



Niklas Reinke. *Geschichte der deutschen Raumfahrtspolitik: Konzepte, Einflussfaktoren und Interdependenzen 1923-2002.* München: Oldenbourg Wissenschaftsverlag, 2004. 602 S. EUR 49.80 (cloth), ISBN 978-3-486-56842-4.



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Germans in Space

I suspect some readers of this list may not have realized that there was such a thing as a German space policy. German space accomplishments, mostly achieved by the Federal Republic in its two guises, West Germany and united Germany, have been so buried in multinational European space programs as to be invisible to the rest of the world as national accomplishments. Those who paid attention to the recent landing of the Huygens probe on Saturn's moon Titan might have noticed that the European Space Agency (ESA) press conferences were broadcast from a space center in Germany, but most probably did not. Yet the Federal Republic has been the second major contributor to ESA after France. German contractors carried out the final assembly of the Spacelab components often carried in the cargo bay of U.S. space shuttles and did the same for the European Columbus laboratory for the International Space Station (ISS). (Columbus is still stranded on the ground by the shuttle's current crisis.) To the German Democratic Republic (GDR), however, went the prize of having the first German in space when the Soviets sent a National Volksarmee air force pilot, Sigmund JÄahn, to the *Salyut 6* space station in 1978.

Reinke's book is an ambitious attempt to cover all German space policy and major space activities from the first spaceflight dreams of the Weimar period to 2002, the cut-off point for publication. The history of space policy and activities conducted by the Federal Republic is the real substance of the book and constitutes all but about forty pages of the text. The first chapter on Weimar and the Third Reich's military rocket programs is largely superfluous, as it is based almost entirely on secondary literature and is a mere precursor to the rest of the book. Although it is a very competent summary of the literature, it could just as easily have been boiled down to a brief historical preface setting up the origins of space discussions following the Federal Republic's achievement of sovereignty in 1955.

By the same token, the book reveals a typical and probably unconscious *Wessi* bias. At first I was not even sure he was going to discuss the GDR, as I had not read the table of contents closely and Reinke does not allude to it in earlier parts of the book. Instead, this material suddenly appears as a mere twelve pages stuck to the front of the last main chapter about the unification period, 1990

to 2002. GDR space efforts were admittedly much smaller and much more dependent on its controlling superpower, and perhaps there was not a whole lot more one could say about the GDR's space programs, but this organizational scheme seems to epitomize West German shortsightedness. He might have cut out the East German section, expanded it a bit, and made it into a mini-chapter as an interlude between main chapters somewhat earlier in the book. Or he might simply have made it clear through his title and opening sections that the book is a history of space policy in the Federal Republic, justifying the sketchiness of this section, the real purpose of which is to indicate what GDR institutions and collaborative projects with the Russians were integrated into Western programs after 1990.

In the West, as in the East, space efforts scarcely had begun before Sputnik's launch in October 1957, in large part because Germany began with a particular handicap and burden. The Third Reich had made a fundamental contribution to the development of rocket technology through its V-2 ballistic missile program, but the collapse of Hitler's regime resulted in the United States, the USSR, France, and Britain grabbing the personnel and the technology, both of which became important to the subsequent nuclear arms race. Most famously, the V-2's technical director, Dr. Wernher von Braun, went to America with about 120 engineers, scientists, and technicians, and became integral to the U.S. Army's rocket efforts and later those of NASA. As a result, the Federal Republic had little to build on, even in the category of academic personnel, and was further handicapped by the Nazi legacy and its own dependence on U.S. policy, which made it impossible to develop significant military missile programs. These handicaps do much to explain the Federal Republic's belated, weak start as the joint European effort got underway in the early 1960s, compelled both by opportunities for space launches offered by the United States and by a sense that Western Europe threatened to fall further and further behind the superpowers in science and technology. France and Britain, which both had independent ballistic missile and satellite programs, were the first mainstays, although Britain gradually dropped back as it gave up its own ballistic missiles and bombers in favor of adopting U.S.-designed submarine-launched missiles, and paralleling this development, also lost interest in expensive space programs. By the 1970s, West Germany had replaced Britain as number two in European space programs, always led by a Gaullist France, with its independent nuclear deterrent forces, aerospace industry, and space program.

As Reinke carefully and convincingly demonstrates, the Federal Republic's space policy was driven by its classic foreign policy imperative to serve as a balancing force between the United States and the Fifth Republic, as well as by a domestic industrial policy imperative to keep West Germany competitive in leading technological sectors related to aerospace. This foreign policy imperative became embodied in the "package deals" that framed the formation of ESA in 1975. One of the two European organizations formed in the early 1960s, ESRO (European Space Research Organization) had been a success in developing space science satellites, while the other, ELDO (European Launcher Development Organization) had been a fiasco: its Europa launch vehicle failed in every single launch. ELDO was closed down and ESRO-cum-ESA simultaneously began evolving towards more applications satellite projects (such as communications and weather satellites), due to greater interest in those areas in Western Europe. But France still wanted an independent European launcher capability and pushed through the development of what became the highly successful Ariane, targeted at commercial launches of communications satellites. The Federal Republic, in return for its acquiescence and minority participation in that French-dominated project, became the leader of, and largest contributor to, Spacelab, which represented the German desire to collaborate in the United States' new shuttle program. The Federal Republic pretty much gave up its rocket development capability as it turned to developing expertise in human spaceflight as an appendage to the American program. Spacelab turned out to be not a very good deal for Europe due to the one-sided nature of the deal with NASA, but it led logically to German leadership in participation in the ISS in the 1980s and 1990s, which was marred by equally high-handed and arrogant American behavior. The initiatives always seem to come from the United States or France, and (West) German policy always was to accommodate its own technology policy considerations to a European space program that balanced French and American interests.

Another major theme of Reinke's work is the meandering and uncertain course the Federal Republic took in organizing its space programs politically and bureaucratically, complicated further by messy relationships among multiple federal ministries. At least Adenauer's last government brought some clarity when it created a Technology Ministry in 1963, but even then policy discussions often bogged down in cabinet or inter-ministerial committees. In truth, these sections of the book are very tedious reading, as Reinke picks his way through this bureau-

cratic terrain, using a narrative clogged with acronyms, although sometimes helpfully illustrated with diagrams. A revised doctoral dissertation, Reinke's book includes all the best and the worst of German scholarship: sound primary research, massive footnotes and bibliography, and mind-numbing prose. It really has more use as a reference work than as a narrative, and that reference value is significantly increased by the over one-hundred-page appendix detailing every space mission by the Federal Republic. Here the extensive German involvement in space science, astronomy, and planetary exploration is given the room lacking in a main text driven by policy and bureaucracy.

In sum, Reinke's *Geschichte der deutschen Raumfahrtspolitik* is marred by tedious writing and flaws in its overall structure, but it is a valuable reference work based on fundamental archival research in German and European Space Agency archives (he did not come to the United States). It will be of use not only to the small community of aerospace historians and policy experts, but also to the larger body of historians and political scientists interested in the role of science and technology policy in European integration. An English version of the book is scheduled to appear in late 2005 or early 2006 under the sponsorship of ESA.

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