

Brashear wrote, "Perhaps some of the good people will read these reminiscences who have been fellow workers in the domain of our beautiful science of astronomy and astrophysics and who have helped me to 'push forward the frontiers of human knowledge'. . . . But, after all, my one big hope is that my humble effort in jotting down these items from life's memorandum book may help some struggling soul to master some of the problems of life and of the beautiful in science, which will contribute new chapters of discovery to the now unknown and help to make this old oblate spheroid move smoother on its axis."

Brashear's autobiography first appeared in 1924, four years after his death. Readers of this work will be richly rewarded by a man who makes your vision swell, and your hopes soar.

Modern aviation's debt to 'Kelly' Johnson

by Leo Scanlon

More Than My Share of It All

by Clarence L. "Kelly" Johnson
with Maggie Smith
Smithsonian Institution Press, Washington, D.C.,
1985, 209 pages, clothbound, \$17.50.

Although the name Kelly Johnson may not be familiar to many people outside the aviation fraternity, his life's work stands behind the developments in modern aviation which have captivated the imaginations and spurred the optimism of several generations of Americans. This autobiography is a very human look into the life of the man who epitomizes the genius, and limitations of American industrial technology in the 20th century.

Kelly Johnson had a hand in almost every engineering feat of aircraft design in this century, from his work developing the Lockheed Electra, through a family of transport and fighter aircraft for World War II, and on, to the fabulous SR-71, which is the pioneer for future stealth and hypersonic aircraft.

A look at these accomplishments shows a man who is almost a stereotype of the American genius for engineering and production organization. For example, Johnson was leading the work on the P-38, the fastest of the subsonic fighters, when the problem of "compressibility"—unstable air flows at transsonic speeds—was found to plague the air-

craft at the edge of its performance envelope. This problem represented the barrier which made any further attempt to apply greater engine power, including existing jet engines, useless, because the airframe could not survive the speeds.

Kelly Johnson reports the admiration he had for the German engineers (working from classical Riemannian models of the shockwave effects, whose approach had been rejected by the Air Force, and Theodor von Karman in the United States) and their advanced solutions to these problems. Apparently unaware of the theoretical basis of the German accomplishments, Johnson was nonetheless able to direct the engineering and production departments at Lockheed, assimilating these breakthroughs, and organized the work in what we now term "Manhattan Project" fashion. The methods he used are directly responsible for the successes he achieved from then through the production of the SR-71.

This effort, under wartime conditions, impressed on Johnson the need to run research and engineering projects in a manner diametrically opposed to the bureaucratic methods which have come to characterize the moribund corporate and government structure of the 20th century. In this respect, Johnson stands with Adm. Hyman Rickover and Gen. Bruce Medaris as one of the giants of this century. These men, each in his own way, were characteristically opposed to the shallow, weak, and timid thinking that characterizes the modern "consensus process."

Johnson's approach to the problem was to form an organization within the Lockheed structure, under his direction, which was nicknamed the "Skunk Works" (after the famous production site of "Kickapoo joy juice" in the L'il Abner comic strip). The Skunk Works operated on principles which are captured in the humorous slogans of the management, "If you can't do it with brainpower you can't do it with manpower-overtime." "Be quick, be quiet, be on time." "Listen: You'll never learn anything by talking." "The measure of an intelligent person is his ability to change his mind." Kelly Johnson saw this as a "common sense" approach to solving complicated problems, and it is. He is continually amazed at the sad lack of this approach in the United States today.

The autobiography describes in shocking detail the devastation of U.S. scientific and industrial preeminence in the post-Robert McNamara era, and also the incredible damage that is being done to every area of basic industrial capacity by the policies which have dominated the country since McNamara was at the Pentagon. The list of the issues cited by Johnson is long, and should be studied by every American concerned about the ongoing collapse of our defense and industrial base.

Even more frightening is Johnson's account of his inability to reproduce his method among a younger generation of engineers and officers. When the Army began the project to develop the Cheyenne helicopter, Johnson and the Skunk Works crew were asked to set up a satellite shop and expedite the project. Within a very short time, the project's purchasing

department became larger than the original entire staff of the Skunk Works. The engineering staff that Johnson commanded which had produced the U-2 and the SR-71, totaled six people!

