the essential features of the main classes (thermotropic, which change phase with temperature; lyotropic, which involve a solvent, usually water) and of the main subclasses of each [*e.g.* rod-like (calamitic) and disc-like (discotic) thermotropics]. The actual metallomesogens are arranged, in Part A, by both ligand and metal, making it easy to see which systems have already been investigated.

A further chapter, in Part B of the book, describes the principles behind the design and synthesis of the ligand systems which give rise to metallomesogens. Both low molecular weight and polymeric metallomesogens are discussed in full, though no experimental details of the syntheses are offered. In the low molecular weight sections, some macroscopic properties are rationalized, in terms of the molecular structures present, by adapting the general ideas developed for organic liquid crystals. These interpretations are very useful, since the appearance or absence of liquid crystal properties in any given molecule depends on subtle geometric and electronic factors.

Part C deals with methods for structural characterization, including X-ray diffraction and EPR spectroscopy; magnetic properties are explained, and there is also a section on the various optical properties exhibited by metallomesogens. Some comments on possible uses of these molecules are included.

The text is well organized and well illustrated with clear diagrams showing the essential features, both of the metallomesogenic molecules and the various liquid crystalline phases; as many of the concepts and molecular shapes may be unfamiliar, this is particularly helpful to the non-specialist. The text offers a good introduction to the inorganic chemist interested in new materials and new structures, and to the liquid crystal scientist who is interested in the new properties offered by these novel systems. If there is a caveat it is that since the novice entering a new research area will always make some mistakes before getting going, some of the known problems and pitfalls might have been more clearly marked out.

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Books Received

The following books have been received by the Editor. Brief and generally uncritical notices are given of works of marginal crystallographic interest; occasionally, a book of fundamental interest is included under this heading because of difficulty in finding a suitable reviewer without great delay.

Structural electon crystallography. By DOUGLAS DORSET. Pp. xiii + 452. New York: Plenum Publishing Co., 1995. Price US$ 69.50. ISBN 0 306 45049 6. A review of this book, by Peter Goodman, has been published in the January 1997 issue of *Acta Crystallographica Section A*, page 102.

Introduction to crystallographic statistics. By URI SHMUELI and GEORGE H. WEISS (**IUCr Monographs on Crystallography**, No. 6). Pp. ix + 173. Oxford University Press/International Union of Crystallography, 1995. Price £45.00. ISBN 0-19-855926-7. A review of this book, by H. D. Flack, has been published in the March 1997 issue of *Acta Crystallographica Section A*, pages 251–252.