the choice of "Cross section for collision" and "Cross section for scattering" trying to say the same thing again, without succeeding quite as well.

Whatever such flaws may be, this work is a serious and monumental endeavor, and will be a very useful addition to the "first aid" kit of any library in colleges, schools, and industrial research labs. Its price will probably put it outside the reach of most individuals. Printing and presentation are excellent.

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Mankind in History

The Story of Man. From the first human to primitive culture and beyond. Carleton S. Coon. Knopf, New York, ed. 2, 1962. xxxviii + 438 pp. Illus. + plates. $7.50.

The anthropologist's view of history is a different view that covers a million-year span, most of it before the written record began. The anthropologist's history is concerned with major changes in the ways of life, in the arts and the sciences of living. To the anthropological mode of thought the potato was more important to Ireland than Parnell, taro more world-shaking than the Council of Trent, and the Polynesian sampan shares equal glory with the *Santa Maria.*

But such a world view demands a unique guide, fitted with twenty-league boots, a curator's eye, and an adventurer's spirit of adventure. It demands personal familiarity with archeology and experience in human biology, minus the usual circumlocutions. And this job description perfectly fits Carleton Coon, who, in numerous books (including at least one novel), has prepared himself to tell *The Story of Man.*

Within 425 pages and a 10-page glossary the history of man is compressed, from the protohominids that deserve cogeneric billing with us to the age of the working atom. Halfway through the book, man (and Coon) are still in the Neolithic. Not until perilously near the end does he come to the "rise of America." This is a proper and important antidote to the parochial view of world history.

This handsomely illustrated and beautifully printed second edition is a Christmas book and a birthday book, ideal for grandparent and niece. Besides, it is a useful nucleus for a general education course, and downright interesting reading. One can read about, and see pictured, advances in man's conquest of the world, from the axes and scrapers of the Paleolithic to the mass-production of power.

True, one can question Coon's acceptance of the Improbable Snowman, and his stop-press delight with a "still undescribed fossil from Jordan." One may ask why Coon, leader in showing climatic adaptation as a cause for racial differentiation, has not given equal time to malarial selection (responsible for hemoglobin S and GSH polymorphisms) and smallpox selection (probably responsible for regional variations in ABO frequencies). But praise be to Coon for picturing Neanderthal, not as a stoop-shouldered slouch, but as an intelligent man as sapient as we, plagued with arthritis (and submissive to surgery). And good for the discussions of important and controversial problems, like the origin of maize and the distribution of the yam, that involve half of the peoples of the world.

This is an excellent book for spouse, progeny, or colleague to read in bed, by the fire, or at sea. But it is deceptive. The scientific reader may not realize, until he has put it down, that *The Story of Man* is neither popularization nor oversimplification but an expert, if selective, account of the story of man.

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Corning Glass Monographs

Analyses of Ancient Glasses, 1790-1957. A comprehensive and critical survey. Earle R. Caley. Corning Museum of Glass, Corning, N.Y., 1962. 118 pp.

This is an excellent book, which lives up to its title and subtitle. The chapters are "Early investigations," "Investigations of the past half century," "Egyptian glass," "Near and Far Eastern glass," "Roman glass," and "Altered or decomposed ancient glass."

The discussion is critical and scholarly, both of the analyses themselves and the provenance of the samples. The question as to where glass was made first, in Egypt or in Asia Minor, "is a question that cannot be answered decisively at present." Specimens from Abu Shahrein (Iraq) and from Tell Asmar, both dated about 2600 B. C. "are certainly the oldest known specimens of glass," except possibly a few Egyptian beads claimed to be of earlier date but not proved to be so. However, there is no actual proof that either of these specimens was composed of glass manufactured in Mesopotamia. It is interesting to note that the first analyses of an ancient glass were made by Kloproth, in 1801, on three samples of Roman glass.

This is volume 1 of "The Corning Museum of Glass Monographs". It is to be hoped that the succeeding monographs will live up to the high quality of this one.

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Basic Axioms and Theory

Quantum Mechanics for Mathematicians and Physicists. Ernest Ikenberry. Oxford University Press, New York, 1962. xii + 269 pp. Illus. $8.

This book, which should prove to be a valuable contribution to the literature of physics, is written on a level intended for first-year graduate students. The author is primarily interested in giving a clear, logical presentation of the mathematical foundations of elementary quantum mechanics. The basic axioms are presented; the theorems which follow from them are clearly stated and are either proved in the text or are relegated to a series of problems of gradually increasing complexity. (There are 352 of these problems throughout the book, and they should prove of immense value to one who is trying to understand and learn the subject matter.) Particularly good are the chapters on the mathematics of linear operators, the solution of the harmonic oscillator by factorization, eigenfunctions and eigenvalues, matrix representations, and above all the chapter on measurement theory, in which the basic theorem on the relation between commuting operators and compatibility of observables is discussed.

