Preface

This book is not a research monograph, nor is it a reference book. Rather, it is a book designed for those who wish to understand and very likely undertake voltammetric experiments. The power of electrochemical measurements in respect of thermodynamics, kinetics and analysis is widely recognised and their importance ever growing as scientists seek to explore the links between the molecular, the nano-, the micro- and the macro scales. However, electrochemistry can be unpredictable to the novice even if they have a strong physical and chemical background, especially if they wish to pursue quantitative measurements. Accordingly, some possible significant experiments are never undertaken, whilst the literature is sadly replete with flawed attempts at rigorous voltammetry.

The aim of our book is to provide the reader with a largely self-contained account of the design, explanation and interpretation of experiments centred around various forms of voltammetry (cyclic, pulse, microelectrode, hydrodynamic, etc.). We assume a knowledge of Physical Chemistry, but relatively little exposure to electrochemistry in general, or voltammetry in particular. We seek to generate understanding plus insight into the design of real experiments. We hope you grow to share our fascination of the subject!

RGC, CEB, October 2006.