Journal of Applied Electrochemistry **30**: 1189, 2000.

Book review

R.W. Revie
Uhlig's Corrosion Handbook 2nd edition.
Electrochemical Society Series, John Wiley & Sons Ltd (2000). 1302 pages, £120
ISBN 0 471 15777 5

This high quality, hard-backed reference book is welcomed as a major edition to the reference literature on the corrosion and protection of materials.

The famous first edition (1948) was compiled by Herbert H. Uhlig (1907–1993) during his career at MIT (which started in 1936 and was interrupted only by World War II). The widespread success and acceptance of the classical first edition provides a hard act to follow.

The present edition has involved some 66 contributors and the material is organised into 70 chapters. These chapters are contained in 6 sections entitled: Basics of Corrosion Science & Engineering, Non-metals, Metals, Corrosion Protection, Testing for Corrosion Resistance and Special Topics (Nuclear Wastes). The material is heavily focussed on US examples and the USA experience of corrosion although some of the international authors provide a wider perspective.

This book provides a comprehensive coverage of most aspects of corrosion. I particularly value the chapters which deal with flow corrosion and it is pleasing to see the practical case of multi-phase flow considered in a reference book. Material in the book includes the economics of corrosion and management perspectives on it, design problems and mechanisms of degradation. I would have liked to see a chapter that considered modern analytical and surface instrumentation for corrosion in some detail. It is good to see a chapter on noise techniques to monitor corrosion; these emerging techniques could have been described by specific examples of data taken from recent monitoring programmes that use noise analysis.

The book deserves a place on the bookshelves of all corrosion scientists and engineers (academic and industrial). I have found some of the material directly useful in consultancy exercises. Several of my students (working in such diverse areas as cathodic protection, microbial corrosion, electrodeposits for electronics, conductive polymers as coatings and archaeological corrosion) have already commented positively on the usefulness of the book. Indeed, it is difficult to extract the book from our applied electrochemistry research laboratories – it is continuously in use and is a worthy successor to Uhlig's classical first edition.

Frank C. Walsh
University of Portsmouth, UK