mainland China. The interior architecture of every casino will also likely be adorned with tropical plants, artificial waterfalls, gently chatting parrots, and tropical aquaria; a faux ecotopia, where the customers and clients are able to relax and recreate for long periods of time undisturbed.

Although this scenario might well be regarded as a massive techno-fuelled Greenwash over Macau's environmental woes, all hope for Macau's redemption need not be abandoned. Nowadays there's a number of Green gambling and social gambling business experiments popping-up around the world, whereby the profits go toward environmental and social projects (see for instance:Hsu, 1997; Simpson, 2012). By the end of the 20th century, these may grow in size to such an extent that any crisis in the gambling industry may encourage both governments and the Chinese customer base to support the total 'Greening' of the industry, where every single coin is reinvested into the bettering of Macau's social and physical environment.

Conclusions

Some people deride the utopian impulse as social fantasy. Those on the left of the political spectrum sometimes denounce utopianism as a diversion from the social reality of the 'here and now', and those on the right denounce utopianism because they believe that what we have 'here and now' today is just about as

good as it can get. Another common line of critique is that having a clear view of an ideal society does nothing to propel us toward that happy state of being, and anyway, since there's too many fundamentally unsolvable challenges within the 'human condition' (like greed, resource limitation and 'the Will to Power', for example), utopia is held by many to be just plain unrealistic.

As well as this, many utopian critics are suspicious of the master-planning going on in many purported utopian societies. This is despite the fact that those who are sympathetic to the utopian impulse feel that utopianism is quite possibly the inverse of master-planning, involving dispersed decision-making amongst the polis and an organic growth of ideas and practices from below (rather than from the top). Utopian thinkers also point out that their purported utopian society is not really meant to be a statement of a final end-point of society, but a vision to inspire a progressive and worthwhile journey.

So are these four varying expressions of ecotopia meant to be earnest and serious or are they mere satire and speculation? Are they asking for us to identify a specific future for a specific city or are they just lampooning the non-Green policies and practices of today to warn us of where we are heading? Do they not confuse utopia with dystopia and ecotopia with technotopia?

Are they suggesting some special important relationship between technology and the future? Or are they ambivalent and ambiguous about the supposed liberating effect of technology? Or

maybe they are starkly negating the idea that environmental welfare can be improved via technology? Or do they just admit that technology is going to win the way for those who manage to gain control of it?

Perhaps these designs are suggesting that the concept of the city is doomed (or at least in need of radical adjustment) if they are to survive into the 22nd century? Or are these four versions of the future attempting to show the diversity of utopian imagination, and in the process, trying to undermine the idea that a single utopian world can hope to gain consensus?

The answer to all of these questions is yes.

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