

BOOK REVIEWS

SUPERSONIC FLIGHT, The Story of the Bell X-1 and Douglas D-558, by Richard P. Hallion, Macmillan, New York: 1972. 248 pp, illus., 6 X 9, specifications, flight chronologies, chapter notes, index. Price \$8.95.

Perhaps supersonic flight sounds very contemporary rather than historical, but look at the record -- preferably by consulting this excellent book that was published to celebrate the 25th anniversary of the first piloted supersonic flight on October 14, 1947. On that memorable date a Bell X-1 piloted by Major Charles E. Yeager attained Mach 1.06 at 43,000 feet.

Churchill once pointed out that we were "... living in history. . .", and in nothing is this so true as the ever-advancing frontiers of aerospace technology. Even so, it is salutary to pause and look back so short a span as a single generation and see how many generations of aircraft have evolved in that period. The notion of a "sound barrier" at Mach 1.0 was a popular press image that the engineers and scientists could do little to disprove for want of indications to the contrary. Compressibility and control reversal at high subsonic speeds showed that there was a massive problem, and the matter was made worse by the unfortunate fact that wind tunnels choked in the transonic regime. Models dropped from great heights or mounted on aircraft where the local flow accelerated to near-sonic speed gave some of the answers, but the scale effect of low Reynolds numbers limited the extent to which faith could be placed on such results. The only answer was to "cut and try" by building aircraft and attempting to fly them supersonically.

The first such aircraft to be built was the turbojet-powered (Power Jets W2/700, later to be replaced by a Rolls-Royce Avon) Miles M.52 designed to British specification E24/43 (24th experimental type for 1943), but was abandoned when almost completed in favor of rocket-powered models of it launched from a Mosquito. Support for the piloted M.52 was withdrawn in February 1946 when the great volume of German work on sweepback became available and officialdom got cold feet about the biconvex-airfoil, straight-wing M.52 (7.5% thick at the root and 4.9% at the tip), despite the fact that sweepback was most useful in the *transonic* regime. Eventually, on October 9, 1948 a model of the M.52 attained Mach 1.4, but the piloted, full-size Bell X-1-1 had already exceeded Mach 1.0 a year earlier. Ironically, the X-1-1 had already exceeded Mach 1.0 a year earlier. Ironically, the X-1-1 had straight wings (8% thick at root and tip), and the Miles designers were chagrined to know that the British Air Ministry had insisted that all M.52 design data be made available to Bell.

Hallion's prologue pays tribute to Geoffrey de Havilland who lost his life when his D.H. 108 disintegrated over the Thames estuary in September 1946 (seven months after the M.52 had been cancelled) while practicing for an attempt on the world absolute speed record. (There were *three* D.H. 108s -- TG283, TG306, and VW120 -- not two as the author states, and each was to take the life of a pilot. However, John Derry -- killed in a D.H. 110 Sea Vixen prototype at the 1952 Farnborough air show -- exceeded Mach 1.0 in a D.H. 108 on September 9, 1948, the first time it had been done in the U.K.)

"Supersonic Flight" tells the story of the U. S. Air Force and U. S. Navy programs leading to the achievement of flying faster than the mythical "sound barrier". The differing approaches of the two services and the important role played by NACA (later, NASA) are detailed, and the student of project management will find fascinating detail. Many famous names are involved -- John Stack, Theodore von Karman, Robert Woods, Hugh Dryden, William Durand, Gene Root, Chuck Yeager, Bob Hoover, Joe Walker, Frank Everest, Scott Crossfield, Neil Armstrong, and many more.

This is important history in that it covers a major jump forward in technology which was achieved as the result of careful planning; persistence in the face of both known and unknown unknowns; and old-fashioned bravery on the part of pilots and air-launch crews. Inevitably, there were accidents and incidents along the way, but the wonder is that several near-tragedies were averted by quick, calm decisions and intestinal fortitude.

Here is a perceptive and painstaking author who marshals his facts well and documents his history copiously. His research has been thorough and the end-product is rewarding for the historian. Above all-- and this is by no means always found in such a work -- this is readable narrative and a most professional piece of work. Having read this book, I can only regret I did not get to it sooner. Richard Hallion now joins a select group of authors whose works I shall await with pleasant anticipation.

