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BOOK REVIEW

MESOZOIC TO CENOZOIC ALKALINE MAGMATISM IN THE BRAZILIAN PLATFORM edited by P. Comin-Chiaramonti and C. de Barros Gomes. (2005) Edusp, San Paolo, Brazil (www.edusp.com.br). ISBN 85-314-0903-9. 750 pages.

With 750 heavy-gloss pages, this is a weighty tome, but it is also packed with good things, covering alkaline magmatism around the Parana Basin (mainly Brazil, but stretching into Uruguay, Paraguay, Bolivia, and Argentina). Reference is made to Namibia-Angola (south west Africa) with which this region was contiguous prior to the opening of the south Atlantic, where there was contemporaneous activity—for anyone interested in the global connections it may be noted that contemporaneous alkaline igneous activity extends right across Africa and beyond so the Parana Basin is possibly part of a wider activity pattern in South America. Alkaline magmatism here is used in the broadest sense, encompassing kimberlite to granite. Around the Basin, there are scores of complexes, so a selection of a smaller group for the discussion is inevitable, and variations in the coverage are to be expected, but some explanation of the basis of the choices would have been helpful. Alkali basalts are found across the region, with felsic rocks featuring in nine chapters, carbonatites in five, while three chapters are about the alkaline ultramafic activity (kimberlite/lamproite/kamafugite).

In all there are 22 chapters, the first giving an editorial introduction and the second outlining the tectonic controls. Fourteen chapters (10 largely on Brazil) are devoted to complexes, or regional clusters of centers; three chapters are on isotopes (Chapters 3, 19, 20); with one chapter each on accessory mineral compositions (Chapter 5: Ti, Nb, Zr, Th, REE silicates in syenites); paleomagnetism (Chapter 21: Brazilian Platform) and mineral deposits (Chapter 22). The last gives a useful regional overview of the tectonics, rock types, and distributions, as a basis for describing the wide range of mineral deposits, including prime international sources of Nb and Ti. Elsewhere through the book, some duplication emerges. This is most evident in the isotope coverage and data, which figure in chapters other than those specifying isotopes. Inexplicably, Chapters 10 and 11, which deal with the same area, present different explanations for the magma origins (mantle plume discounted and favored, respectively).

Nevertheless, this compilation is immensely valuable in providing an overall picture of one of the world's major intracontinental igneous provinces, updating and bringing together work that is scattered through a range of national journals, many not easily accessible to English readers. The information content is vast with many new data tables and figures (a great number in color) making this a treasure store that should be available in any Earth Science library. Two useful additions would have been a simple location map (as a frontispiece) and an index. The editors must be congratulated for their Herculean effort and can rest in the knowledge that they have given us a new foundation for this globally important province.

Chapter topics are as follows: 1. Editorial introduction, 2. Tectonic controls (Brazil), 3. Isotopes: Sr-Nd-Pb (E. Paraguay), 4. Felsic complexes, (Brazil- Paraguay), 5. Accessory mineral compositions (Ti, Nb, Zr, Th, REE silicates) in syenites (Brazil-Paraguay), 6. Felsic and carbonatite complexes, (SE. Bolivia), 7. Gabbro-monzogranite complex, (NW. Argentina), 8. Granite-syenite complex, (Brazil), 9. Kamafugite dominated province (Goias, central Brazil), 10. Kimberlite/lamproite/kamafugite/ carbonatite province (Brazil), 11. Kimberlite/lamproite/kamafugite/ carbonatite province (Brazil), 12. Huge felsic intrusive complex (Pocos de Caldas, Brazil) 13. Syenite complexes (Brazil), 14. Dykes: alkali basalt-felsic range (Brazil), 15. Alkali basalt and carbonatite complexes (Brazil), 16. Three periods of basalt and carbonatite activity (Brazil), 17. Phonolites (Brazil-Uruguay), 18. Monzonite-granite complex (SE. Uruguay), 19. Isotopes: C and O (SE. Brazil), 20. Isotopes: C and O; Sr-Nd-Pb (SE. Brazil), 21. Palaeomagnetism (Brazilian Platform), 22. Mineral deposits (all types, including major world sources of Nb and Ti). (Brazil).

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