recognizes outstanding educators in chemical engineering. He has received the Perkins Medal of the Society of Chemical Industry, American Section (1936) ; the Lamme Medal of ASEE (1947) ; the Priestley Medal of the ACS (1947) ; the Gold Medal of the American Institute of Chemists (1949) ; the New England Award of the Engineering Societies of New England (1950) ; the Industrial and Engineering Chemistry Award of the ACS (1956) ; the API Gold Medal for Distinguished Achievement (1957) ; the John Fritz Medal given jointly by the five national engineering societies (1966) and the Founders Award of the AIChE (1958). In 1969 the faculty, friends and alumni of Course X established through contributions the Warren K. Lewis Professorship in Chemical Engineering at M.I.T.

At 88 years of age, Doc is still vigorous and active and willing to give anyone a lecture (and his solution) on technical or social problems.

He continues to be an inspiration for those who were associated with him and the chemical engineering profession has been very fortunate in having one of the outstanding teachers and engineers of the century in its rank.

ChE book reviews

Molecular Thermodynamics of Fluid-Phase Equilibria. J. M. Prausnitz, Prentice-Hall, New York (1969).

For those chemical engineers (and chemists) who wish a succinct evaluation of this book then I recommend you buy it! It provides an excellent, up-to-date reference source to allow one to interpret and correlate phase equilibrium data—and, in many cases to predict phase compositions *a priori* from theory.

A more detailed review should, of course, note the style, degree of clarity, aptness, and content. The first three of these attributes need little comment. The book is very well written, extremely easy to follow, and treats a subject which is of great import to the chemical engineering profession.

Regarding the content, two points seem worth noting, both of which are covered in the preface. First, Professor Prausnitz states that in the book, "no attempt has been made to be exhaustive." Topics were selected with which he was familiar and topics such as metal or electrolyte solutions were not considered. The point to be made here is, however, that in the material covered, it appears to the reviewer, that for solutions of organic materials, a very fair appraisal has been presented and the material well documented in the bibliography.

The second point to emphasize is the general philosophy of the book wherein the author defines his approach to the study of phase equilibria as one of "an engineering science, based on classical thermodynamics but relying on molecular physics and statistical thermodynamics to supply insight into the behavior of matter. In application, therefore, molecular thermodynamics is rarely exact; it must necessarily have an empirical flavor."

This latter statement sets the tone of the entire book. When it is possible to be rigorous, one finds a clear derivation of the significant relations. When such an approach is not possible, empiricism is introduced, but in a manner to try and extract generalizations from specific cases so as to allow the reader himself to extrapolate and interpolate and thus lead one to logical reasoning for different cases.

The first six chapters neatly condense those elements of thermodynamics necessary throughout the remainder of the book. In particular, emphasis has been correctly placed on the requirement for an accurate equation of state to obtain gas phase fugacities. Perhaps more emphasis could have been given to those mathematical difficulties encountered in obtaining liquid fugacities by integrating a fugacity expression across the two phase envelope, but this viewpoint is implied since the remainder of the book deals primarily with liquid phase models to determine activity coefficients. The straight-forward review of the principal concepts of intermolecular forces in Chapter 5 will be appreciated by most readers.

Chapters 6 and 7 treat excess functions and solution theories to allow one to handle liquid fugacities while Chapters 8 through 10 deal with the specific topics of the solubility of gases in liquids and solids and high pressure equilibria. Nine appendices are used to prevent detailed derivations from blocking the smooth flow of ideas in the text.

As a reference or as a class text, this book should be valuable for many years. Those active in the field might hope that this book might soon become obsolete. However, there is little chance of this occurring!

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