GLOBAL OVERSHOOT: CONTEMPLATING THE WORLD'S CONVERGING PROBLEMS[1]

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My talk today is about a book I am writing. That is, the talk's title is the same as the book's working title. Let me start by tracing this project back to an epiphanic change in perspective.

In 2006 I wrote a book called Deep Futures: Our Prospects for Survival.[2] While recognising that this would be a difficult century, it foresaw a long Indian summer for humanity, provided we turned our minds to building a better world.

Today's story started from the nagging perception that our prospects could be much worse than I had previously thought and that perhaps we should be seeing our primary task for the foreseeable future as one of defending what we've got, not improving on it; more a case of sandbagging the levees than irrigating the desert. Or, putting it less metaphorically, the need to focus our energies on defensive programs rather than development ventures.

Has an Overshoot Crisis begun?

This is the open-minded question I chose as a starting point for my analysis. The first thing to say about a crisis is that it is not a catastrophe, but a situation of high uncertainty, as when a mother is waiting to see if her child's fever will break.; or the news that an asteroid is approaching the Earth. Crises may or may not turn into catastrophes.

I am using the term *overshoot* to describe those situations where one thinks that some process of cumulative change is approaching some limit, a "tipping point," at which some sort of major reorganisation could be triggered. The term has connotations of finding you have gone somewhere you wish you hadn't; and that it might be difficult to return to the status quo ante. Like overshooting your destination and then finding you are about to run out of petrol!

What sort of crisis was suggesting itself? I have long held that humanity's master goal, its overarching goal, should be what I call *quality survival* by which I mean the achievement of high quality of life (QOL) for most people into the indefinite future. And without going into details I favour a measure based on Abraham Maslow's hierarchy of needs, from the physiological to the spiritual.[3] What I could imagine as a plausible scenario was a large and rapid drop in QOL across the world. Remember that a scenario is nothing more than a *plausible future*. I am not making a prediction and I am not the boy crying wolf. I am the boy who says there may be wolves out there in the forest.

To keep discussion manageable, I will restrict myself to identifying just four processes which, if they continue, threaten, singly to some extent, but more so in combination, a large and rapid drop in QOL across the world:

Overpopulation---The world's population is projected to increase by 50% before peaking in 60 or so years.

Global overheating---The world's average temperature has increased by 0.8 degrees in the past century and, if greenhouse gas emissions are not cut more-or-less immediately by 50-60% we might well get another degree of warming in this century. That doesn't sound much but it stands to reshape the geography of the habitable world. Unfortunately we get a third of our emissions and most of our

electricity from coal-fired power stations

Overextraction of resources---The world's transport system runs largely on oil. No really big oil fields have been discovered in recent decades and the phenomenon known as "peak oil" is either here now or on our doorstep. That is production will decline from here on, even if the price rises. Along with oil, phosphatic and nitrogenous fertilisers underpin the world's highly productive food system. Phosphate reserves are limited and we are approaching "peak phosphate," although not for some decades probably. The size of the "capital hump" which would have to be clambered over in order to run something like the present global economy on recycled and renewable resources rather than non-renewable resources is vastly under-appreciated.

Overconnectedness or runaway complexification---As world energy use increases, global society is becoming increasingly complex and unpredictable, summed up in the observation that every solution seems to create more problems than it solves. Complex systems are characterised by lots of circular causation (virtuous and vicious circles!), long-chain dependencies (for want of a horseshoe nail!) and unforeseen outcomes, e.g. China's one-child policy. When systems reach a certain degree of complexity they have a tendency to either freeze up (nothing happens for a long time) or run amok when perturbed, i.e much of their structure disappears. Rational analysis seems to be increasingly inadequate as a way of deciding "what-to-do." about such systems. While complexification is far from being just an economic problem, the economic sphere does provide some splendid examples; with a couple of exceptions, nobody foresaw the Global Financial Crisis.

Before moving on, the point needs to be made that no one has set out to create these threats to global quality of life. They are side-effects, spillovers from self-interested behaviours which most of us have hitherto regarded as quite legitimate, e.g. capitalism's pursuit of profit, a family's wish for a third child..

The stuff of apocalyptic novels

It requires only a little imagination and some knowledge of how the contemporary world "reproduces" itself to envisage how, quite plausibly, my four overshoot "juggernauts" might converge and interact to produce a destructuring of world society in ways such as:

- The large-scale abandonment of cities bereft of food and power
- The large-scale collapse of energy- and import-dependent industries
- The extinction or dispersal, on every continent, of numerous regional and national populations and communities
- The loss of all sorts of inter-regional and international linkages and joint ventures, including economic, socio-cultural and political

For example, the abandonment of cities and the departure of the experts who live there (e.g. electrical and telecommunications engineers) would quickly bring organised society, including the economy, to a standstill, starting with import-dependent industries perhaps. Breaks in long supply chains soon ramify.

Let me evoke a "Dark Age" scenario of how such breakdowns in social organisation might come to impact on the lives of ordinary people:

- Irrespective of good intentions, existing problems of war, poverty, injustice, inequity, environmental degradation and sociopathy will grow, not shrink.
- Under the combined effects of drought, famine, war, mass migration, poverty, disease, resource exhaustion and economic disruption, the world's population will start falling well before current estimates of a peak in 2070. Many indicators of quality of life, including life expectancy, will slump.

