

Most of the information and discussion is specifically directed toward solving conservation problems inherent with books. With a few minor exceptions the material is equally applicable for collections of maps. This volume gives an overview of conservation techniques without losing sight of the costs involved in maintaining a collection. The information is clear, well presented and useful as a basis for organizing conservation activities at your library.

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Imhof, Eduard. *Cartographic Relief Presentation*. Trans. and ed. by H.J. Steward. Berlin and New York: Walter de Gruyter & Co., 1982. xviii, 389 p.; maps, diags., col. plates, index and biblio. \$79.95 cloth. (ISBN 3-11-006711-0 ; LC 82-5001).

Since the point of a review is to facilitate the decision "to read (or buy) or not to read (or buy)" when a new book is much in the mouth, it is obviously desirable for it to be reviewed as close to its publication date as possible. Later reviews, however, are not without their points, the most salient of which is the possibility that the reviewer has to avail himself not only of the text, but of the opinions of other reviewers as well. In this particular case, not to sue pardon for tardiness, it is a point well taken.

As must now be generally known, *Cartographic Relief Presentation* is comprised of sixteen chapters of vividly written (given the subject, especially so), smoothly translated (thanks to the efforts of H.J. Steward) and wonderfully illustrated text (222 figures and fourteen impeccably printed colour plates tucked into a pocket affixed to the back cover), distilling a half-century of relief-mapping experience into an orderly set of mapping instructions (well grounded in theory, yet never impractical), teaching precepts ("Teaching which is not

derived from personal experience in many aspects of drawing is of little value"), and deeply held opinions ("It is a mistake to believe that the quality of a map depends primarily on the expenditure of money, time and labor"). As reviewer after reviewer has attested, this book is bound to become "a handbook" and "the bible in map-production rooms." It is already "masterful," "exhaustive," "a book that belongs in every cartographic library," "complete," "a classic."

Perhaps. What is certain is that, if as Mark Twain thought, a classic is "a good book neglected by too much appreciation," *Cartographic Relief Presentation* is, and is certain to remain, a classic. The fact is that while the book does contain startlingly comprehensive treatments of contour lines, colour, spot heights, shading, hachures, rock drawing (48 pages on rock drawing), area colours and map reproduction techniques, all this is in some sense incidental to -- illustrative of -- an extended polemic which, while probably no more than admonitory when the book was originally published (1965), has today something of the sound of a call to arms:

Everywhere the search goes on for ways and means of speeding up production of maps. This acceleration is being attempted primarily through mechanization, through improvements and innovations in the technical field. Such efforts are welcome. . . . But the key to cartographic progress lies elsewhere. It lies in the improvement of the geographical and graphical training of map-makers.

Nor does Imhof have some esoteric understanding of "geographical" or "graphical." Though readily generalizable to the whole of the cartographic domain, in the case of relief presentation "geographical" means "geomorphological knowledge," and "graphical" means "drawing." With a pencil: "God drew up the plan of creation with the stub of a pencil," Imhof says; and that "stub" is less local colour than the tip of the point: "Anyone who can draw may create all the wonders of the world with a pencil." Not with a pen. Not with a camera. Not with a computer. With the stub of a pencil. It's a way of underscoring Imhof's position, well entrenched, that the tool itself is very secondary to the hand that wields it and to the mind that forces it to sense; for drawing, for Imhof, is essentially a matter of informed vision, an instrumental talent rather than a merely productive skill, a discipline that enables, supports and facilitates understanding, that results in knowledge. And since it ends in knowledge, drawing, for Imhof, must begin in the field. Again and again he stresses the importance of field experience in the cartographer's initial and continuing

education: he still has praise for plane tabling, for instance, because "it offers the inestimable advantage of direct visual contact with the terrain." He complains that "most cartographers had insufficient opportunity to become acquainted with landforms in nature; they created their own relief concepts from the misleading base maps available to them;" and repeatedly observes that, "The value, to the cartographer, of a geomorphological understanding of landforms is continually emphasized in this book. Such knowledge, however, is not enough. One must be able to draw the natural forms."

It may not be enough, but geomorphological understanding is necessary: "Judgment as to whether the land forms in a map are natural or unnatural, requires, of course, a good talent for observation, much experience of nature and an adequate knowledge of geomorphology;" "a firm grasp of the framework of the terrain is required in every topographic and cartographic relief representation;" and:

Good generalization, however, demands an understanding of form, how it developed (its genesis) and therefore geological and geomorphological knowledge also. Only vision guided by knowledge, only a trained eye and a well schooled hand can master the confusing interplay of large and small forms in rock masses.

The emphasis is Imhof's, but it wasn't really necessary. In an era in which cartographic education increasingly approximates that of visual designers destined for careers in advertising, the message comes across all too loudly and all too clearly. For the cartographer, visual design instruction, no matter how useful, can never substitute for a geographical education. Though it doesn't make this explicit, it would seem in some sense to be the theme of *Cartographic Relief Presentation* that if the cartographer has an analogue in the world of work it is the engineer. Deeply educated in physics or chemistry, the engineer operates under a discipline of cost-effectiveness to produce bridges or power plants, of beauty perhaps, but of human utility certainly. Deeply educated in geography, the cartographer operates under a similar discipline to bring maps into the world, beautiful maps it is to be hoped, but unquestionably useful. And just as there is no skimping on physics, or chemistry -- on fundamental science --, in the education of an engineer, so there can be none in the education of a cartographer. The key to cartographic progress, Imhof insists, lies in improvements in the education of cartographers. If the seed of this magnificent book falls only on the floor of the production lab -- instead of the

curriculum committees of the institutions in which our cartographers are educated --, it will have failed of much of its promise. It is a classic. It deserves less praise and more attentive reading.

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Wright, John. *Ground and Air Survey For Field Scientists. (Monographs on Soil and Resource Surveys)*. Oxford: Clarendon Press, 1982. 327 p. £30.00, £15.00 pbk. (ISBN 0-19-857560-2, ISBN 0-19-857601-3 Pbk; LC 82-4155).

Most surveying textbooks on the market are aimed at professional surveyors or engineers, and the publication of a book geared to the needs of geographers and other field scientists is a rare occurrence. John Wright's book is such a rarity. In writing it, the author has sought in three ways to remedy what he sees as deficiencies in the existing literature. First, by giving balanced treatment to ground and aerial survey methods. Second, by bridging the gap between simple descriptive texts, containing little in the way of theory, and advanced texts, full of complex mathematics. And third, by providing a guide that will serve the field scientist at all stages in his career, whether he is carrying out simple surveys of his own or working with professional surveyors on a contractual basis.

The book falls into four parts. Part I deals with simple ground surveying techniques like chain surveying, compass traversing, spirit levelling, and plane tabling. Part 2 is concerned with more advanced techniques, based to a large measure on use of the theodolite; examples are theodolite triangulation, trigonometric levelling and tacheometry. Part 3 is devoted to surveying from airphotos, and covers photogrammetric techniques ranging in sophistication from graphical radial triangulation to the use of stereoscopic plotters. Part 4 contains a chapter on published maps and also deals with map compilation, drafting, and reproduction. The book ends with a 19-page glossary of terms that doubles as an index.