foreshortening by the rectification process has to be seen to be believed. For example, it is instructive to compare field F3 in the atlas, or in Supplement No. 1, with field F10 in the rectified atlas. What appears to be a single crater foreshortened (Struve) proves to be two overlapping craters (now named Struve and Russell). The rectified view also reveals a new crater tangent to Struve, and this is named after Eddington.

The rectified views become very fuzzy at the limb, but it is surprising how close one must get to the limb before this becomes objectionable.

In summary, this atlas is a piece of magic. The master magicians who have produced it deserve the gratitude of astronomers, astrogeologists, and (eventually) those who will someday stand on the terrain shown on these remarkable photographic charts.

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Low Temperatures

Cryogenics. Michael McClintock. Reinhold, New York; Chapman and Hall, London, 1964. xii + 270 pp. Illus. $10.75.

For the scientist or engineer not already well acquainted with the subject, this is a fine introductory account of the uses of low temperatures.

In a text that examines the motives as well as the methods of low temperature physicists and engineers, the author has made good his claim that "mathematical statements have been included only when they illuminate rather than substitute for physical explanations," but he has also managed to pack in a surprising amount of basic physics and physical metallurgy. A well-balanced view of the entire field of cryogenics has been achieved by the careful selection of topics for discussion, with examples of the basic technology (refrigeration, insulation, and thermometry), unique low temperature phenomena (liquid helium and superconductivity), physical properties of materials at low temperatures (mechanical properties of solids, magnetic phenomena, and thermal and transport properties of materials), and practical uses (the applications of cryogenics). Each chapter contains a useful bibliography, and there is an entirely adequate index—which is in itself an ABC of cryogenic diversity, with entries from "A.I. (artificial insemination) Dewar" to "Zeroth Law of Thermodynamics."

This is not a book to which one would go for details of experimental techniques or for basic cryogenic data, although there are many line drawings, graphs, and tables (not to mention an appendix) of considerable illustrative value.

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Symposium Papers

Boron-Nitrogen Chemistry. A symposium held at Durham, North Carolina, in April 1963. Kurt Niedenzu, Ed. American Chemical Society, Washington, D.C., 1964. x + 330 pp. Illus. $7.50.

In April 1963 an international symposium on boron-nitrogen chemistry was held at Duke University. Thirty-two contributions presented at that meeting are now recorded in *Boron-Nitrogen Chemistry*, volume 42 of the Advances in Chemistry Series. Kurt Niedenzu, a well-known contributor to boron-nitrogen chemistry, edited the volume. Each paper is written by the original contributor and is presented in the format of a journal publication.

There can be little question that the contributors to this volume represent most of the world's leading contributors to the area of boron-nitrogen chemistry. Contributors from Germany are Goubeau and Becher, the distinguished senior members of the Technische Hochschule at Stuttgart. Goubeau reports on the determination of boron-nitrogen force constants of amine-boranes, aminoboranes, and borazines from vibrational spectra. Becher discusses the elucidation of some structural problems in aminoboranes by means of vibrational spectra. Other contributors from Germany are Roland Köster (Max-Planck Institute, Mülheim) and Heinrich Nöth (Inorganic Institute, Munich). Köster and Nöth, who represent the strength of the younger generation in boron chemistry in Germany, are considered two of the most prolific contributors in the world; Köster works more in the general area of boron chemistry and Nöth more specifically in boron nitrogen chemistry. Köster presents here an extension of work in the bisborolanes system which he discovered earlier. Nöth reports on preparations and reactions of the relatively new hydrazinoboranes. From England, Lappert (University of Manchester) reports on the first example of a cyclic 3-coordinate boron-nitrogen ring compound isoelectronic with cyclobutadiene.

Distinguished academic contributors from the United States are Parry (University of Michigan) who reports on amine addition compounds of borane- and tetraborane carbonyl, Lipscomb (Harvard University) who discusses the relation of the structure of $EtNH_2$-$B_8H_{11}NHEt$ to the problem concerning the "covalent radius" of boron, and Dewar (University of Chicago) who presents a review of the chemistry of a new class of heteroaromatic compounds containing boron atoms as components of six-membered aromatic rings. There are many other fine articles by such well-known contributors as Letsinger (Northwestern University), Zimmer (University of Cincinnati), Seyferth (Massachusetts Institute of Technology), and Laubengayer (Cornell University). Rounding out the contributions of organic, inorganic, and physical-organic chemists are the presentations by Kaufman (Research Institute of Advanced Studies, Baltimore), who once again lends the theoretical support of a quantum mechanician in the areas of interest to organoboron chemists.

Except for a few minor typographical errors (for example, Seyferth's name is misspelled in the headings on pages 261, 263, and 265), the material is presented and reads just like typical journal articles. As for the technical evaluation, who can disagree with such a select group on such specific subjects in their area of specialization?

I have one reservation in recommending a book of this type and that reservation involves the question of whether such papers should be published as a book in the first place. Would not all of these fine articles appear just as promptly, perhaps more promptly, if they were published in the appropriate journal or journals? If one is willing to pay $7.50 for 32 bound papers by well-known authors on boron-nitrogen chemistry, then I