ering the Cordilleran and Appalachian cratonic margins within the United States, sets the scene by identifying three irregularly concentric facies belts: an inner detrital belt of quartz sandstones derived from the cratonic interior (largely from the Canadian Shield), a carbonate belt of shifting Bahama-like banks, and an outer detrital belt representing silt and clay bypassed to deeper and less agitated bottoms seaward of the banks (perhaps on the continental slope and rise). Forthcoming volumes on younger systems will have to cope with the structural, igneous, metamorphic, and stratigraphic complexities of mobile belts active at continent-ocean interfaces. Mercifully, such "eugeosynclinal" problems are largely unrecognized in the Cambrian record, in part because of pervasive overprint of younger events and in part because stratigraphers tend to correlate unfossiliferous chert-turbidite successions with similar rocks bearing Ordovician graptolites. An exception to the rule of continental margin obscurity, masterfully treated by F. K. North, is found in the Maritime Provinces. South America, in common with many Gondwana areas, has a minimal Cambrian cratonic-interior record; preservation is largely confined to the western border of the carbonate belt and its passage into the outer detrital belt in the Cordillera Oriental. The widespread Cambrian lacuna makes it possible for A. V. Borrello to present an adequate summary of current knowledge of the system in South America in a fraction of the space required for North American coverage.

It is obvious that Holland has not employed a heavy editorial hand in coordinating matters of concept or style. In coverage of the United States, Palmer relies primarily on verbal descriptions of discrete areas (one could wish for greater resort to tabulation of descriptive matter) whereas Lochman-Balk uses a wealth of graphics to describe and interpret the cratonic interior (and a breezy, Runyonesque present tense for ancient events). The two authors agree on the systematic cyclicity of Cambrian sedimentation but invoke eustatics rather than tectonism as the controlling factor. North covers an immense area of Canada and achieves a fine balance of useful detail and interpretation. He sees significant evidence of cratonic and craton-border tectonism and igneous activity; reconsideration of Cambrian stability in the United States seems indicated. J. W. Cowie, writing on the Canadian Arctic and Greenland in advance of the acquisition and release of a large volume of critical data, is able to show that the northern continental border fits moderately well into the model developed in lower latitudes. Major enigmas, such as are posed by the East Greenland fold belt, continue to await resolution, but, as throughout this volume, readers can gain a nearly current overview of the state of knowledge along with some fascinating nuggets of speculation.

L. L. SLOSS
Department of Geological Sciences, Northwestern University, Evanston, Illinois

Organometallic Catalysts

The Organic Chemistry of Palladium. PETER M. MAITLIS. 2 vols. Vol. 1, Metal Complexes. xvi, 320 pp., illus. $19. Vol. 2, Catalytic Reactions. xvi, 216 pp., illus. $16. Academic Press, New York, 1971. Organometallic Chemistry.

The catalysis of organic chemical reactions by derivatives of transition metals is a subject of enormous practical importance: these catalysts provide the basis for the processes used in the large-scale commercial synthesis of many basic chemicals. They are, however, less widely used in small-scale organic synthesis, in major part because their successful application requires a feeling for the characteristics peculiar to each metal ion and a working familiarity with a voluminous and poorly organized patent literature, neither of which is common among synthetic chemists. These volumes review the catalytic properties of palladium, one of the presently and potentially most useful of the transition metals.

The first volume is a very successful discussion of the structural characteristics and reactivity of complexes of palladium. It contains enough introductory and elementary material that it should be easily comprehensible to anyone with a moderate knowledge of organic chemistry. At the same time the topics discussed are sufficiently generally pertinent to the organometallic chemistry of the late transition metals that this volume could serve as a self-contained introductory textbook to this type of chemistry. The second volume is concerned with reactions in which derivatives of palladium act as catalysts. It is organized usefully by reaction types (for example, reactions involving formation and cleavage of bonds between carbon and carbon, oxygen, hydrogen, and heteroatoms), and its coverage of the literature is sufficiently thorough that it should make the great number of synthetic methods based on palladium accessible to synthetic chemists with no particular expertise in organometallic catalysis. The discussions of reaction mechanisms included in this volume are a trifle credulous and sometimes fragmented, but the important descriptive chemistry is readily available. Both books contain instructive comparisons between the characteristics of palladium and those of the isoelectronic (and also catalytically active) derivatives of platinum and nickel.

These volumes provide the best available discussion of the catalytic properties and organometallic chemistry of palladium. They should be of use both as reference collections to chemists interested in applying organometallic catalysis in organic synthesis and as a thorough and readable introduction to the chemical principles underlying an important and representative kind of catalysis.

GEORGE M. WHITESIDES
Department of Chemistry, Massachusetts Institute of Technology, Cambridge

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