A History of the Future: how writers envisioned tomorrow's world

Peter J Bowler examines how divergent beliefs about the future have shaped literature, science writing and public perceptions.

The future has not changed a great deal over the past hundred years. In the late 1920s a book called *The Conquest of Life* by Dr Serge Voronoff, a Russian émigré based in Paris, became a worldwide success with the claim that the author had found "a remedy for old age" with the aid of which "life can be prolonged, sex intensified, and death delayed". The *New York Times* featured Voronoff's work under the headline "Science promises an amazing future", and his supposed advances were publicised in the *Scientific American*.

Voronoff's techniques included transplanting testicular material obtained from apes, which he believed could rejuvenate human males and cure cancer. In *The Conquest of Life*, he promoted his transplant methods as a means of enhancing the abilities of children, asking "Why not try creating a race of super-men, endowed with physical and mental attributes very superior to ours?"

Others around the same time were promoting different methods to achieve similar goals. Eugen Steinach (1861-1944), a Viennese physician and endocrinologist, developed a type of vasectomy that aimed to divert seminal fluid into the body, where it would have sexually energising effects. The procedure was eulogised by WB Yeats, who after being "Steinached" in 1934 claimed to have been experienced "a second puberty". As late as the 1960s, the Swiss physician Paul Niehans was injecting foetal matter from newly killed sheep into the buttocks of clients that included Somerset Maugham,

Gloria Swanson, Charlie Chaplin, Noël Coward, Marlene Dietrich, Thomas Mann, Konrad Adenauer and Pope Pius XII. Niehans also believed his techniques could "cure" gay people of their sexuality.

Though some claimed to have benefited from them, none of these techniques was based on what would now be regarded as sound science. But the goals these therapies pursued have not been abandoned – far from it. Today the conquest of life includes the abolition of death, with figures such as Ray Kurzweil, director of engineering at Google, envisioning technologies that would upload human minds into cyberspace, severing them from their biology and making them immortal. Rather than fashioning "a race of supermen", these visionaries dream of designing a post-human species.

At the same time there are many who fear the human consequences of technological advance. Artificial intelligence might have no interest in the wellbeing or the survival of humans. The march of robots could leave the majority of human beings redundant in the productive process. Genetic engineering could be used not only to eradicate inherited diseases but also to manufacture killers and sex slaves. Virtual reality technology could spawn soulless phantoms that might yet have human-like emotions, and suffer and rebel against their condition. At the heart of both *Blade Runner* films, such techno-dystopian visions pervade popular entertainment.

Ever since the mid-19th century, when it came to be believed that technology would shape the human future, the prospect has divided modern culture. In this thorough, compendious and learned survey, Peter J Bowler, emeritus professor of the history of science at Queen's University Belfast, examines how divergent beliefs about the future have shaped literature, science writing and public perceptions over the first two thirds of the 20th century. Covering city living, automation, work and leisure, transport, aviation, space travel, war, energy and the environment, and transformations in human nature, *A History of the Future* is an encyclopaedic account of the ways in which "the optimistic and pessimistic visions of a technologically-rich future have always

run side by side".

Bowler frames this familiar division in terms of the background of those who held these divergent views: scientists and engineers have celebrated the benignly transformative possibilities of technology, he notes, while many from literature and the humanities have feared that technological advance may be dehumanising. He admits that this may be an over-simple dichotomy. An imaginative writer of genius as well as a thinker with scientific training, HG Wells – along with the American science fiction writer Isaac Asimov (1920-1992), one of the two futurologists Bowler puts at the centre of his story – was himself divided in his vision of the future. Even Asimov, whose picture of a science-based future was generally rosy, admitted that problems of resource depletion would be difficult to overcome in a densely populated world.

Bowler's conspectus contains much of interest. While the communist JBS Haldane believed that gas was a more humane way of killing people than high explosives and suggested that better weapons might shorten wars, George Orwell rightly dismissed the idea that better communications would foster world peace. In his short story *The Land Ironclads* (1903), Wells foresaw the armoured tanks that would appear on the battlefield in the First World War; curiously, he predicted they would be accompanied by soldiers riding bicycles. Writing in the London *Evening Standard* in 1927, Haldane proposed conceiving children in artificial wombs and rearing them in state institutions as part of a "rational plan" of human development. Aldous Huxley's *Brave New World* (1932) was a reaction against Haldane's schemes.

Bowler's survey is packed with such arresting details, but the frame of reference in which he presents them is superficial and unilluminating. On the whole he represents those who welcome technological advance as optimistic progressives, and those who warn against its human costs as reactionary pessimists. The historical record is more interesting and more paradoxical. Many who have been optimistic about the possibilities opened up by

technology have wanted to use it for purposes that would now be recognised as highly regressive; some of the most widely influential among these people have been renowned progressive thinkers. When a cult of technology is joined with fashionable ideas of human improvement, the upshot is very often gruesome inhumanity.

Consider eugenics. Writing of the interwar enthusiasm for policies that would "improve the human stock", Bowler reminds us that exhibitions promoting Nazi eugenics and "racial hygiene" toured the US freely in the Thirties, while many American states enacted legislation for the compulsory sterilisation of people judged to be feeble-minded. For many progressives, eugenics was as quintessentially modern as town planning. Eugenic policies attracted the support of William Beveridge, John Maynard Keynes, Bertrand Russell and progressive luminaries throughout the world. In Sweden, the architect of the Scandinavian welfare state, Gunnar Myrdal, argued that a programme of mandatory sterilisation was necessary for social progress, with tens of thousands being subjected to the procedure up to the mid-Seventies.