David W. H. Godfrey

FIGHTER, by A History of Fighter Aircraft, by Bryan Cooper and John Batchelor. New York. Charles Scribner & Sons; 1974. 155 pp, 350 photos, 260 paintings & drawings, index, bibliography, 8½ x 11 inches. Price \$9.95

This volume covers fighter aviation by text, photographs and paintings from the first wood and wire armed flying calvary through the F5 and Mirage jets. The text is obviously well researched, yet is, of necessity cogent and not wordy. The most striking thing in this book is that there is not any page pair without an illustration. For those not familiar with all the different type of craft, the text is keyed to the illustrations so that the reader doesn't have to search for the drawing, painting or photo. Most of the paintings are accurate, but a few had their fuselages lengthened to fit the page limitations. Some more popular types, such as the Spitfire and FW 190 have multiple small paintings to show the external differences of the different marks. The "piece de resistance" of the artwork, however, is John Batchelor's fabulous aeroplane and engine cutaways that he does so superbly.

The development of the different fighters and improvements on the state of the art are arranged in a logical, basically chronological order. Moreover, there are some details of armament, engines and markings. Enough, perhaps, to spark interest in more research by some readers.

There are the to be expected editing errors, such as illustrations 113 and 114, and 82 and 83 with reversed captions, and the P51 on page 125 labelled Douglas A26B. These are, however, a small minority. I would take exception to the omission of the JN4 (although the Standard was a better plane); the statement that Packard designed the Liberty engine; crediting Jon Casey rather than Lou Casey of the National Air and Space museums; and the incorrect diagram of the Immelman turn. Also, the omission of national identity to the bar charts showing aircraft quantities detracts greatly from their use.

The overall quality of the book is excellent, as is the text. It's the best illustrated aeroplane book I've seen in a long time, and that includes the crisp photos. These must have used the original negatives. The "takeoff" of Squadron Leader Dunning (pg. 66) (actually a landing), the first from an aircraft carrier, is a good example. The history buff, modeller and fellow who just likes aeroplanes will go for this volume.

Dave Fox

INTO THE WIND; The Story of Max Conrad, by Sally Buegel-eisen. New York, Random House, 1973. 261 pages, photos, 5½ x 8½ inches, Hardback, Price \$6.95

Vice-President Hubert Humphrey presenting the Harmon Trophy to Max Conrad declared the solo non-stop flight from Capetown to Florida "an incredible flight", but that "he (Conrad) was himself the most unbelievable part of it all". The then sixty-two year old pilot was being remembered largely for his ten children and sixteen grandchildren. The 'flying grandfather' they called him. Incidentally, at that time he has already ferried Piper planes across the Atlantic one hundred and fifty times and across the Pacific forty-three times, all flights being rather uneventful.

The story of Max Conrad is a chronicle of great personal courage and determination in the face of tragedy, failures and hurts, yet, despite the setbacks, Conrad persisted and hereby became a legend.

One year after he learned to fly in 1928, Conrad walked into a spinning propeller in an attempt to save a girl's life. She was killed, and he suffered brain damage, and for several years was unable to read or write, and spoke with great difficulty. Inwardly, he resolved to recover these skills, and eventually, he painstakingly managed to restore his memory.

In his lifetime of aviation he won six distance and endurance records in Piper planes. But the glory that came to Piper Aircraft Company was somewhat minimized by young Bill Piper who stated that it no longer made a lot of difference whether a record flight was made in a Piper or any other plane--today's machines would stand up and the engines run, no matter who manufactured them. The difficulty, Piper explained, men who attempted to beat Conrad's records were not in superb physical condition (as was Conrad). He added, "It's the human being who generally falls down". His statement in a sense tells why Max Conrad was a sixty-plus year old superman.

Martin Cole

Editor Martin Cole was the first of the Cole boys to fly. This Kodak snapshot appears in *The Flying Coles*. The plane was one of few built by Ryan Mechanics Monoplane Co.



THE FLYING COLES, by Duane Cole. Milwaukee: Ken Cook Transnational, 1974. 108 pages, illustrations, price \$8.50. (Available from author, 201 Lester, Burleson, Texas 76028; include 50 cents postage).

After giving us numerous glimpses of his life in previous books, Duane Cole has written an autobiography. The dust jacket, a montage of airshow posters, sets the tone for the whole story: colorful.

Beginning with the boyhood cry of, "Airplane, airplane," we get an intimate review of the events and people that have helped shape one of sport aviation's true leaders. Although the airshow troupe gained the most fame, it seems that aviation touched a part of every Cole brother's being. Many AAHS members probably do not realize that our editor is one of them, the first of the Cole boys to fly.

