

Among the leading contributors to this renaissance in electro-chemistry, Dr MacInnes is a prominent figure. The work of MacInnes and his associates is characterized throughout by systematic attempts to improve the accuracy of experimental data, and they have achieved many significant successes in verifying the predictions of the interionic attraction theory with respect to activity coefficients, conductivity, etc. The book itself which Dr MacInnes is now presenting to the scientific world can rightly be described as another and fundamental contribution to the science of electro-chemistry. It breathes of precision throughout: the experimental portions described deal with the modern refinements of technique while the theories are clearly and succinctly recounted by leading up from first principles wherever possible. Ample references to the original literature, most of them of recent dates, have been provided to help the reader further on. In many ways a marked and very welcome feature of the book, is the careful, painstaking and critical evaluation of the available experimental data, and of the derived physical constants. The result is, that for

the field covered the book takes a front rank with other critical compilations of data on physical constants. There is, besides, a logical development of ideas, the scope of the book being extended in the last five chapters to the use of conductance measurements in various physico-chemical investigations, the effect of structure and substitution on the ionization constants of organic acids and bases, the dielectric constants of liquids and the dipole moments of molecules, electrokinetic phenomena, passivity and overvoltage.

There is but little to offer by way of helpful criticism, as it is patent that the book has been brought out with much painstaking care and with clearly defined objectives. However, a few illustrative problems either as an appendix at the end of the book, or at the end of the relevant chapters would have added to the usefulness of this book. As a work of reference to all, it is almost a necessity.

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## NEWS

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### METALLIC HYDROGEN (?)

Important scientific discoveries are, for some reason, first announced in the news media and only later in scientific journals! Now comes the news that at the Geophysical Laboratory, Carnegie Institution, Washington, DC, H. K. Mao, the high-pressure scientist (renowned for his remarkable work with the 'diamond anvil apparatus', which he perfected) and his collaborator Russel J. Hemley have obtained 'positive signs of hydrogen gas transforming itself into a metal'. Scientists had predicted that hydrogen

may become a metal, and for almost five decades there has been a continual search for metallic hydrogen. Mao and Hemley state: 'Hydrogen was subjected to unprecedented pressures between anvils of diamond. It went through a series of transformations, and finally ended up as a black mass. This raises hopes of gaining new insights into the fundamental properties of atomic bonds.' We await the publication of the results in a scientific journal with all the experimental proofs.