The 1930s: Science and Technology: Overview

American Decades


THE 1930s: SCIENCE AND TECHNOLOGY: OVERVIEW

Technological utopians

Although the 1930s saw considerable growth and maturation in science and technology, the outlook they inspired owed much to the legacy of dozens of technological utopians who, from the late nineteenth century until the mid 1930s, published accounts of how technology would help achieve the perfect society. Industrialization and its negative aspects, ranging from smokestacks to cramped living quarters and long workdays, was considered only a stage that would give way to a clean, harmonious world. Whereas religion, ideologies, and revolution always seemed to provide but a part of the answer to life's challenges, technology might be the tool that truly fixed all troubles. Although such an ideal never materialized, the 1930s became the proving ground for many utopian technological predictions, from skyscrapers to airships. It also became the era when such expectations were tempered, despite scientific and mechanical successes.

The Machine as Inspiration and Threat

The worldwide depression that followed the stock-market crash of October 1929 had a surprisingly limited impact on scientific research. In fact, substantial progress was made in atomic physics, and even scientific applications to industrial and business fields continued at an accelerated pace. The belief in the positive impact of technology remained strong in the American consciousness and reflected the daily reports of new
technical records and scientific discoveries. Visions of a mechanized world flourished, in which humanity would either be free of routine labor or become a slave of machinery. The Committee on Technocracy, formed in 1932 and led by Howard Scott Loeb, was inspired by Thorstein Veblen's concept of a "Soviet of Technicians" and argued for an increased role of the engineering profession in running the country. It argued, among other things, that "social activity must obey the laws of physics." This adoption of an action-reaction view of the world was best summarized in the technocrats' use of the ancient Chinese symbol of yin-yang, suggesting a dynamic equilibrium. Technocracy came to the fore as a movement and stirred many debates, from church pulpits to university seminars and press editorials. Despite abundant criticism, the technocratic movement led many scientists to view themselves as potential managers of change. Some felt that in order to succeed science required a true socialist transformation, while others believed that the acceptance of the status quo and even open support of government policies in the face of fascist and communist threats was the best way to make a difference.

Fascination

Elsewhere in America, the machine age had been welcomed by such industrialists as Henry Ford, who, although he equated technological and social progress, did not foresee the possibility of Utopia. In fact, his plans and designs soon ran afoul of strong workers' unions, which called for better wages and working conditions. Social scientists, in particular Lewis Mumford, also became interested in the promises and dangers of technology. Following a study of the interaction of technology and society, Mumford brought out a pioneering book on the nature and function of cities, The Culture of Cities (1938), and proposed various solutions to the problems of urban development and disintegration. Long overlooked in practical terms, this study gained in relevance when the predicted dangers of urbanization came to increased public attention in the 1960s. In a similar fashion, new scientific breakthroughs such as plastics manufacturing were hailed at first as ultimate progress.

The Plastic Age

One industry tagged as the savior of the new age was plastics. Still in its infancy, the manufacture of the new substance seemed to suggest new, better things for a bright future. People in the 1930s could claim to have seen or touched one thing or another made out of plastic and found its resistance to humidity and sturdy pliability unique. Though wide use of plastic did not come until the 1950s, the "miracle" material's outlook seemed bright, as manufacturers scrambled to promise marvelous deeds for the sake of ensured sales. Americans were offered plastic options for a wide range of items, from germfree unbreakable utensils to car accessories to replacement teeth. What distinguished plastic, as one columnist pointed out in American Weekly in 1936, was that it was not created from nature, nor could it be turned back into its components. This praise was also a hidden omen, as consciousness of the problems of pollution and biodegradability was raised several decades later. In the 1930s, however, plastics were the epitome of modern design, and the Bakelite Corporation led the charge to convince manufacturers that plastic was both trendy and practical, as proved by the success of plastic radio casings. The utopian associations of plastic eventually died down as its use expanded and its image suffered; yet for most of the 1930s it seemed that the United States had entered a "plastic age" of sorts, in which everything, including homes, might be mass-produced at cheap prices.

