Symposium

Controlled Evolution or Third World Collapse?

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The futures debate has frequently divided into two mutually antagonistic and apparently contradictory camps, of Malthusian pessimists versus technological optimists. While the first group point to the obvious finite nature of the planet and the difficulties in providing for the basic needs of the human population explosion, with the related damage to the ecosystem, the second group focuses on the undoubted continuing expansion of human technical achievements. Although the two resultant pictures of the future are so divergent as to appear mutually exclusive, both are valid; the two futures will coexist, just as extreme inequalities exist today.

Technology or the Ecosystem - Mankind Versus Nature

In a paper on "Genetic engineering and life sciences; controlling evolution" which appeared in the February 2002 *Journal of Futures Studies*, Graham Molitor described advances in the life sciences which would bring massive advances and "become America's 'economic mainspring' by 2100." (Molitor, 2002: 95)

The theme of a triumphant genetic engineering technology stands in dramatic contrast to my picture of the future which "suggests a 2020-2030 global crisis of overpopulation, food shortage, famine, plague and war characterised by the resurgence of fascism," which also appeared in the *Journal of Futures Studies* (Robinson 1998: 29).

These two papers describe vastly different visions of dominant trends and of the future. They are typical of a divergence which has long been

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central to the futures debate. The futures community has frequently divided into two mutually antagonistic and apparently irreconcilable camps, which may be conveniently labeled as Malthusian pessimists versus technological optimists. While the first group point to the obvious finite nature of the planet and the difficulties in providing for the basic needs of the human population explosion, with the related damage to the ecosystem, the second group focuses on the undoubted continuing expansion of human technical achievements. The two different worldviews, and the two resultant pictures of the future, are so divergent as to appear mutually exclusive.

This is an extremely important debate, raising a number of questions which are central to the futures enterprise. Which trends will dominate? Which picture is the more accurate or relevant? Perhaps both are faulty. Or, alternatively are both representative of some part of a complex world, and is it possible to reconcile the different pictures to form a composite and improved representation of the present and the likely future?

Following a brief review of some points arising from these two papers, it is suggested that both are valid, and that the two futures will coexist, just as extreme inequalities exist today.

Controlling Evolution

In his recent version of technological optimism, Molitor places his faith for a bright future in genetic engineering.

> *With hopes to "grow where nobody has grown before," to heal, to improve the quality of life overall drive bio-tech sectors in all their might and fury. ... A brave new world of a very positive and upbeat sort stands in the offing (Molitor 2002: 114).*

His extravagant attack on a less sanguine viewpoint is best noted and dismissed before we focus on the core of his argument. Thus the claim that "population may reach 900 million for the US, and 30-60 billion worldwide by 3000" is supported only by reference to "idyllic and luxurious Monaco's 40,812 inhabitants per square mile" which is held to suggest that: "There is plenty of capacity to accommodate vast increases in population." (Molitor 2002: 96)

However the fortunate inhabitants of Monaco do not provide all their foodstuffs on site; the principality, which is tacked on to southern France,

does not contain fields of grain or pastures stocked with livestock. They are also known to spend their leisure times skiing and enjoying other outdoor pursuits in less crowded regions of Europe and the world. It is simply not possible for Monaco to supply for all the wants of its citizens if shut off from the rest of the world, yet that is what is suggested when it is set forth as an example of what is possible across the whole globe. My own belief that the world population of around 9 billion which is forecast for mid-century cannot be supported is not only suggested by "Paul Ehrlich's contemporary hand wringing" but more importantly by a series of scenarios computed using complex world models, with input from international teams of experts. That "familiar age-old Malthusian complaint" stands.

Despite an air of general up-beat positivism, Molitor refers to his suggested future no less than three times as a "brave new world" (Molitor 2002: 95, 109, 114). This appears to relate to the most prominent use of that Shakespearean phrase in modern times, Aldous Huxley's 1932 novel, "Brave new world," which warns of the dangers of dehumanization in a scientific age. That repeated reference suggests some appreciation of the implications of a technological society based on an extension of developments in the USA.

