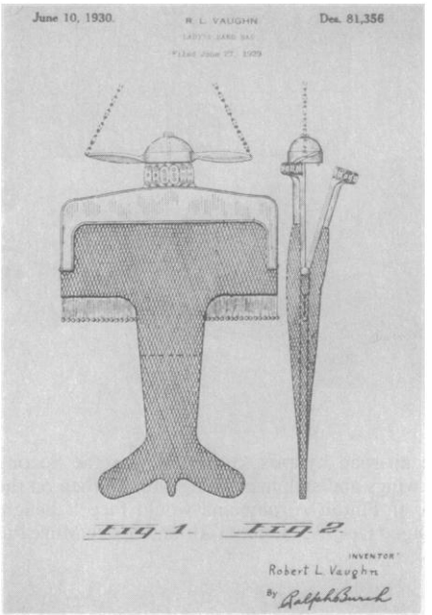
The Air-minded Era

The Winged Gospel. America's Romance with Aviation, 1900–1950. JOSEPH J. CORN. Oxford University Press, New York, 1983. xii, 177 pp. + plates. $17.95.

In *The Winged Gospel*, Joseph J. Corn has recounted the history of the American people's love affair with the airplane during the first half of the 20th century. Between 1910 and 1950, according to Corn, the enthusiasm for aviation became a secular religion for its adherents, who worshiped the plane as a messiah, a mechanical god that would usher in a millennium of peace and harmony. The author places this attitude in the context of the traditions of American technological messianism and the age-old belief that flight was divine, and he explicates the points of similarity between the worship of flight in America and Christian ritual.

In his explanation of America's growing air-mindedness in the 1920's, Corn emphasizes the role first of the barnstormers and then, most crucially, of Charles Lindbergh's lone flight across the Atlantic in 1927. With the near deification of the Lone Eagle, who assured America of its continued vitality in his conquest of this newest frontier, faith in flight became a veritable religious cause. Adherents to the cause, who consistently overestimated the ability of the airplane to cause social change, believed that the plane would produce a democracy of the air, that it augured the end of discrimination and the expansion of freedom, and that it would not merely deter aggression but bring humans closer together and thereby eliminate the very conditions that cause wars.

The author presents three case studies of the promotion and development of the airplane to illuminate his thesis. A chapter on women pilots explains how the winged gospel combined with traditional stereotypes of women to permit female aviators to promote the popular acceptance of flying. An examination of proposals in the 1920's and 1930's to put a plane in every garage shows how the gospel affected even planning and design of aircraft. Finally, the author examines the media's promotion of the aviation education of youth and the popularity of the model airplane as part of the winged gospel. Ultimately, Corn concludes that, to 1950, two generations of Americans kept faith with the winged gospel until its demise with World War II and the postwar rise of strategic airpower, when Americans came to consider the airplane as an ambivalent, even malevolent agent.

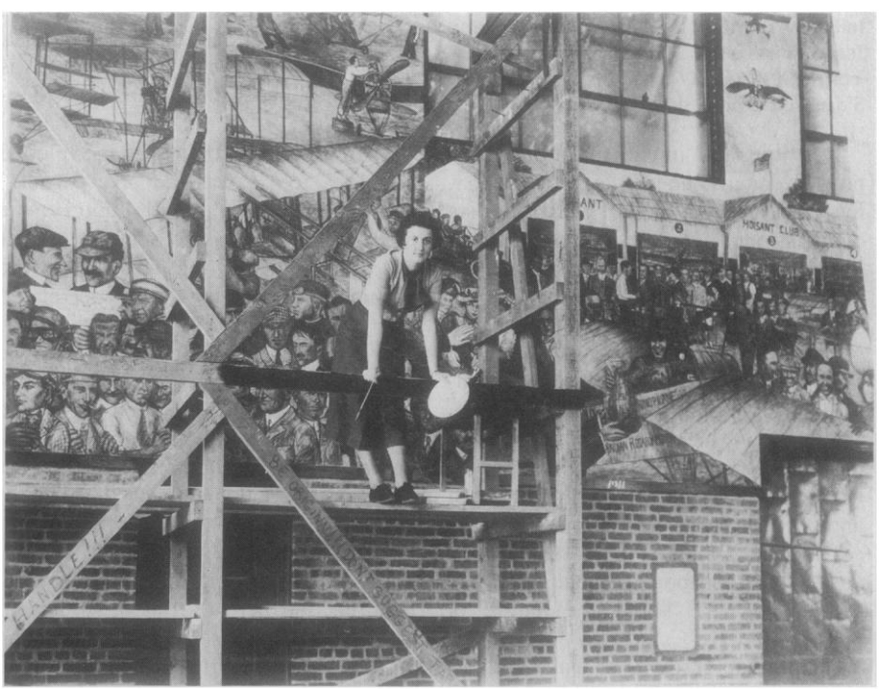


"As Americans became more airminded in the late 1920s and 1930s, the Patent Office received many ideas for objects designed to look like airplanes. For the aviation conscious lady, this 1930 patent showed the perfect handbag." [From *The Winged Gospel*]

As fascinating and convincing as the work is, some of its assertions are rather too sweeping. Corn states that only in the United States did aviation enthusiasm give rise to a winged gospel, but he gives only a cursory comparative glance at England to substantiate this statement. Certainly a more thorough survey of European attitudes toward aviation particularly in France, which was probably the most air-minded country in the world through 1918, is needed. Such evidence might have prompted Corn to suggest that World War I nipped in the bud any illusions that Europeans had about the airplane's beneficent qualities, and consequently that America's less chastening experience of World War I was a crucial condition allowing the rise of the winged gospel.