Also of interest are the sections on electron spin and the Dirac equation where many manipulations of the Pauli and Dirac operators are considered in detail.

One cannot be too critical of the selection of subject matter in a book of this length, but the applications of the theory are somewhat overly limited to basic elementary problems such as the hydrogen atom, harmonic oscillator, and square-well potential. Approximation methods, particularly time-dependent perturbation theory, are too summarily dealt with, and certainly applications to scattering or radiation theory, for example, would help to impress one with the power of quantum mechanics.

This book will probably be of more value to the physicist who wants to go a little deeper into the mathematical background of quantum mechanics than to the mathematician who wants to learn some of the physics. Clarity and readability, however, make it a welcome addition to any library.

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Measure of a Man

Social Research to Test Ideas. Selected writings of Samuel A. Stouffer. Free Press (Macmillan), New York, 1962. xxxi + 314 pp. $8.50.

Sam Stouffer was, by common agreement, the dean, chief exemplar, and advocate of modern, quantitative social research. This book, a collection of his papers which he selected and organized shortly before his death in 1960, will come to his many students, associates, and friends as a poignant reminder of their loss. As Paul Lazarsfeld observes in his introduction, "His academic life coincided with the development of empirical social research in the United States. . . . The present set of papers is, therefore, not only the record of a man's work: it symbolizes the growth of a science."

A sociologist amply honored by his discipline, Stouffer cared little for disciplinary boundaries. Not only was he a founding father of modern survey analysis, but—see in this volume his theory of "intervening opportunities" in population mobility—he also helped to establish the fruitfulness of formal mathematical models in the behavioral sciences. Scornful of social theory in the grand tradition, he played a leading part in shifting the emphasis toward modest, limited theories tightly linked to empirical research. In this vein, the present volume extracts from *The American Soldier* his treatment of "relative deprivation," and reprints his influential papers testing a formulation of role conflict. It samples his continuing substantive interests in demographic analysis and in the effects of the mass media, and his methodological contributions and programmatic essays.

Yet, in sum, the papers cannot give the full measure of the man and his contribution to a developing social science. Sam Stouffer was at his best close to the data—running IBM cards through the counter-sorter, revising his tactics and concepts as the results emerged—in hot pursuit of a problem to its lair. The results were substantial, but he was properly modest about them—as, indeed, he was about the claims of social science generally. More important was a contribution that is more implicit in the papers of this collection: his contribution to the shaping of a style of enquiry in the main stream of American social research. The contemporary student can still learn much from the work of this master of the art of making social data speak articulately and unambiguously.

Lazarsfeld's introductory essay increases the value of the book for graduate teaching in sociology and social psychology by making explicit how the various papers reflect developments in the forming of Stouffer's characteristic approach.

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For Prospectors

The Rock-hunter's Range Guide. Jay Ellis Ransom. Harper, New York, 1962. x + 213 pp. Illus. $4.95.

Part 1 presents a wealth of detailed information which the sophisticated rock-hunter should know and which the neophyte must learn. The introduction, on the prehistory and history of "rock" collecting, seems too brief, and this part might well be expanded into a book. The chapters that follow contain a condensed version of fundamental materials commonly found in beginning geology texts. Many additional sources for information are given. An extensive bibliography and lists of museums and libraries are included. The illustrations are few, but they have been carefully selected for their informational content. Colored plates of minerals which might "sell" a book but which have little practical value are not used.

Somewhat reminiscent of Dana's old *System of Mineralogy* is part 2, which lists important collecting localities, preceded by a description of the salient features of the geology of each state. The detailed directions for finding principal outcrops will be most helpful to peripatetics with their trailers.

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Programmers and Computers

Programming for Digital Computers. John F. Davison. Gordon and Breach, New York, 1961. xi + 175 pp. Illus. $6.

Davison's book is principally concerned with the programming aspects of digital computers. It gives an overall view of the programmer's role, in the context of the whole subject of digital computers, and describes the programmer's task and how he goes about doing it. But it is not a textbook for training programmers, and it requires no mathematical background.

Following a brief description of digital computers in chapter 1, the role of the programmer is described in the second chapter. Operations that the computer can perform are discussed in a manner that is designed to indicate some of the machine commands available to programmers. The programmer's part in the overall task of solving a problem with a digital computer is explained in chapter 3. The experienced programmer will recognize many of the things he has been doing, although he may never have tried to specify where his responsibility begins and ends. The inexperienced reader may find the discussion somewhat vague and general, and he may not get a true