While arguing for the inevitability of a spread of genetic technologies, their costs and unequal use are recognized. Examples include high costs for diagnostic genetic screening, organ transplant therapy, cryogenic storage of bodies (even of a millionaire's dog) and human cloning (Molitor 2002: 101, 104, 105, 106, 109). Perhaps these technologies will become a plaything for the super rich, which "raise fears of creating a 'super caste'" or of "creating a 'super race'" (Molitor 2002: 100, 112).

Although such concerns are mentioned, Molitor remains gung-ho in favour of genetic engineering - "Turning back is not a realistic option." (Molitor 2002: 103) This is an upbeat and optimistic presentation in praise of reliance on technological capabilities. It presents a future written from the point of view of wealthy Americans. It is USA-centered and culture-specific.

Global Crisis

Following the general recognition around 1968 (the year of the formation of the Club of Rome) of problems which had become global in extent, a second generation of global models brought together consider-

able bodies of expertise to develop comprehensive sectoral and regional sub-models which were then combined to produce complex integrated worldwide pictures of decades of development.

Towards the end of that challenging decade of the 1970s I carried out a number of reviews of these global models, and worked with the Systems Analysis Research Model (SARUM, developed in the British Department of the Environment) both at OECD Interfutures and for the New Zealand Commission for the Future. I concluded that the models were robust, indeed cautious, and provided a realistic set of representations of long-term global developments.

I reached the conclusion that the more pessimistic scenarios would be the more realistic, and that food shortages were likely across SouthEast Asia (and probably other regions) around 2030. As the century moved to a close I returned to the models and considered whether continuing major trends accorded with those model runs. While there was no definitive pointer which could tell us which scenario was the best fit to reality, there was a general agreement with the pessimistic runs. For example, the world population was about the mid-value of the previous forecasts, food production was starting to lag behind population growth and water shortages were looming.

I concluded that my expectations might be realistic and asked the further question: what then? The world reaction to the global challenges remains inadequate. The dominant force and guiding principle for global development during that last quarter of the twentieth century was free market capitalism, reacting to the desires of the central financial institutions and sending vast waves of excess capital across the globe. (Robinson 1989) Environment and Third World needs have been placed a distant second.

A study of historical events, including the turbulent fourteenth century when the black plague reduced the population of Europe by as much as one-third, and the later European Renaissance, provided the required guidance. My conclusion was bleak.

> *While the Renaissance was distinguished by a flourishing of the arts, it also featured widespread warfare and disruption in Europe together with the conquest of Central and South America, with the killing, slavery and decimation of indigenous populations. The precedent is frightful. It is concluded that recovery from the twenty-first century calamity may span centuries (Robinson 1998: 29).*

The consequences of the limits to global production to provide for a considerably increased human population may then be starvation, plague, social disruption and war. Many foretastes of that pattern can be identified today.

Choice between the Two Scenarios

The two approaches have each a track record of recognition of major trends and of accurate prognostication. The tradition of technological optimism has correctly identified the doubling of computer speed and capabilities over and over again. Technology has indeed changed the world and genetic engineering may have a considerable effect. The alternative recognition of the limits to resources and limits to human capabilities also has had its successes from the examination of ruined environments and faded civilizations to global warming and species extinction. Certainly we cannot deny or dismiss either.

Those two pictures of the future world differ markedly. Yet each includes a recognition of inequality, and of considerable difference between the experiences of different groups. It is evident that the two apparently contradictory pictures may coexist. The two populations - of a privileged minority glorying in the delights and benefits of technological advances in the central developed world and a struggling majority in an overpopulated and under-resourced, underdeveloped Third World - will continue to share the planet.

Some elements of dissatisfaction and strife will spread across borders unless sufficient barriers can be put in place. Examples abound today, with refugees, boat people, terrorist attacks and the forceful reaction to attack of the global superpower (USA) with its extraordinary use of massive sophisticated armaments.

