Andean Magmatism and Its Tectonic Setting, Special Paper # 265

edited by **Harmon R.S., and Rapela C.W.**, Published by Geological Society of America, Boulder, Colorado 1991. 309p. Price US $??. ISBN 0-8137-2265-9.

Review by **Christopher G. Kendall**

The 20 papers that form this book were given at the two meetings in 1988 organized by the International Geological Correlation Programme Project 249 on 'Andean Magmatism and Its Tectonic Setting'. Most of the papers in this volume focus on Andean volcanism but there are some on the plutonic rocks of the region. There is also a paper on the Paleomagnatism of the Jurassic to Cretaceous rocks of South America and another one the comparison between the isostatic state of the Andes with that of the Alps.

The papers in this text are in most part short and to the point and illustrated with at least one location map and abundant phase diagrams. The papers are organized geographically and trace Andean magmatism from southern Patagonia north to Peru, through the Southern, Central and Northern Volcanic Zones of the Andes. The papers emphasize the subduction and interaction of the oceanic Nacza lithospheric plate beneath and with the continental plate margin of the South American continent. The importance of this book is that it brings together new geophysical, geochemical and isotopic data for the Andes which can be incorporated into models which explain arc volcanism and mantle crust-interactions not only for the South American Andes but for other mountain chains.

The text covers the southern Patagonian batholith; the southern Chilean/Argentinian Jurassic proto-marginal basin; northern Patagonia, Southern Andes Quaternary Volcanics; Triassic rifting in the Cuyo Basin of Central Argentina; Triassic marine volcanism and plutonism in Central Chile; Tertiary magmatic rocks including the volcanics of the Central Andes of Peru, Chile and Argentina; Permo-Triassic plutonics of Northern Chile, the Ordovician volcanics of Northern Chile; an early Paleozoic arc in Northwestern Argentina; the Shoshonitic lavas of Northwest Argentina; Central Andes ignimbrites; the source of Central Andean magmas; the Cenozoic volcanism of Bolivia; and the tectonics and magmatism of Peru. Next is a paper on the how both the Andes and Alps owe their present topography more to the compressive force exerted by adjoining tectonic plates rather than isostatic uplift. The book ends with a paper relating the orientation of the paleomagnitism of the Andean Jurassic and Cretaceous rocks to plate movement.

This book will be of particular use to professionals and graduate students with an interest in the Andes and a need to track down local and regional magmatic activity in the area. Igneous geologists will find the compendium of papers useful to an understanding of interplate interaction between oceanic areas and those of the continent.