second edition, has met these difficulties quite admirably. First, the subjects for presentation have been wisely selected. Second, the authors of the various chapters cover their subjects fully, but many details are left unsaid, which helps the reader to grasp an over-all picture of the underlying theory. Third, the extensive reference citations at the end of each chapter enable one to pursue any of the subjects in greater detail.

The second edition, although completely revised and largely rewritten, follows the general pattern of the first edition quite closely. One chapter in the first edition, "The photographic aspects of sound recording," has been omitted, but three new chapters have been added: "The action of charged particles on the photographic emulsion," "The latent image produced by x-rays," and "The sensitometry of color films and papers."

Another departure from the first edition is the appointment of special editors for each of the five main parts of the book—(i) "The photographic material," (ii) "The action of radiation," (iii) "Optical sensitizing," (iv) "Development and the after-processes," and (v) "The physics of the photographic process." Some 20 authors have collaborated in preparing the 25 chapters under these main headings.

Most of the discussion throughout the book has a theoretical slant, but many practical facts are included. Some of the chapters actually have more practical than theoretical value, which ties the text into the art of picture production and gives it wider applicability.

By way of criticism, it is my opinion that the research conducted by Kodak scientists has been overly stressed and in some instances original authors are not mentioned. There are very few typographic errors, and in nearly every instance such errors are obvious. For example on page 348 in the legend for Fig. 140 "radiant density" is used when it obviously should be "radiant energy." On the other hand, typographic errors such as the one on page 221 where the expression "the fromation of silver iodide" is used, near the bottom of the page, is likely to cause one to reach for the dictionary to see whether such a word as "fromation" really exists.

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Principles of Geomorphology. William D. Thornbury. Wiley, New York; Chapman & Hall, London, 1954. ix + 618 pp. Illus. $8.

Except for the omission of such subjects as dynamic geology, this textbook could easily be entitled "Intermediate physical geology." It is essentially an amplification of the material, usually covered in an elementary physical geology course, on weathering, mass-wasting, stream erosion and peneplanation, the arid cycle, eolian landforms, karstic forms, glaciation, oceanography, and volcanic and pseudovolcanic landforms. The two final chapters discuss sources of geomorphic information such as maps (topographic, geologic, soil, and climatic) and aerial photos, and practical applications of geomorphic reasoning and interpretation (as in engineering and military geology and in the location of ground water, ore bodies, and petroleum). Abundant references are included at the end of each chapter. Author and subject indexes are provided. Illustrations are numerous and excellent, and the format is very pleasing.

There are various features that distinguish this from some previous geomorphology textbooks. The devoting of an entire chapter each to submarine topography and "applied geomorphology" seems valuable. The introduction, almost at the beginning, of nine "fundamental concepts" (uniformitarianism; structure, process, and stage; complex origin of most landscapes; and so forth), which can be fully appreciated only after much further discussion but can well be kept in mind, is probably also worthwhile. Another valuable feature of the book is the reference in many places to the appearance on air photos of the features described.

With its many good qualities, the book unfortunately is poorly written and contains many inaccuracies. Teachers might be well advised to read several chapters before deciding to adopt it as a textbook.

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The Alkaloids: Chemistry and Physiology. vol. IV. R. H. F. Manske and H. L. Holmes, Eds. Academic Press, New York, 1954. x + 357 pp. $8.50.

This volume is devoted to the chemistry of the alkaloids of the isoquinoline type, in 11 authoritative chapters, and further includes two sections on alkaloids of obscure or unknown structure, namely, the Erythrophleum alkaloids and those of the Aconitum and Delphinium groups. It represents the last volume on the chemistry of the alkaloids, except for a section on miscellaneous alkaloids, which will be included in volume V on pharmacology. It is intimated that a supplement may appear. This would be most welcome in view of dramatic synthetic developments in some of the most important alkaloid groups.

In this volume, the contributors have been chosen astutely for their competence in the several fields. In an introductory section, the biosynthesis of isoquinolines is discussed by Manske, with the conclusion that we do not know, but can speculate, awaiting confirmation with labeled atoms. The well-worn but physiologically interesting alkaloids of the mescal cactus are discussed by L. Reti (Buneos Aires), with a subordinate section on other cactus alkaloids. Here, as elsewhere, one is impressed by the unusually complete botanical documentation.

The simple benzylisoquinoline alkaloids, principally papaverine and its congeners in opium, are well reviewed by Alfred Burger (University of Virginia), an early worker in this field. Manske and W. R. Ashford (Merck, Montreal) present an exhaustive chapter on