Each scenario then describes an important part of the picture. The choice must be to pay proper regard to both. In a complex and unequal world there is a real danger of stressing one particular culture-specific viewpoint, to the exclusion of others. The danger may arise of a directed analysis which provides self-justification for self-interested actions (which may be presented as inevitable rather than chosen) and implicit support for sectional interests without due recognition of the full implications. The technological optimism which appears as a dominant strain in much of the futures discourse must be leavened by a recognition that many such advances are for the benefit of a minority, and that Third World peoples, as well as the natural ecosystem, also deserve our attention.

A Comprehensive Scenario of the Future

One of the goals of a comprehensive futures effort is to truly understand the long term: to determine which forces have formed our world and which will dominate, to determine the major features of the future and to explore the wider implications. Many tools can be brought to bear from a diversity of disciplines and different perspectives (worldviews) in a genuine interdisciplinary overview.

This could become a scientific enterprise in which a most probable scenario is developed and forecasts are set down to be tested against reality as time goes by. We have noted two apparently contradictory pictures and found that the forecasts based on each have been largely borne out over the past quarter-century. They are each robust. Each relates to a particular region and class of people. The world of the technological optimist is occupied for the most part by wealthy inhabitants of the central powers, while the world of the Malthusian pessimist describes the daily experience of the majority of Third World populations.

Indeed, there has been a considerable increase in inequality over the past quarter century, both between nations and within developed nations. The end result of the twentieth century of tumult, revolution and two world wars has been to replace nineteenth century British colonialism with twenty-first century American neo-colonization.

Such wide divergences of wealth, opportunity and experience have been a constant in human societies. The two persistent patterns can be confidently expected to continue into the future, and a global scenario will contain major features of the two apparently contradictory - but actually coexistent - pictures.

A comprehensive big picture will be an amalgam of many scenarios, including those reviewed here. This is a difficult task, indeed perhaps impossible in the real world. A major difficulty of developing such macro-scenarios, and of pushing the analysis to a genuine appreciation of major forces and the need to change, is the need to overcome the barriers of entrenched interests. If the concepts are acceptable to the client, the career of the researcher will flourish. However if questioning leads to uncomfortable conclusions, the work is sidelined and soon comes to an end. The following is based on my own experience with this obvious situation.

There have long been a series of growth and contraction periods in Western economies, marked by overshoot and decline phases when overproduction occurs. The system works well enough when demand is growing and economic growth (in production of real goods and services) is

possible. But when production overtakes demand, the system tends to overheat, overshoot and collapse, usually with crashes in the stock market. Such a process occurred in 1929-1933, and there has again been overproduction throughout the last quarter century, accompanied by unemployment but not a general collapse. The reasons why a collapse has not occurred illuminate many features of the current global system (Robinson 1989).

The occurrence of excess capacity brings the essential need for never-ending economic growth in the central, highly developed economies into question. A move to a steady-state, or approximately stable, economy is suggested. That is to question the fundamental beliefs of capitalism, which is built around the demand of capital to continually expand and to forever create new profits from existing investments. It also is a challenge to the dominant position of the controlling oligarchy (Robinson 1989). The concept is then denied. In the resultant economic troubles, unemployment grows and the underclasses suffer and are blamed for their distress.

Instead of a focus on quality of life, in the USA excess capacity has been directed towards an extraordinary level of military spending. The military play the vital role of soaking up excess capacity in a process similar to the construction of pyramids or cathedrals in past ages.

Thus any analysis which asks awkward questions concerning macroeconomics runs the risk of challenging the status quo and of losing support. Here the optimists have a great advantage, for they are the friends of the powerful.

That process of denial of problems and alternatives, and a focus on the desires of the powerful domineering oligarchy has long been evident. The challenges set down by the Club of Rome in 1968 were realistic and serious; the lack of adequate response guarantees that the forecasts will come to pass. Both genetic engineering and Third World collapse will coexist in an unequal and divided brave new world.

References

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