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Book Review

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Hermann Schlichting—100 Years

Edited by Rolf Radespiel, Cord–Christian Rossow, and Benjamin Winfried Brinkmann, Springer, New York, 2009, 196 pp., $249.00

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This book is nominally the proceedings of a symposium held on 28 September 2007, a week after the centenary of Schlichting's birth, nominally because the main contributions are not the usual conference papers presenting preliminary research results. Instead, they are well-researched reviews of various aspects of current aerodynamics research, 20 pages or more in length, written by Schlichting's former pupils and colleagues in Braunschweig. Apart from one junior author from industry, the only fremdarbeiter is Klaus Gersten from Bochum; he has edited *Boundary Layer Theory* since Schlichting's death in 1982 (8th edition, 2003), and is evidently, and rightly, regarded as an honorary Braunschweiger. Presumably it was by amicable arrangement that none of Schlichting's Goettingen colleagues has contributed, because he was at one time director of Prandtl's old Institute, the Aerodynamische Versuchsanstalt, in Goettingen, as well as being director of two institutes in Braunschweig. Another centenary symposium was held in Goettingen: this was more personal, with anecdotes, photographs, and other memorabilia, and no formal proceedings will be published.

The book begins with a short factual biography, followed by two detailed reviews of the work of Schlichting and his collaborators in *Boundary Layer Theory* and in *The Aerodynamics of Aircraft* (these being the titles of the two standard textbooks, by Schlichting and by Schlichting and Truckenbrodt, respectively, which are classics in their subjects). Both reviews refer, dispassionately, to the difficulties faced by German aerodynamicists during and after World War II. The final Ph.D. examination (defense) of Schlichting's student Erich Truckenbrodt was held the day before the U.S. Army entered Braunschweig. This was less than six months after a Royal Air Force air raid, not mentioned in the book, which generated a fire storm and destroyed most of the medieval city center. The cathedral, used as a nominal target, was heavily damaged but left standing. Goettingen suffered comparatively slight bomb damage. The two cities were only a few kilometers west of the border, established later, between the Bundesrepublik and the Deutsche Demokratische Republik. The larger aeronautical research establishments were shut down between 1945 and their revival by the Bundesrepublik, starting in 1953. These two reviews are historical records of permanent interest, quite apart from their account of Schlichting's career.

The seven review articles that follow cover a wide range: numerical simulation, wind tunnels and test rigs for unsteady measurements, optical measurement techniques in up to three dimensions, including, but not limited to, particle image velocimetry, results of an international collaborative experiment on flow over delta wings, wing design for transport aircraft (including a discussion of the effects of structural deformation, which basic researchers ignore), passive and active methods for improving/controlling flow in axial compressors, and lift augmentation by blowing to prevent separation or to augment circulation directly (jet flap). These subjects go well beyond Schlichting's personal interests, but generally have an aeronautical flavor. Together, they are a very useful summary of current aerodynamics research. The lists of references include papers from all over the world, but of course, with an acceptable and interesting emphasis on German work.

The papers are all in excellent English, with just a few cases where words that are literal translations of the German need reverse engineering to reveal the English jargon. The uniformity of presentation is almost perfect. Herr Brinkmann's fellow editors rightly thank him "for his careful revision of the book."

The book ends with a good-humored vote of thanks on behalf of the Schlichting family, well represented in the audience, saying "today we once again experienced the Schlichting spirit." Readers of this book can share that experience.

This review ends with the ritual complaint about the high cost of the book. This reviewer's copy of the first English edition of *Boundary Layer Theory* (1955: now battered but still in use) cost 4.25 British Pound Sterling, then $11.44, equivalent to $91 today, while the list price of the latest edition is $192. Even this last figure, for an 800-page book, makes the present $249 for a 200-page book seem excessive. However, publishers are experts on demand elasticity and usually choose the price that

maximizes net income: a high price implies low expected sales. This book should find a place in all aeronautical/mechanical engineering libraries, in academia and industry. If sales exceed expectations, this will please the House of Springer and, in both senses, der Schlichting'schen Geist.

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