

esis, which, in oversimplified form, states that as the individual develops he moves from a global way of experiencing to more analytical approaches. Indicators of differentiation include a tendency for the world to be experienced as analyzed and structured, an articulated body concept and sense of separate identity reflecting a differentiated self, and specialized structured defenses and controls. Field dependence is seen as the perpetual component of the more general cognitive dimension, which is best described as analytical versus global approach, or as the ability to overcome an embedded context.

Most of the book is devoted to a painstaking review of recent investigations dealing with correlates of perceptual tests central to Witkin's work, such as the Rod and Frame Test, the Body Adjustment Test, and the Embedded Figures Test. Skillfully woven into the survey is a series of studies by Witkin and his associates, dealing with three major problems growing out of the general hypothesis: (i) the degree of individual self-consistency in psychological differentiation across a wide variety of perceptual, cognitive and personality variables; (ii) the extent to which early life experiences determine later differentiation; and (iii) the stability of individual patterns of functioning during development and in adulthood.

Several hundred subjects, ranging in age from six to seventeen years, were given the basic perceptual battery, some of them repeatedly over a number of years. The methods of personality assessment ranged from the Rorschach and Draw-A-Person techniques to detailed interviews and family case studies. Striking relationships were found consistently between the perceptual index of field dependency and clinical ratings of differentiation based upon the personality data. Most impressive of all, when one considers the nature of the task, is the high relationship between the perceptual index and ratings of differentiation, based on early childhood experiences and parental attitudes obtained from interviews with the mothers—correlations of .82, .85, and .65 for three groups of boys. The highest relationships were always between clinical ratings and the perceptual index; this suggests the possibility that other subjective factors or unknown variables may influence the outcome.

Although these results will hardly

stand unchallenged because of their controversial nature, they cannot be lightly dismissed. Witkin has taken unusual precautions to safeguard against contamination across different techniques of assessment and to check the reliability of his measures. His studies cover a wide age range, include both sexes, and employ multivariate methods to pin down the factorial meaning of concepts. Initial findings have been cross-validated on independent samples to check their stability, and the relevant literature has been painstakingly reviewed to demonstrate the general nature of the phenomena under study. The net result should be a highly significant impact upon current theory and research dealing with the developmental aspects of perception and personality.

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International Summer Course

Fundamental Problems in Statistical Mechanics. Proceedings of the 1961 summer course. Compiled by E. G. D. Cohen. North-Holland, Amsterdam; Interscience (Wiley), New York, 1962. xxi + 249 pp. Illus. \$7.50.

This excellent volume provides an account of the lectures given during the NUFFIC (Netherlands Universities Foundation for International Cooperation) Summer Course in Science, which was held at Nijenrode Castle during the summer of 1961. All of the regular lectures, with the exception of G. E. Uhlenbeck's lectures on the theory of condensation are included, as is E. W. Montroll's seminar talk on the integral equations of statistical mechanics.

Most of the lecturers prepared their own notes for publication, but in some cases the published material was put together from notes taken by participants. Cohen, who compiled the volume, asks the reader's indulgence, because English is not the native language of any of the contributors except Montroll. No indulgence is necessary.

Throughout the lectures one finds strong emphasis on the relationship between the fundamental, exact, micro-

scopic, reversible laws and the approximate, macroscopic, irreversible laws. The additional assumptions required to go from the former to the latter are discussed. In the words of N. G. Van Kampen, ". . . there cannot be a rigorous mathematical derivation of the macroscopic equations from the microscopic ones. Some additional information or assumption is indispensable. One cannot escape from this fact by any amount of mathematical funambulism. My policy will be to make these additional assumptions explicit rather than to disguise them."

Although each lecturer's contribution is self-contained, the general introduction, by B. R. A. Nijboer, is quite worthwhile, and it sets the tone for the lectures that follow. The topics covered and the lecturers are fluctuations, stochastic processes, and Brownian motion (H. Wergeland); liquid helium (K. Huang); many particle aspects of the Fermi gas (N. M. Hugenholtz); the Boltzmann equation and its generalization to higher densities (E. G. D. Cohen); master equation and approach to equilibrium for quantum systems (L. Van Hove); fundamental problems in statistical mechanics of irreversible processes (N. G. Van Kampen); statistical considerations on the basis of nonequilibrium thermodynamics (P. Mazur); and some remarks on the integral equations of statistical mechanics (Elliott W. Montroll).

The printing is quite readable in this inexpensive volume. The few misprints and omissions are not serious. There is no general index, but the table of contents is quite detailed. I recommend this work to students and experts alike.

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Disorganized and Abbreviated

Introduction to Electron Microscopy.

Saul Wischnitzer. Pergamon, New York, 1962. 143 pp. Illus. \$6.50.

This little book is intended to bridge the gap between elementary books prepared for laymen and the more complex treatises written for students and professionals who have a firm background in mathematics and physics. It is concerned with the theoretical and practical aspects of the electron microscope and with its design. Although