Prelude to Analysis, by Paul C. Rosenbloom and Seymour Schuster. Prentice Hall, Inc. Publ., 1966. xix + 473 pages. $8.25.

This book represents an attempt to bridge the gap between a three year high school course in mathematics and a modern approach to the calculus. The chapter headings indicate the choice of material made by the authors: Introduction; The Real Number Line; Algebraic Structures; Coordinates in the Plane; Functions; Vectors; Numerical Solution of Equations; Estimation of Errors; Convergence; Mathematical Induction.

The style is informal with considerable effort to motivate the student reader. There are sections of programmed material and many of the exercises should be considered as an integral part of the exposition. This choice or style no doubt makes the book easier for a beginner to learn from, but it makes it less useful as a reference afterwards since key ideas are often hidden in the exercises or programmes.

The material in general is interesting and well handled. There are many teaching techniques that instructors at various levels could profitably copy.

But the book does not seem to fit into the Canadian scene as a text since our universities are not usually concerned with giving a full course at the pre-calculus level to students of the calibre that this book requires.

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Variational Principles, by B.L. Moiseiwitsch. Interscience Monographs, Vol. XX. Wiley, New York, 1966. x + 310 pages. $14.00.

This book contains two objectives, one showing how the equations of the various branches of mathematical physics can be expressed in the plain form of variational principles, and the other demonstrating how such variational principles may be employed for the determination of the discrete eigenvalues which occur in the stationary state problems.

The first chapter is devoted to the variational formulation of classical as well as relativistic mechanics. Hamilton's principle and the principle of least action, which are apt to be believed as the independent postulates for the formulation of classical dynamics, are shown to be equivalent to the equations of Lagrange and Hamilton, if and only if one utilizes the notion of variational principle. This leads to a variational treatment of geodesics in a Riemannian space and of the motion of a particle in a gravitational field in the natural fashion.

In the second chapter the author turns to optical subjects and deals with Fermat's principle of least time. This being done, he reveals the analogy between dynamics and geometrical optics in a successful way. It is evolved with the wave equations of Schrödinger, Klein-Gordon and Dirac, and is followed by an examination of the role of Hamilton's