Thinker's progress

Richard Davenport-Hines

Paradise Dreamed: How Utopian Thinkers Have Changed the Modern World.

By Pamela Neville-Sington and David Sington. Bloomsbury: 1993. Pp. 322. £18.99.

"PROGRESS", said Oscar Wilde, "is the realization of utopias": an opinion with which the authors of this cultural history of utopian thinking generally agree. They cover their subject with the soothing syrup of twentieth-century liberalism, and conclude that "many of the most positive political developments of the past half-millennium have also drawn nourishment from the utopian tradition: the rise of science, of female emancipation, of democracy itself". This conclusion is made possible by their own optimistic spirit and by a certain selectiveness in their material; it is not the result of ideological dishonesty.

Paradise Dreamed is most satisfying when dealing with quasi-scientific topics. The book begins with a sketchy introduction to Plato and the Golden Age of ancient Greece and a rather unexciting summary of Thomas More's *Utopia* (1516); but it becomes more interesting when discussing the utopian speculations of Francis Bacon. This great English jurist, who regarded philosophy as having no practical use, propounded a new role for science in society in his *New Atlantis* (1627). Systematic experiment and scientific innovation would achieve "the enlarging of the bounds of Human Empire, to the effecting of all things possible", Bacon hoped. To this end he proposed the foundation of a research laboratory to be named the College of Six Days' Works which was to include cave-houses for experiments in refrigeration, astronomical towers, desalination plants, ecological mini-environments, furnaces, acoustic chambers, engine-houses of all sorts and much else including "houses of deceptions of the senses". Readers who are unfamiliar with Bacon's vision of a science-based utopia will welcome the Singtons' introduction to his ideas.

Lewis Mumford's view, that cities were the earliest utopias, is taken up by the Singtons, who give a plain and unpretentious presentation of European architectural ideas since the renaissance as expressions of utopian thought. Their section on urban engineering concludes with an account of the career of Le Corbusier which is so muted in its judgments that it will satisfy neither his opponents, who complain that he exemplified the most inhumane and totalitarian elements of twentieth-century architecture, nor his surviving protagonists. *Paradise*

Dreamed had its origins in a BBC radio series: unfortunately the need for 'broadcasting balance' has left a somewhat lifeless version of the authors' opinions.

Another section examines the impact of Edward Bellamy's *Looking Backwards* (1888), described as the best-selling novel in the nineteenth-century United States after Harriet Beecher Stowe's *Uncle Tom's Cabin*. Bellamy's fantasy about the benefits of mechanization prefigured the glories of a consumer's paradise, launching a literary tradition in support of technological progress that was halted only by Aldous Huxley's *Brave New World* (1932). Both books, as analysed by the Singtons, contain ideas about applied science that are thought-provoking if anecdotal. The difficulty of sustaining a long analysis of serious ideas in a radio programme is discernible even in this discussion of Bellamy and Huxley.

There are serious issues underlying the chatty approach. "I deny that freedom exists at all", declared the behavioural psychologist B. F. Skinner, whose novel *Walden Two* (1948) is analysed by the Singtons. "I must deny it — or my program would be absurd." Skinner was one of the few modern utopians to recognize explicitly that freedom and organization are incompatible, and that effective planning has to be oppressive. Other malign features of utopian thought are identified by the Singtons. "We must build on a clear site", said Le Corbusier, expressing the utopians' instinct to reject history and erase the past. Each utopian scheme is the projection of a long imagination, and seeks to impose the values of one individual on a community. Non-conformity can become a criminal transgression, and there is a tendency to seek equality by enforcing uniformity. Although Marx abhorred utopianism as reactionary, communism is rightly treated by the Singtons as a potential paradise perverted by evil.

