

Strasbourg which specialises in low-temperature earth surface geochemical processes. The authors were his close research collaborators, and each has contributed a review chapter on aspects of Millot's exceptionally broad interests. There are fifteen chapters which divide into two general groups. Chapters 1–10 deal with different aspects of soil and weathering processes at various scales, whereas Chapters 11–15 are concerned with more geological aspects. In Chapter 1 Georges Pédron reviews *Clay minerals in weathered rock material and in soils*. Hélène Pacquet and Alain Ruellan then deal with *Calcareous epigenetic replacement in soils and calcrete formation* (Chapter 2). *Laterites and bauxites* (Chapter 3) are reviewed by Bruno Boulangé, Jean-Paul Ambrosi and David Nahon more specialized aspects are dealt with by Francis Weber (*Evolution of lateritic manganese deposits*, Chapter 5), Jean-Jacques Trescases (*The lateritic nickel-ore deposits*, Chapter 6) and Fabrice Colin (*The behaviour of gold in the lateritic alterosphere*, Chapter 7). More general and geographical aspects of certain soils are reviewed by René Boulet, Yves Lucas, Emmanuel Fritsch and Hélène Paquet (*Geochemical processes in tropical landscapes: role of soil cover*, Chapter 4) and by Jean-Claude Leprun (*Comparative ecology of two semi-arid regions: the Brazilian Serião and the African Sahel*, Chapter 8). The first group of chapters is rounded off by Daniel Jeanette discussing the *Importance of pore structures during the weathering process of stones in monuments* (Chapter 9) and by Médard Thiry on *Continental silicifications* (Chapter 10). The geological chapters (11–15) start with Marie-Madeleine Blanc-Valleron and Médard Thiry discussing the *Paleocene continental deposits in France* with reference to their clay minerals, palaeoweathering, palaeolandscapes and climatic sequences. *The genesis of sedimentary apatite and phosphate-rich sediments* is reviewed by Jacques Lucas and Liliane Prevot-Lucas in Chapter 12. Hervé Chamley brings us up to date in his well-known text book *Clay Sedimentology* in his review of *Clay mineral sedimentation in the ocean* (Chapter 13). In Chapter 14 Norbert Clauer and Sam Chaudhuri revisit, *Isotopic dating methods of sedimentary minerals for stratigraphic purpose*. Bernard Kübler (Chapter 15) brings the volume to a close with his discussion of *Concomitant alteration of clay minerals in organic matter during burial diagenesis*. Each chapter contains an extensive reference list, and

there is a simple and just adequate general index. The book is essential for everyone who is seriously interested in soils, sediments and the geochemical and geographic factors controlling their distribution and development. These fifteen reviews are not only a timely reminder of Georges Millot's achievement in marrying soils, sediments and low-temperature geochemistry in his seminal textbook *Géologie des Argiles* (1964), but they will also bring you up to date with a wide range of pertinent and interesting topics. *Soils and Sediments* is to be recommended. C. V. JEANS

Mandarino, J. A. *New Minerals 1990-1994*. Tucson, Arizona (The Mineralogical Record Inc.), 1997. ix + 220 pp. Price \$US20.00 + \$2 postage.

This book is a compilation of new mineral species published in the years 1990 to 1994; there are 219 of them and the book is arranged to accommodate one species per page in an alphabetical arrangement. The information is in the form of notes, to include the name, chemical formula, locality, details of the occurrence, general appearance, physical, chemical and crystallographic properties, origin of name, and reference. As past chairman of the Commission on New Minerals and Mineral Names of the International Mineralogical Association, the author holds records of the data submitted to the Commission but has used the published accounts as the basis for the information presented, although he admits to using the IMA files for information which the authors failed to record in their published accounts.

For many of the species, an idealized crystal drawing is presented, these being produced by the author using the SHAPE crystal drawing program applied to the crystallographic data in the published descriptions.

The introductory pages provide a very useful guide to the pitfalls likely to be encountered by people describing new species. They also give a revealing insight into the geographical distribution of the species described — the top three countries recorded as the type localities of the 219 species are Russia (46), USA (34) and Italy (19). At the other end of the scale, there is one lunar mineral.

The book provides a welcome compilation of recently published data, and will become even more useful if a regular series ensues.

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