Some in interwar Europe went so far as proposing the compulsory euthanasia of people classified as socially obstructive or useless. Bowler cites the French surgeon Alexis Carrell (1873-1944) as recommending that habitual criminals "should be humanely and economically disposed of in some euthanasia institutions supplied with proper gases". Carrel was attacked for links with the Nazis, but policies of this kind were not confined to Nazis and their sympathisers. Carrell's views were anticipated by George Bernard Shaw, whose long-time enthusiasm for involuntary euthanasia Bowler does not discuss.

In a speech to the Eugenics Education Society in 1910, Shaw declared: "A part of eugenic politics would finally land us in an extensive use of the lethal chamber. A great many people would have to be put out of existence simply because it wastes other people's time looking after them." Here Shaw was not speculating about a hypothetical future society. In his introduction to Sidney

and Beatrice Webb's *English Prisons Under Local Government* (1921), he explicitly advocated large-scale use of the lethal chamber as an alternative to imprisonment. In *The Crime of Imprisonment* (1946), he reiterated his view of how anti-social elements should be treated: "If they are not fit to live, kill them in a decent human way."

Shaw's belief that many human beings were "not fit to live" was a recurring theme among early-20th-century progressive thinkers. As Bowler notes, Wells looked forward to a future in which "The unfit would be painlessly eliminated, the mentally ill encouraged to suicide out of a sense of duty and the inferior races of the world would face extinction." When in his non-fiction study *Anticipations*, first published in 1901, he considered the future of the "swarms of black and yellow and brown people who do not come into the needs of efficiency" in a scientifically ordered World State, Wells concluded that these and other "inefficient" human groups would have to disappear: "The world is not a charitable institution, and I take it they will have to go". Here Wells was expressing a view of human progress that he never renounced.

In Alexander Korda's film *Things to Come* (1936), the screenplay of which Wells wrote, an elite force of aviators, scientists and engineers deploy modern technology to "clean up" the world after civilisation has collapsed following a devastating war. The film was a box office triumph, but not everyone was persuaded by its message. Having watched it, Jorge Luis Borges observed: "In 1936, the power of almost all tyrants arises from their control of technology."

Borges's observation identifies an insoluble difficulty in the modern faith in technology. In his short book *The Abolition of Man* (1943), not cited by Bowler, CS Lewis questioned the belief that science would enable "humanity" to expand its power over the natural world. "Man's power over Nature", Lewis wrote, "turns out to be a power of some men over other men with Nature as its instrument." Oddly, Bowler describes Lewis's outlook as "neo-conservative". But you do not need to share Lewis's Christianity or his moral

views to recognise the force of his critique of techno-progressivism.

Accelerating scientific invention does not make human beings any more good-natured or reasonable but simply increases their capacity to achieve their goals. In practice, this means the groups that are most powerful will increase their hold over the rest. Schemes for improving the human animal by technological means will not alter these facts. What counts as improvement will be decided by existing human beings, with the most powerful among them having the biggest say. The result is more likely to be enlarged versions of human vanity and cruelty than a higher version of the species.

This dark prospect recurs throughout Wells's writings. *The Island of Dr Moreau* (1896) is extraordinary not just because it anticipates the world-changing potential of biotechnology. More profoundly, the novel questions the faith in progress through science on which Wells founded his life as a public figure. Created by Dr Moreau on a remote Pacific island, the Beast Folk are animals – pumas, leopards, hyenas and others – that have had human attributes grafted on to them through vile techniques of vivisection. Moreau's aim is to turn these tortured beasts into humans, but all he succeeds in doing is to create monstrous hybrids that long to return to their animal natures. When the narrator goes back to London he sees the people he meets there as "animals half-wrought into the image of human souls", and himself "not as a reasonable creature, but only an animal tormented by some strange disorder in the brain".

The Island of Dr Moreau is mentioned only in passing by Bowler. He passes over entirely Wells's last book, *Mind at the End of its Tether* (1945), where the indefatigable world-improver confesses that, having believed "there was always the assumption of an ultimate restoration of rationality", he has concluded that "there is no 'pattern of things to come'... There is no way out or round or through." When he wrote this, Wells was approaching 80 and gravely ill (he died in 1946). It is easy to interpret his despair as a side effect of his failing health and energy. But it could also be that Wells – an author so

influential that in 1934 he commanded an audience with Stalin, with whom he had a memorable conversation published in this magazine (reprinted 18 April, 2014) – had learned something from his long life.

The regimes to which Wells had looked for the transformation of humankind had proved to be political experiments in vivisection. Attempting to turn their subjects into rational beings, they instead produced deformed brutes. Soviet communism, whose beginnings he had seen first hand when he went to the USSR to meet Lenin in 1920, had become a tyranny far more savage and blood-stained than that which it had replaced. European fascism – for which Wells had shown some sympathy, telling a conference in Oxford in 1932 "I am looking for liberal Fascisti, enlightened Nazis" – had demonstrated the unparalleled crimes that come from policies aiming to purge society of the "unfit". Human beings, Wells concluded, were like Dr Moreau's Beast Folk – inwardly divided creatures, congenitally incapable of transcending their animal origins.

The stale story of optimistic techno-progressives and reactionary technophobes obscures more than it reveals. Many of the optimists looked forward to a future that many people today would find thoroughly loathsome. The "cleaned-up world", which at the end of his life Wells despaired of ever achieving, was as hideous as the island of maimed and tormented animals he had imagined 50 years before. As Borges commented in his review of *Things to Come*: "The heaven of Wells and Alexander Korda, like that of so many other eschatologists and set designers, is not much different from their hell, though even less charming." One person's utopian dream is another's dystopian nightmare. In Wells's case, they were one and the same. The great historian of the future has sent the 21st century a warning, if anyone cares to listen.

John Gray's next book is "Seven Types of Atheism", published by Penguin in April

A History of the Future: Prophets of Progress from HG Wells to

Isaac Asimov

Peter J Bowler

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