"What has always made the state a hell on earth has been precisely that man tried to make it his heaven", wrote F. Hoelderlin. Schemes of human perfection prove in the end only human imperfectibility. One does not have to be a Christian believer to regret the Singtons' concentration on Western secular thinkers; it means that although their book is essentially a reading of Western literary texts on ethical themes, they do not mention several great ethical writers who put their ideas into a Christian framework without evangelical attitudinizing. Foremost among these in the twentieth century is W. H. Auden. Unlike the melioristic, materialistic Singtons, Auden, after long thought about both arcadian and utopian visions, concluded that "our world rapidly worsens". His great poem *Vespers* (1954) is one of the sharpest ever critiques of the utopian mentality. At first it seems frivolous in its teasing of the *dirigistes*, technocrats and

zealots of utopian reform; but he offers an alternative vision, and ends by adjuring that "without a cement of blood (it must be human, it must be innocent) no secular wall will safely stand".

Although the Singtons are sympathetic to communitarian experiments such as the Shakers in the United States, and see attractions even in Californian hippydom of the 1960s, their optimism is not convincing. "The attempt to externalize the kingdom of heaven in a temporal shape must end in disaster", wrote Auden's contemporary Hugh Kingsmill. "It cannot be created by charters or constitutions not established by arms. Those who seek for it alone will reach it together, and those who seek it in company will perish by themselves." □

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Bugbear

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Digital Woes: Why We Should Not Depend on Software. By Lauren Ruth Wiener. Addison-Wesley: 1993. Pp. 245. \$22.95, £19.95.

ANYONE who still regards computers and the software that controls them as beyond blemish will find readable antidotes in this volume's case histories. A veritable 'Murphy's Law' (if anything can go wrong, it will) for software, the presentation will reward readers who seek cause to worry about the programs that 'chug' away on their behalf. Although computer scientists will find themselves hard put to accept many of the sweeping statements that pepper the text (such as "the software just can't keep up [with hardware advances]" and "testing software thoroughly is simple — and impossible"), the worst one can say about the author is that she is unnecessarily pessimistic about prospects for quality improvements. So fine, let's try and prove her wrong.

The book begins with 13 accounts of technology-related mishaps, and ends with 7 criteria for selecting a software system. In between, readers receive a lively — if rather downbeat — view of the software industry as might emerge from an after-work gripe session. Except for Bill Gates ("a CEO [chief executive officer] who can program"), industry executives rarely do the right thing, unless tricked by resourceful subordinates. True to the subtitle, the presentation attempts to persuade readers not to rely on software. But quantitative data that might test this thesis are given no place in this anecdotal format.

How has the growing use of software

affected the quality of the systems we moderns depend on? Have aeroplanes, telephone networks, power plants, department-store bills and the like become more reliable or less with the spread of microchips? Answers to such questions lie beyond the scope of this book.

Instead, Wiener examines each advance for potential threats. With repetition, this litany wears thinner as it proceeds. Publishing books electronically will lead to multiple rewrites of the classics. "How are we going to tell which is the original?" the author asks, thereby rekindling a debate that must have accompanied the advent of movable type.

A defender of science

A. Rupert Hall

Defining Science: William Whewell, Natural Knowledge and Public Debate in Early Victorian Britain. By Richard R. Yeo. Cambridge University Press: 1993. Pp. 272. £35, \$54.95.

WILLIAM Whewell (1794–1866), the pivot of this study, a close contemporary of Babbage, Herschel and Peacock, was a greater pundit than any of these. Ascending the successive steps of classicist, mathematician, priest and professor of moral sciences, he at last attained one of the finest offices in the British prime minister's gift, the mastership of Trinity College, Cambridge: a reward not often given to a Fellow who has made his way up the college ladder. Yet, as Whewell recognized regretfully, no theorem or discovery bears his name. His early textbooks of mechanics were good, he contributed to the modernization of Cambridge mathematics and mineralogy, he stimulated and advanced global knowledge of the tides; but even these relatively modest accomplishments were completed before he was much over 40. The rest of his work and the bulk of his fame lay outside scientific teaching and innovation.

