A GREEN FUTURE WITH TECHNOLOGY.

By
William Reville, University College, Cork.

The environmental movement has been a most important 20th Century development. It has drawn widespread public attention to the pressures and damage inflicted on natural world systems by the unrelenting march of modern technology. But, unfortunately, much of the environmental movement allowed itself to become frozen into a technophobic attitude that at once fixes modern technology with a baleful stare, while looking backwards at pre-industrial societies through a misty sentimental lens that only produces benign images. Thankfully this is changing. The Green movement is beginning to recognise that the technological revolution is irreversible, but also, that technology can and must be used to produce a healthy environment.

The capacity for goodness, decency and generosity, qualities essential for progress, and the capacity for bad behaviour and selfishness, that impedes progress, is embedded in our fundamental human nature and this will not have changed much over the ages. The pre-industrial past was not one long saga of environmental wisdom as many Greens like to believe. Primitive societies changed their environments in many ways through agriculture, domesticating animals, building, migrating, etc. In some cases they over-hunted, burned and used up forests, etc.

People in past ages may not have been much more intrinsically motivated than ourselves to care for the environment, but, world population was small, technology was primitive, and there was no capacity to interfere with natural systems on a global scale. Today's teeming populations and powerful technologies have utterly changed this picture. Everywhere we look now in the environment there is evidence of change brought about by human activities. The atmosphere, oceans and climate have been changed. Human activities alter the biosphere and affect the evolution of life everywhere. Species of animals and plants are disappearing - new ones are arising out of selective breeding.

There is virtually no chance that we will ever return to a situation of nature undisturbed by human activities - not that there ever was such a time. In other words, the option of repairing existing damage and then leaving nature alone really doesn't exist. Human society has reached the stage where it must assume responsibility for the world. Much of the damage we have created through the use of technology can be detected, monitored and repaired only by the application of more technology. The future lies in the understanding and scientific management of ecosystems in a healthy and sustainable manner.

A great number of the processes and products we use today are unsustainable. Many technologies were developed with little priority given to efficiency and they have prodigious appetites for resources. Other technologies are unsustainable because of the legacy they leave to the future, e.g. nuclear waste from the N-industry. The new genetic engineering technology offers great promise in many areas but could also cause huge problems if mis-used.

In order to achieve sustainable development we must phase out the use of fossil fuels, reduce consumption of energy and raw materials, use closed production cycles as much as possible and develop energy-efficient transport. We can only achieve this by developing new technology. The windmill and the solar panel are two well-known examples that show this approach works.

The most mature end of the environmental movement already appreciates that the future lies in using technology rather than in demonising it. Greenpeace has shown commendable initiative in this area and has developed several technological products aimed at replacing conventional damage-causing products. For example, a prime culprit in the depletion of the Earth's ozone layer are the chlorofluorocarbons (CFCs), widely used in refrigeration. Greenpeace has developed a commercially viable domestic refrigerator (the Greenfreeze) that operates without using CFCs. Another major environmental problem is the enhancement of the Greenhouse Effect, to which the inefficient burning of fuel in motor cars contributes significantly. Greenpeace, with collaboration from Swiss engineers, has developed a highly fuel-efficient SmILE motor car.

There are many other technological developments currently underway that promise great advantages for the environment. The Germans have developed a process for making 'bio-diesel' from the rapeseed plant. Chemically it is a methyl-ester and it gives the same engine performance and mpg as conventional petroleum-based diesel. The good news is that the production and burning of biodiesel emits less than one quarter the volume of greenhouse gases as emitted by conventional diesel. Also, biodiesel has the added great advantage of being a renewable resource.

Another very promising technological development in France is the zero-pollution car. The engine runs on compressed air which is carried in tanks like those used by scuba divers. The Mexican government is so impressed that it plans to buy 40,000 zero polluting taxis to replace the gasoline and diesel taxis in Mexico city. Mexico city suffers from the worst big-city air-pollution in the world. (A visionary plan for safe and low-polluting big-city transport is outlined in the article - The Ultimate Safe and Efficient Traffic System).

There are technological developments in agriculture that hold the promise of reducing chemical treatments by 90%. Other technological developments are aimed at using natural biological systems to treat industrial effluent in an environmentally friendly way.

But a 'technological fix' alone will not solve our environmental problems. We must accept that we cannot have unlimited growth in a limited world. We must realise that happiness does not depend on infinite consumption. We can choose to live happily and healthily in a technological world by changing our lifestyles a bit and by developing sustainable technologies, or we can continue to feed on the world in the manner of a Roman Orgy. Whichever option we choose will produce the result we deserve.

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