

Getting Progress Back on Track

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Apart from sheer intellectual curiosity, one key reason for the pursuit of science is to improve mankind's lot. Ever since our ancestors used fire to keep predators away at night, human ingenuity has improved the quality of our lives. By studying disease, we improved our health, while by working out the principles of steam and electricity, we have vastly increased the physical work we can do, while reducing the exertion involved.

And yet, in recent decades, two of the most significant advances in technology—nuclear power and genetic engineering—have been held back, not by a lack of ideas, but by a lack of public confidence. In the UK, one GM crop has been approved for use, but is not grown commercially [1,2]. Even small scale field trials of GM crops are so often trampled by protesters that some scientists are arguing that they should be allowed to keep the locations a secret [3]. In Germany, citizens voted to back out of nuclear power altogether [4].

There is little doubt that both of these technologies can improve our lives. France, which relies heavily on nuclear power, enjoys relatively clean and cheap electricity, and regularly sells its surplus to its neighbours [5]. In China, GM insect-resistant cotton crops have had a marked influence on the health of farmers, who had suffered from having to regularly spray insecticides in their fields [6].

We cannot afford to ignore these new technologies. The human population of the earth is currently over 6 billion, and is estimated to grow to around 10 billion before levelling off later this century [7]. In addition, the billions living in developing countries will be keen to move up to the same standards of living as we enjoy—with private cars, electric lighting and a diet rich in meat. There is not enough area on the planet to support that kind of lifestyle for so many people with today's technology, even if we overlook pressing environmental issues such as habitat destruction and climate change [8].

One possible explanation for the gap is the inequality of wealth. In the developed, Western countries which have historically led the way in research, we are generally healthy and comfortable, so we can pay more attention to the risks of new technology. Relying on cheap fossil fuels and goods manufactured cheaply abroad, we have maintained our expensive lifestyle without much change. That dominance is rapidly ending, however, as countries such as China and India become richer. The Indian car manufacturer Tata recently released a car costing under £1500 [9], bringing car ownership within the reach of many for whom it was previously a dream, but by increasing competition for petrol, helped to drive the price of oil upwards. Similarly, biofuels, intended to evade carbon emissions leading to global warming, have competed for agricultural land, and contributed to the rising prices of food.

Could these pressures bring an end to the repression of progress in the West? Already, rising prices have driven customers from Waitrose to Aldi [10]. Perhaps a longer-term strain on the wallet would reduce the opposition to GM crops, or the threat of power shortages [11] may bring people round to the idea of nuclear power. Here in the UK, the government has already, despite the inevitable controversy, indicated that it favours building new nuclear power stations [12]. If we won't accept progress, we risk being leapfrogged by the pragmatism of developing nations.

Like most new technologies, the two discussed here are not without their risks. But it is not beyond our ingenuity to overcome such risks. After all, where would we be if early humans had decided that making fire was simply too dangerous? ■

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