for most aspects of hydrodynamic stability theory for many years to come. The book can be recommended as a text for a graduate course in hydrodynamic stability. It is well produced and remarkably free of misprints. Its success should prompt the publisher to make it available soon in a more affordable paperback format.

The Theory of Thin-Walled Bars. By Atle Gjelsvik. Wiley, New York, 1981. pp. ix–248. Price $31.50.

REVIEWED BY D. H. HODGES[8]

The theory of bending and torsion of bars is important in the design of aircraft, spacecraft, wind turbines, buildings, bridges, and ships. Since a general theory of thin-walled bars is a relative latecomer to mechanics, textbooks that cover the theory in detail, unlike similar books for plate and shell theories, are not common. This book is the first English text in this field that the reviewer has encountered since Vlasov's *Thin-Walled Elastic Beams* was translated in 1961.

There are several features that make this book distinctive. First is the development of the bar equations from shell theory. This approach has the advantage of elucidating the physical meaning of certain assumptions that are commonly made in beam theories. Second is the development of the closed cross-section theory from an extension of open cross-section theory. The book has many example problems involving open and closed cross sections. Third is the enlightening discussion of the behavior of the analysis variables at junctions involving discontinuities.

The chapter entitled "Nonlinear Theory" is written clearly and for applications that demand arbitrarily large rotations, the necessary extension can be developed based on what is already given. Solutions for a wide variety of buckling problems are given in the chapter on buckling. Plasticity is covered in the final chapter. The book would be useful for graduate students and researchers in the area of thin-walled bars, especially because of the original material it contains, which is not available elsewhere in published form.

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