Houses by the Dozen?
The housing boom that characterized the United States during the 1920s was driven both by rising standards of living and the new stylistic movement known as modernism—especially Bauhaus, from the school that originated it in Germany. The Swiss architect Le Corbusier summarized modernism's mechanical dimension by suggesting that the house was a "machine for living." Beyond the issue of modern design was that of modern building: how did one respond to the heavy demand for private roofs and walls? The basic solution was, as the slogan went, to "build houses like Fords." Prefabrication of elements was undertaken, and one company, General Houses, was fairly successful in marketing a four-thousand-dollar one-story, flat-roofed house. Unfortunately, building a house was less of an issue than establishing the necessary infrastructure, from building permits to water pipes and phone lines. One solution to such red tape was the appearance of "ready-to-build" units shipped by trucks. Yet for all the original designs proposed by such architects as Frank Lloyd Wright, as well as novel gadgets such as the electric garage door, the mass-housing effort failed, partly for lack of money. Another reason was, as Mumford noted, that a communism of sorts appeared in the manufacturing: there was no taking into account the surroundings or what communities really wished for, not to mention individuals.

Attacking the Machine Through Literature

In 1932 British author Aldous Huxley in his novel Brave New World took the opposite step to utopian accounts by proposing a dystopian outlook, a world in which the machine was the instrument of control rather than of help, of oppression rather than freedom. This dystopian outlook—that not all is for the best in the best of machine worlds—stuck in contemporary minds and was echoed later in other works, such as British novelist George Orwell's Nineteen Eighty-Four (1949). Echoing them as well as Mumford's analyses, British author John Drinkwater in This Troubled World (1933) offered a stern warning about the mechanistic worldview yet suggested there was hope in humanity. Others seemed to suggest that humanity could do little.

Attacking the Machine through Film

In 1936 Charlie Chaplin starred as a factory worker in the movie Modern Times. Although as a motion picture it was obviously a reflection of the mechanization of the arts, it actually attacked the process of machinery in no uncertain terms despite its comic content. As his character tries to adapt to the ever-increasing speed of the conveyor belt, he becomes part of the cogs. To rebel is to face physical and mental trouble as well as to lose one's job. Although at times heavily ideological and exaggerated to please audiences, Modern Times represented a mechanized attempt at understanding machine technology. As if to symbolize the inexorable march of progress, for the first time in his movies Chaplin's voice was heard, indicating that another page in technical mastery had been turned.

World Fairs

In the 1930s two great American world fairs introduced Americans to marvels of their era, maintaining the dream aspect of science and technology despite the grim realities of industrialization and economic depression. At the Century of Progress exposition in Chicago in 1933-1934 spectators were able to admire a "crystal house" of tomorrow as well as an impromptu visit by the German airship Graf Zeppelin. The various shows and exhibits were as much popular entertainment as they were a way to bolster the image of the industries involved in putting the fair together. By 1939, when light shows and grandiose construction might not outdo the real thing in modern New York City, the landscaping of the future and the successes of
scientific research were emphasized. It was as if, now that tools such as the airplane, the locomotive, and the skyscraper were common, it were possible to concentrate on the big picture; even the risk of natural catastrophes was mentioned as a solvable problem. There was nothing to worry about, as if one were vacationing in a theme park. The expectation that humanity would succeed and survive was perhaps best summarized by the sealing of a time capsule to be opened in the year 6939, which contains, besides messages from several luminaries, a blueprint for America's future as seen from 1939.

Malaise and New Horizons

Although the 1930s were a period of doubt and skepticism over the Depression and the fears of war, they also became the setting of remarkable successes in the sciences. Such achievements, contrasted with concerns over their use, characterized what is called the second stage of modernism. A side effect of this new stage was the new lease on life given both science and technology in science fiction. Although not utopian in outlook, in much science fiction of the decade humanity might still succeed in overcoming its problems provided it paid more attention to the consequences of what was being viewed as progress. In the 1930s the seeds for a technological consciousness were planted, but it would take the risk of atomic annihilation that appeared in the 1940s to make these seeds flourish.

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