The author considers the quest for safe and foolproof light aircraft evidence of the way in which culture affected technology. Yet from his very evidence one can only conclude that the effect of the gospel on technology was minimal, as the quest beckoned few builders, the projects were eccentric or farfetched, and all failed to lead to significant technological developments.

Finally, the author asserts that the creed included the end of discrimination, yet he only devotes a page to black aviators who believed that aviation would help race relations. What are the implications for the winged gospel and wider American cultural attitudes that women, all of them white, were used to promote aviation, while blacks were apparently ignored? Did the white proponents of the winged gospel include blacks in their panaceas? Why didn't industry use blacks to promote aviation?



"Artists . . . became airminded, creating works that dealt with flight or aviation themes. When Aline Rhonie received a commission for a mural to decorate a hangar at Roosevelt Field, Long Island, she painted the history of early flight. Miss Rhonie was not only an artist but also a pilot." [From *The Winged Gospel*; National Air and Space Museum, Smithsonian Institution]

"Moulton Taylor's 'Aerocar' was [one] of the air-road hybrids to appear after the Second World War. In designing his Aerocar to pull its wings and stabilizer along with it when on the highway, Taylor avoided the difficulty owners of Fulton Airphibians would face if caught somewhere without their wings." [From *The Winged Gospel*; National Air and Space Museum, Smithsonian Institution]

These questions deserved at least an attempt at an answer.

In conclusion, this book, which is based on the aviation literature of the time and pertinent secondary sources, is a short, well-written, and interesting study. Corn's creative attempt to show the relationship between the winged gospel and aviation technology is particularly valiant, but it is clear that in fact these attitudes had little or no effect on the mainstream of American aviation technology.

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Psychologist's Memoirs

In Search of Mind. Essays in Autobiography. JEROME BRUNER. Harper and Row, New York, 1983. xii, 306 pp. $20. The Alfred P. Sloan Foundation Series.

In writing his "intellectual autobiography" Jerome Bruner is in good company. The Alfred P. Sloan Foundation has commissioned autobiographies from Freeman Dyson, Peter Medawar, Lewis Thomas, and Hendrik Casimir. Like the others, Bruner has been at the forepoint of his subject—psychology—and like them he is an articulate, verbally gifted, self-conscious thinker and reporter. There is an inevitable compulsion to make a lifetime of research appear orderly, as though one interest led naturally to another. Bruner's unifying concern is perception: "What, in fact, do our observations tell us about the nature of the *world* and what about the nature of *mind*?" (p. 67).

As an undergraduate at Duke University, Bruner was influenced by recently transplanted Gestalt psychologists whose mission was a ferocious anti-behaviorism. His graduate studies at Harvard put him at least spatially near B. F. Skinner, the quintessential behaviorist, though there is no evidence that he was influenced one way or another by Skinner.

The first meteor that Bruner exploded over psychology was the "New Look" in perception. In the 19th century, the model for studying perception was that of psychophysics—the changes in the physical stimuli that were correlated with differences in discrimination. Bruner put the locus of interest in the perceiver. He said that perception was inferential and the inferences could be influenced by any characteristic of the perceiver. In a much-quoted study he showed that judgments of the size of coins depended on their values and, most interestingly, that poor children exaggerated sizes more than did wealthy children. Further, a series of studies on "perceptual defense" yielded startling results. Subjects either took a long time to recognize words that made them uncomfortable or they distorted the words so that they were senseless. "For how could people *know* that something was potentially threatening unless they could *see* it first? Was something passing through a Judas Eye, letting a perceiver decide whether to open the portal of perception to let it in?" (p. 80). The conundrum plagued the New Look psychologists until a decade later, when the British psychologist Arthur Broadbent devised a filter theory of attention that provided the rationale for the pre-look that informs the person that there is something to be defended against.

In 1960 Bruner organized the Center for Cognitive Studies in an attractive house near Harvard Yard. He was later joined as co-director by George Miller, now of Princeton. The Center may have been the most significant impetus to modern cognitive psychology, treating such matters as thinking, perception, language, and development. Bruner, with a talent for recognizing the promise of young scientists, invited many to spend time at the Center together with distinguished elders. The intellectual time was right, and the ambience of the Center created a yeasty mix whose influence is still felt in psychology 25 years later.

Actually the most interesting line of research at the Center did not involve Bruner directly. Miller and Chomsky collaborated on a program to use Chomsky's linguistic theory as a cognitive theory for understanding sentences. If true, the results would have been of staggering importance, not the least for a justification of interdisciplinary endeavor. Unfortunately, the theory was not true, but the enterprise must go down as a good mistake, something psychology had to go through.

Bruner is an honest appraiser of his own research on thinking. His subjects had the task of discovering the concepts manifested in a deck of cards that varied from each other in such attributes as kind and number of figures, color, and surrounding border. Concepts in real life rarely come in such fixed classes. Cognitive scientists now are concerned with the "ecological validity" of the experiments and strive to gather data from subjects performing meaningful life-like tasks.

After Sputnik, when the universities became interested in elementary and high school education, Bruner was a major player in the Cambridge group led by Zacharias and Wiesner. His widely translated (19 languages) book *The Process of Education* made him the darling of educators. Outside of experimental psychology, Bruner's reputation is based on this book, which is in fact a report on a summer conference during which he be-