expected, occurs perpendicular to the leucosome–melanosome interface, whereas any external introduction of material along the strike of the leucosome becomes fairly uniformly distributed through the leucosome.

Ashworth and McLellan, in Chapter 5, argue that important information on migmatization processes may be gained from textures and an understanding of processes involved in the development of particular textures in spite of frequent subsequent modification of primary migmatization textures by post-migmatization events. Textural characteristics which have figured in the migmatite debate include grain size (pegmatitic *versus* aplitic), features regarded as resulting from crystallization of a melt (idiomorphic zoning in plagioclase feldspar, replacement textures such as myrmekite), grain shape, grain orientation, and grain contact relations (in which both Ashworth and McLelland themselves, together with Dougan, have built upon the early work of Kretz). Touret and Olsen, in Chapter 8, which might have been placed better before the regional examples of migmatite terrains, consider what might be gained from a study of fluid inclusions, a field pioneered in high-grade metamorphic rocks by Touret during the past fifteen years. It is axiomatic that some kind of fluid is necessary for the generation of migmatites, whatever the actual process of migmatization might have been, a fact reflected in the increased abundance of inclusions in the leucosome minerals, and in spite of the argument about whether or not the fluid preserved in the inclusions represents a sample of the fluid in equilibrium with the leucosome at the time of formation. In any case, the fluid in inclusions represents the only samples we have of the fluids associated in general terms with migmatites (although the methods of thermodynamics may allow the calculation of the fluid composition which must have been in equilibrium with the solid phases). The debate continues, however, over the source of the fluids now preserved as inclusions, especially the CO_2 in leucosomes and the late-stage H_2O in leucosomes. This topic relates to the current controversy in metamorphic geology over the origin of granulite facies mineral assemblages and variably LILE-depleted bulk rock chemistries—partial melting versus CO_2-flushing.

Finally, in Chapters 6 and 7, Tracy and Barr consider the development of migmatites in New England and the Moines, respectively; both of which are polyorogenic and polygenetic migmatite terrains. The New England region has become well known to metamorphic geologists during the last ten years through the work of Robinson and his co-workers and prominent among these has been Tracy who has written this comprehensive and instructive review. In contrast, Barr's work in the Moines brings fresh views to neglected migmatites in a classic part of British Isles geology. Unfortunately, the regional examples are restricted to these two migmatite terrains. Chapters on Scandinavian migmatites (where the great controversy originally started through the works of Sederholm and Holmquist, the famous 'arterite' versus 'veinite' debate) and Australian examples (e.g. Broken Hill or Arunta) would have been welcome and instructive.

In conclusion, this is an extremely useful book as an up-to-date review of and introduction to the subject of migmatites which is reasonably priced, especially considering that the market will be limited to final year undergraduate students and post-graduate research workers with an interest in petrology.

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Glover, J. E., and Harris, P. G., eds. *Kimberlite Occurrence and Origin: a Basis for Conceptual Models in Exploration.* Geology Department and University Extension, the University of Western Australia, Perth, 1984. 298 pp. Price (post free) $ (Australian) 26.

The discovery of diamond-bearing lamproite in Australia in 1976 meant that by 1985 Australia was a major producer of diamonds. A two-day seminar held at the UWA dealt with the origin of diamond-bearing lamproites and kimberlites. In the proceedings kimberlite terminology (Smith); geology (Janse, Sobolev); emplacement and volcanism (Dawson, Harris, Ferguson, and Jacques) are dealt with most succinctly as is the geochemistry of the lithospheric mantle based on xenolith studies (O'Reilly). A section on garnet inclusions in diamonds as genetic indicators (Gurney) summarizes much of the recent isotopic data on diamond inclusions. Using a similar technique the complexities of east Australian grossular–coesite-bearing diamonds are discussed (Sobolev). A well-illustrated section (Hall and Smith) reviews the recent diamond discoveries of Australia, and Jacques, Ferguson, and Smith describe the geology, petrography, and heavy mineral–nodule characteristics of the Australian lamproites. Although this meeting could have provided much more information on the unique Australian localities, it does provide a much-needed introduction to the Australian lamproites and their diamonds. A must for all those interested in 'keeping-up' with the kimberlite–lamproite literature [MA 86M/2327–2339].

M. MENZIES