Other efforts to bypass “the system” met a similar fate, and the accounts of why this happened give insight into the reasons for the dismal, uninspiring performance of every element of our nation’s aerospace and scientific research efforts. The syndrome identified by Johnson is methodically strangling the genius of the American industrial system, and if there is no hue and cry to reverse this trend, the introductory remarks written by the author’s colleague, Gen. Leo P. Geary, USAF (ret.), will stand as an epitaph for a once-mighty nation. Geary wrote, “Simply put, Kelly’s real legacy is not nearly so much what he has accomplished, but much more how it was done. That is, generally outside—and in many cases in spite of—the so-called regular ‘system.’”

“The U-2 and SR-71 are two examples of Skunk Works programs that came in on schedule and under contract costs. Still, despite disclaimers, the Skunk Works, Kelly’s brainchild . . . to all intents and purposes has ceased to exist. This is an inexcusable and needless loss for the American taxpayer. Thoughtful readers will question the why of this, as well they should.”

A message ‘too big to handle’

by Katherine Kanter

Kathleen, the Life of Kathleen Ferrier, 1912-1953

by Maurice Leonard
Century Hutchison, London, 1988
274 pages, cloth bound.

“My God, what a voice—and what a face!” exclaimed Marion Anderson, the outstanding American contralto, when listening to Miss Ferrier rehearse in the United States in 1950. Kathleen Ferrier was indeed “as pretty as a picture,” but she was also one of a handful of British artists whose message was “too big to handle.”

Anyone who has heard Miss Ferrier sing German music live or on record—she sang mainly Bach, Handel, Schubert, Schumann, and Brahms at the height of anti-German feeling during World War II—will want to buy this book, because there is only one other biography of her that is in print, which

is the one written by her sister.

However, allow me to introduce a note of caution. Her biographer Maurice Leonard, whose other special hobby, oddly, seems to be occultism, has not really dealt with the fascinating question: Why, when Britain was fighting Nazi Germany in a life-or-death struggle, did Miss Ferrier concentrate on singing the finest German music? Who helped her launch her career so she could do just that? It had to be the people who loved what was good about German culture, and hoped, somehow, to save the soul of that nation as well as their own. It was surely *not* the faction who led the Strategic Bombing Survey, the people who destroyed the German cities, who “reconstructed” the German people after the war.

This is borne out by the hatred between Miss Ferrier and Walter Legge, though Mr. Leonard has not dug at all into the political background to the whole scandal. Walter Legge was an Englishman with no special knowledge or love for music—his first words ever penned on music, in the early twenties, were a virulent attack on “Fidelio” and “Don Giovanni,” which he called “boring.”

Legge somehow ingratiated himself with a certain faction of British intelligence involved with psychological warfare. After the war, Legge was sent on rounds to the bombed-out cities of Germany, making offers that couldn’t be refused to able musicians who even had no food to eat, “persuading” them to go under the tutelage of the likes of Nazi protégé Herbert von Karajan. Legge ultimately married one of those musicians, Elizabeth Schwartzkopf, who wrote the preface to Mr. Leonard’s book, for reasons which I cannot understand.

During the war, Legge was named artistic director of Columbia Records, and was the cause for Miss Ferrier to break her contract with that firm in 1945. Author Leonard does write, “She was disenchanted with its artistic director, Walter Legge. . . . He offered his advice to Kathleen during recording sessions, frequently stopping her performance to make suggestions. She always knew her music impeccably. . . . [S]he would have preferred him to have concentrated on the technical problems rather than the artistic. Legge also appreciated a handsome woman, as evinced by his choice of wives. Kathleen felt that, sometimes, his attention wandered away from the artistic into more fundamental areas, which were equally unwelcome to her. Henderson remembers her arriving for a lesson one day after she had shared a taxi with Legge. She did not say what had happened in the taxi, but, whatever it was, she did not like it.”

One of Legge’s schemes was to try to turn Miss Ferrier into a Wagnerian. Here is part of a letter he wrote to her in 1951, as she lay sick with cancer. “I have been asked by Wieland Wagner and Herbert von Karajan to induce you, to cajole you . . . if necessary, abduct you, bribe you, or even blackmail . . . so that you can sing Brangäne with them next summer.”

But this is what Miss Ferrier wrote to the pianist John