Every life has its triumphs and disappointments. Duane's has had many of each. For almost two decades he led the most famous air circus in the world. Twice (1962 and 1964) he won the National Aerobatic Championship, and once (1962) flew on the American team at the World Aerobatic Contest. The Reno National Air Races became successful annual events under his guidance. This new volume is his sixth book. *CONQUEST OF LINES AND SYMMETRY* is considered by many to be the aerobatic instructional manual, while *THIS IS EAA* was voted an award by the Aviation/Space Writers Association.

Never one to shun controversies, Duane has been part of more than a few. He has maintained a running battle with governmental bureaucracy over the years. The management of the Reno Races fired him in 1967, though he maintains he was never told why. Still later he was in the middle of the Aerobatic Club of America split.

The bitterest moment of life centers around the Cole's oldest son, Rolly. First of all, the NAA (National Aeronautics Association) group that planned the trip to Budapest for the Second World Aerobatic Contest would not allow Rolly to go. As the young man was one of America's top aerobatic pilots and could also make necessary arrangements for the journey, Duane could not accept the decision. He never had another chance. While practicing for the evening airshow at the 1963 EAA Convention, Rolly was killed when his Stearman came apart in the air. This event ended the Cole Bros. Airshow, and nearly brought the end of Duane. Yet, out of this experience came the first book, *TO A PILOT*. Later, acquaintance was renewed with his little Taylorcraft, and soon after he helped Bill Stead revive the National Air Races. Today Duane is much in demand as an aerobatic instructor and airshow pilot.

It has been said that writing for publication is an ego trip; an autobiography must be the ultimate one. Yet we who love history must always appreciate those who make and write their own. Duane Cole is a sensitive man of deep emotions. He tells not only of events, but of feelings and real people. We thank him for sharing his years with us.

C. Mike Habermehl

AIR RAID — PEARL HARBOR! by Theodore Taylor. New York: Thomas Y. Crowell; 186 pages, illus, index, 5 x 8 inches, Price, \$4.50.

ATTACK ON PEARL HARBOR, by Roger Parkinson, New York: G.P. Putnam's Sons; 126 pages, photos, index, 6 x 9 inches, Price, \$5.95.

Two viewpoints of Pearl Harbor are given here; Taylor is an American; while Parkinson is English. Both are well qualified to write the brief accounts of December 7, 1941.

Theodore Taylor was assistant to the producer of the film, *Tora! Tora! Tora!* He spent more than a year in extensive research in both Hawaii and Japan interviewing many who participated in the event, including Commander Minoru Genda.

Roger Parkinson graduated in War Studies from King's College, London and authored such books as *Origins of World War I*, and *Origins of World War II*. Included in his current work are recently released British secret documents published here for the first time. Mainly they deal with an exchange of discussions between Churchill and Roosevelt during the critical period before Pearl Harbor, when the Far East British bases were in jeopardy.

The Pearl Harbor story is too well known to be repeated in detail here. However, both books re-enact the events that led up to that fateful 'day of infamy.' Each describes the savage air attack and its immediate aftermath. Both accounts place the Battle of Pearl Harbor within the wider context of Japanese aims and military moves in the Far East. The Parkinson book was first published in England, then reprinted in the United States as part of the 'The Documentary History Series' by Putnam's.

Martin Cole

JANE'S POCKET BOOK OF MAJOR COMBAT AIRCRAFT, compiled by Michael J. H. Taylor, Kenneth Munson, and John W. R. Taylor. New York: Macmillan, 1974. 263 pp., about 250 photos, three-views, statistics, index. 7 by 4 1/4 inches in either soft or hard cover. Price \$6.95/3.95.

JANE'S POCKET BOOK OF COMMERCIAL TRANSPORT AIRCRAFT (all other data identical to that given above)

These two small volumes (there is a third in the set devoted to major combat vessels of the world's navies) are a bargain—especially in the soft cover version which comes in a flexible plastic cover perfect for the coat pocket on airport jaunts. Edited by the same people responsible for the annual standard volumes of Jane's All The World's Aircraft. The aim here is to offer a short identification-oriented overview of major current combat and commercial aircraft. Data in each volume is arranged by the manufacturing company, and for each aircraft or class of aircraft discussed, the compilers have selected a full page photo, supplemented with a Jane's three view line drawing and a tabulation of key specifications (power plant, span, length, payload and take off weight, cruising speed, range, rate of climb, service ceiling, and number in service (and for whom). The photos are nearly all excellent and well reproduced and are the basis for easy identification which is the gestalt for the volumes. These are not reading books, but active identification aids. The text material is vital but dry. Excellent for their designed purpose this set is recommended without hesitation for all Journal readers.

Christopher H. Sterling