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UP SHIP! U.S. Navy Rigid Airships 1919-1935

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(West Germany, France, Italy, and Great Britain) are well researched, providing both historical perspective and highlighting those factors which are unique to each particular case. Joseph Joffe's chapter is particularly useful as it describes West Germany's historic policy dilemma—*détente* vs defense. Joffe correctly concludes that West German foreign policy will continue to be the product of a struggle between two competing schools of thought, tied directly to the two major political parties in the Federal Republic—the Social Democrats (SPD) and the Christian Democrats (CDU).

Although it is imprudent to predict the direction of West German politics, the March electoral victory of the CDU (which seems to have stabilized Helmut Kohl's position as Chancellor) suggests that the conservative defense-oriented foreign policy espoused by Kohl has a greater attraction for the majority of the West German electorate than the SPD call for a renewed *détente*. More importantly, the vote appears to have been a rejection of Soviet attempts to sway German voters toward accepting the unilateralist approach of the Green party.

Laurence Martin's chapter on "British Defense Policy" provides a valuable analysis of the interaction between British domestic politics and defense spending, and in particular, the pernicious effect of a weak economy on defense planning.

While Flynn's book is valuable, it ignores a set of issues which, in my opinion, are likely to present Nato

with its greatest challenges—the security of the northern and southern flanks. These two regions (particularly the south) are isolated politically and militarily from Nato's concentration of power in the center. The southern flank nations are most vulnerable to Soviet pressure and are least likely to receive the level of rapid reinforcement which would be required to repel a Soviet military initiative. Also, three of those states—Spain, Greece, and Portugal—are reevaluating their contributions to and ultimately their membership in the Alliance. In addition, the sense of strategic partnership among the southern flank states has been weakened to the point where an attack on one may not be interpreted as an attack on all. That is, in the long run, the most potent threat to Nato's viability.

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Robinson, Douglas and Keller, Charles. *UPSHIP! U.S. Navy Rigid Airships 1919-1935*. Annapolis, Md.: Naval Institute Press, 1982. 236pp. \$29.95

In 1934, the most modern passenger aircraft in the world was the Douglas DC-2, which could carry 14 passengers (strapped in small seats), over ranges of 1,200 miles. On other routes, however, commercial air travelers flew in luxury, with sleeping accommodations, dining rooms, and lounges, over ranges in excess of 8,000 miles. Such was the difference between the technological sophistica-

tion of the airplane and the airship in the 1930s. Aeronautical engineers worked within two distinct fields, heavier-than-air (HTS) and lighter-than-air (LTA). The HTA advocates could point to superior speed and ease of ground-handling as points in the favor of airplanes. The LTA designers stressed range, comfort, and cargo-carrying capability as the major advantages of airships. World War I had shown a place for both types of "flying machines," and the pioneering naval aviators experimented with both.

The US Naval Institute's new book *Up Ship* chronicles the development of US Navy rigid airships from 1919-1935. The book was written by Douglas Robinson and Charles Keller.

Robinson is best known as the author of two other excellent airship books *Giants in the Sky* and *The Zeppelin in Combat*. Keller is a computer engineer who has spent over 25 years researching the history of LTA flight. The book's title is derived from the classic terminology of all airship commanders, whose command "Up Ship!" signaled the ground crew to drop the landing lines and allow the buoyant ship to lift-off.

The book opens with a short review of Germany's use of rigid airships in World War I. (Rigid airships were constructed with an inner framework of girders and wires which maintained the ship's aerodynamic lines while flying at high speeds. The nonrigid airship maintains its shape solely with the internal

pressure of the lifting gas within its expandable envelope.)

The Germans experienced both successes and failures with their combat airships, but at the end of the war the successes had convinced American planners of the potential value of LTA craft. The Naval Appropriations Act of 1920 provided for the construction of one airship (ZR-1) in the United States and the purchase of one ship (ZR-2) from a foreign source.

The authors do a very thorough job of telling the story of the ill-fated ZR-2, the British-built airship which crashed on a test flight in England, killing 44 of 49 crewmen aboard. Following this disaster, the Americans concentrated on the construction of their own rigid, the USS *Shenandoah* (ZR-1). The authors dedicate three chapters to the construction, testing, and operation of the *Shenandoah*. They also devote a number of chapters to the ZR-3, a German-built rigid which was delivered to the United States as a war reparations payment. This very successful ship was christened USS *Los Angeles*, and has become the only US rigid to come to a "peaceful" end at the hands of a wrecking company rather than being destroyed in flight.

The one shortcoming of this generally excellent book is its rather brief coverage of the USS *Akron* (ZRS-4) and USS *Macon* (ZRS-5). These huge ships were 785 feet in length, 132 feet in diameter, and were lifted aloft by 6½ million cubic feet of helium. The most interesting feature of these sky

giants was an aircraft hangar built into the underside of each ship. These hangars could house up to five Curtiss Sparrow-Hawk aircraft (F9C-2) which could be launched and recovered in flight. In fact this procedure became so routine that the Sparrow Hawks were often flown with no landing gear other than the hook mechanism which allowed them to grasp the airship's "trapeze-style" recovery device. (By far the best book on the subject of these "flying aircraft carriers" is *The Akron and Macon: Flying Aircraft Carriers of the U.S. Navy* by Dr. Richard K. Smith. This fascinating book is available from the Naval Institute Press.)

Robinson and Keller provide a concise history of the *Akron* and *Macon*, including the loss of the *Akron* off New Jersey in 1933 and the abandonment at sea of the *Macon* off Point Sur, California, in 1935.

The loss of the *Akron* and *Macon* spelled the end of the Navy's experimentation with the rigid airship. Designs were drawn for a ZRCV of 10-million cubic feet capacity capable of carrying 27 dive bombers, but funds were never provided to develop the concept. At the time, 40 PBV flying boats could be purchased for the price of one rigid airship, and the Navy chose to concentrate on these, and on carrier-based, aircraft.

Some writers have speculated that a scouting fleet of rigid airships stationed on the West Coast and in Hawaii could have detected an approaching Japanese task force and

prevented the Pearl Harbor attack. Such speculation provides interesting food for thought, but the indisputable fact remains that rigid airships failed to find a place in the Navy arsenal, and were unable to compete with the rapidly developing technology of heavier-than-aircraft. They do stand, however, as symbols of the Navy's willingness to experiment with new concepts, and to search for better ways to do its job.

I recommend *Up Ship* as an excellent treatment of a little known chapter in naval aviation history.

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Stockholm International Peace Research Institute. *Outer Space—A New Dimension of the Arms Race*. Cambridge, Mass.: Oelgeschlager, Gunn & Hain, 1982. 423pp. \$35

In 1978, SIPRI, the Stockholm International Peace Research Institute, published *Outer Space: Battlefield of the Future?* which I reviewed in this journal—saying that it was a useful book to those concerned with the technological fundamentals of military science, but that it left one looking for a better, more balanced text, without such a strident antimilitary line. In November 1981, SIPRI organized a symposium *Outer Space: A New Dimension of the Arms Race*. The outgrowth of this is a collection of the papers read at the symposium together with an abridged and updated version of the 1978 text as an introduction. Included are appendixes which include tables of all probable military satellites launched