- In all countries, especially failed and war-torn states, it will become much harder for most people to meet their everyday needs. Women and children, the old and the sick will be most affected. Jobs will be few. Supply chains for basic commodities (eg food, fuel, medicines) will break. Barter will become normal. Inflation will escalate. Health, education, transport and police services will degrade. Power and water supplies will become unreliable or worse. Roads and other infrastructure will be poorly maintained. Crime and group violence will escalate. Violent protest and looting will be commonplace. Ordinary people will live in fear. Mental illness will be endemic. People will turn to authoritarian regimes for respite.

- In brief, cities everywhere will struggle to avoid becoming giant lawless slums. Rural populations will be vulnerable to marauders and incursions from displaced persons. Life will be an exhausting wretched struggle.

Attitudes to a Dark Age scenario

How might people of different temperaments react to being presented with a scenario like this? Of all the possibilities from fundamentalism to indifference, I have chosen to elaborate on three ways of responding which I regard as legitimate, i.e. as standing to produce useful insights and not to be dismissed out of hand. Expressed in colloquial and in more formal terms, they are:

- Empiricism or "Let's wait and see what happens before doing anything."

- Interventionism or "Stop fiddling while Rome burns. This catastrophe is inevitable unless we act to stop it right now."

- Reconstructionism or 'Rise like a phoenix. This catastrophe is already inevitable. Let's do what we can now to help our descendants rebuild civilisation after the Dark Age passes."

Space allows a few words about the nature and implications of each of these stances.

Empiricists believe that one's conclusions should not stray far from the immediate evidence, preferably observational (empirical) evidence. They are first cousins to sceptics who believe that people's assertions need to be justified. They believe in the "precautionary principle" to the extent of not acting before one is confident of the consequences. Their critics see them as the butt of the one-line joke, "Wait a minute, wait a minute, wait a minute …..Bang!" The difficult question of course is "What is the right amount of empiricism and scepticism?" A perennial problem with the Empiricists' stance is that it is readily assumed (hijacked) by vested interests devoted to protecting the status quo, e.g. climate change "deniers."

Reconstructionists are taking the long view and asking what life will be like after the Dark Age and what, if anything, can be done now, before the lights go out, to help the survivors who, plausibly, will be subsistence peasants. Noah and his Ark are their inspiration. It turns out to be surprisingly hard to see how to transmit useful knowledge about material and social technologies across several generations of traumatised people to a generation which is struggling to feed itself. George Stewart's novel, *Earth Abides,* captures these difficulties well.[4] Does one prepare an "Encyclopedia Galactica" as in Asimov's Foundation trilogy?[5] What might be the equivalent of the monasteries which kept "the flame of learning" alive during Europe's dark ages?

I am inclined to label *Interventionism* as the "conventional wisdom" response to my Dark Age scenario. Its perception is that if we work cooperatively and intelligently we should be able to adapt to and mitigate the worst consequences of Global Overshoot with relatively little loss in quality of life. Conflicts over resources and disjoint world views can be resolved. Famines can be forestalled. Greenhouse emissions can be slashed through cooperative action. And so on. I am sure that much can and will be done, but the task is enormous and, drawing on my understanding of human society as a combined evolutionary and ecological system, I can see two grossly under-recognised impediments to the success of this strategy.

One, which I call the "virtual species problem" is that humans readily "speciate" into groups which have great difficulty in working cooperatively, e.g. Copenhagen, Israel. There is no "We." The other is that human society is a complex system and 'We' do not understand how to manage complex systems, bedevilled as they are by pervasive circular causation and latent externalities.

What to do? What will happen?

While I have sympathy for all three ways of responding to my Dark Age scenario, none leads me to any conclusions about what, if anything, I, as an individual, should be doing about the Overshoot Crisis. As the title of my talk suggests, I remain a contemplative, not an activist. Perhaps what I have said might prove more helpful to others.

But despite my professed passivity, I do have ideas I want to inject into this existential dialogue. In capsular form, what I am offering, under the label *Ecohumanism*, is a philosophy with two foci. One is a humanism based on quality survival. The other is an awareness of the evolutionary and ecological nature of the human situation.

I see it as extremely important that people keep at the front of their minds that what ultimately matters is not economic growth, or some other instrumental goal, but high quality of life for most people into the indefinite future.

Our ideas about ecology and evolution have been largely developed by studying the pre-cultural ecosphere, but these powerful concepts for understanding change (albeit, not predicting it) are equally applicable to a world experiencing Global Overshoot. Being aware of these dynamic ideas does not solve the "what to do" problem but does provide a perspective from which "what-to-do" suggestions stand to emerge (e.g. Why not cap energy use?) and from which such suggestions can be evaluated. Space precludes further discussion but, as an example, it is a perspective which suggests there is an urgent need to advance our understanding of how complex systems work and also our understanding of the roots of the "virtual species" problem.

While I am convinced that the Overshoot Crisis is real I am not convinced that it will turn into a Dark Age catastrophe. It would be unsurprising if it did but, equally, with lots of luck, and some increasingly desperate efforts as the juggernauts converge, we could "muddle through" with a bearable amount of pain.

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[1] Talk to Independent Scholars Association of Australia, Canberra, October 2010

[2] Doug Cocks (2006) *Deep Futures: Our prospects for survival,,* University of New South Wales Press, Sydney.

[3] Abraham Maslow (1968) *Toward a Psychology of Being*, Van Nostrand, New York.

[4] George Steward (1949 (1999)) Earth Abides, Millennium London.

[5] Isaac Asimov (1995, 1996) The Foundation Saga (Foundation, Foundation and Empire, Second Foundation), Paperback editions, Harper & Collins, London.