If this was Whewell's science — which is not of prime concern to Yeo — what was his "omniscience", his "foible" according to Sydney Smith? As for so many Victorians, Germany was an intellectual inspiration: Whewell published a book on Gothic German architecture, trans-

lated German poetry, and himself wrote English hexameters; he read the German moralists — not, perhaps, the German theologians who so impressed the young George Eliot. He preached influential sermons, he wrote books on morality, he contributed to the mid-Victorian educational debate (ever advising that the Cambridge disciplines of Greek and geometry were the essential foundations of learning), he deplored the Oxford Tractarians and defended the divine creation. Above all, Whewell wrote universally about science — Yeo would amend Sydney Smith's quip to make "metascience" Whewell's foible. Some of this bulky writing was addressed to readers of the reviews — perhaps one would today hardly imagine Sir Michael Atiyah composing an essay equivalent to *The General Bearing of the Great Exhibition on the Progress of Art and Science* (1851) — much was at the highest level of philosophical debate, notably in his *Philosophy of the Inductive Sciences* (1840). His dissensions from Locke, Comte, J. S. Mill and other giants remain to this day of lively technical interest. Nevertheless, one sees what a vast intellectual gulf divides Whewell from such a man of the next generation as James Clerk Maxwell, not to mention Charles Darwin, 15 years his junior and a practitioner of sciences still regarded by Whewell as speculative.

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What did Whewell hope for from his "metascientific" studies, publications of deep thought and intense effort? He was far from alone in embarking on a 'public debate' about 'natural knowledge in early Victorian Britain' (to rearrange Yeo's subtitle): Babbage, Herschel, Brewster, Sedgwick, Murchison and many others aired their views on what science is (or is not), what its boundaries and prospects are, why it is necessary to mankind and why it should be promoted (or discouraged). Like many contemporaries,

Whewell held the most advanced and mathematical departments of science, such as astronomy and mechanics, to be essentially perfect and infallible; one problem therefore was the relationship of contemporary non-mathematical sciences, and mathematical science before Newton, to these perfected bodies of knowledge. Whewell discussed the first of these aspects of the problem in his *Philosophy of the Inductive Sciences*, the second aspect in his earlier *History of the Inductive Sciences* (1837). These two closely connected books are the twin props of his reputation today.

Whewell was a massive and authoritative figure. Perhaps his philosophical weight was most effectively cast against a facile Baconianism or positivism, and he may have agreed with a friend that 'Plato is worth 10,000 Aristotles and 100,000 Lockes', for Locke's philosophy treated the human mind as if it were "the same sort of thing as Babbage's Calculating Machine" — a surprising comparison for 1822. It was a philosophy (Whewell thought) hostile to both science and religion.

Yeo writes of Whewell as a defender of science, though he never clearly defines the opposition. Whewell was never so hot a critic of governmental apathy and the Royal Society as was Babbage, nor did he believe that universities should be seats of research. He argued that utilitarianism misrepresented science, without alleging that this philosophy obstructed it. Classicists might maintain the superiority of their studies for human life, but with them Whewell had no dispute. High churchmen (like popes) distrusted science; Whewell (like Newton) insisted on the reconciliation of religion and science. Essentially his ideas were conservative (arousing Huxley's criticism) as may be seen in his rejection of Lyell's geology (in the concluding pages of his *History*) and the whole final chapter of *On the Philosophy of Discovery* (1856).

A more consistent concentration on Whewell's (qualified) role as an advocate of scientific knowledge, and of the importance of the endeavour to understand nature within European thought, might have brought a sharper focus to this rather diffuse study, which still leaves Whewell's stature enigmatic. The importance of the great reviews in British intellectual life in his time is well brought out; the *History* is well assessed; the treatment of Whewell's philosophy is heavy going. Fashionable use of such words as 'space', 'visibility', 'agenda', 'rhetoric' and 'discourse' in a figurative sense does not make for clarity. A book entitled *Defining Science* might reasonably have ended with a statement of Whewell's definition. □

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1994 review supplements

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