

## ***The Cordilleran Orogen: Conterminous U.S.***

*edited by B.C. Burchfiel, P.W. Lipman, and M.L. Zoback, published by Geological Society of America, Inc. in 1992, ISBN 0-8137-5217-5, 725 pages, list price \$105.*

### **Review by Christopher G. Kendall**

This book is one of the series prepared by the Geological Society of America as part of the Decade of North American Geology (DNAG) series. This particular volume was initiated as a concept in early 1980. While it took 13 years to publish this text, the workmanship displayed in the volume indicates that the time has been well spent and suggests that it was worth the wait.

This book is divided into two parts: the first deals with basic geological data of the Cordillera area in terms of time and the second is aimed at a series of topical syntheses of time-independent processes exhibited by Cordilleran area during its evolution. This is no light weight book and though consisting of only 17 papers, most are book-like in their length and content. The result is an extremely professional look at the Cordilleran area of the United States. The design of the book is definitely to aid those who plan to follow in the footsteps of those that wrote up the state of the current research for the area. It is a well organized and really great source book for this area. The emphasis has been on providing geological information to the reader in as coherent way as possible.

The first six chapters which follow an introduction, deal with the regional syntheses of the geological record beginning in the Precambrian through to Post-Laramide geology for the Cordilleran orogen. Each of the syntheses is extremely complete; for instance, the chapter on Post-Laramide geology consists of some 130 pages of tightly written text. Papers begin with the Precambrian to Devonian record while discussing the development of this western continental margin. There are papers on late Paleozoic paleogeographic and tectonic evolution, early Mesozoic tectonic evolution, late Jurassic to early Late Cretaceous geology, Late Cretaceous to early Eocene geologic evolution, and finally Post-Laramide geology of the U.S. Cordilleran region.

The second half of the book consists of 10 chapters which deal with various topical syntheses. The first of these chapters provides an overview to the Cordilleran orogen, representing the frame onto which the rest of the papers, including those of the first part, can be tied to. This overview is followed by chapters on various aspects of the Cordilleran area, magmatism, metamorphism, sedimentary assemblages, Cenozoic extensional tectonics, fold and thrust tectonics, strike-slip tectonics, metallogenic evolution, petrotectonic and paleogeographic settings of ophiolites, and finally the tectonic significance of paleomagnetic results for the western conterminous United States. All of these papers are extremely well illustrated. Some of the papers are illustrated with three colors, namely black and two shades of pink.

This is not a book for bed time, but if you need information for the Cordilleran area this book should be on your shelves. If you can't afford it, you should encourage your local university or company library to purchase it for the access to people like yourself. Perhaps the only criticism I have on this book is that it does not emphasize the sedimentary stratigraphy of the area as much as its tectonic and plate history. This is a minor quibble since the book includes a great deal of information written on the sedimentary section. For instance, various Mesozoic sections measured from the Triassic through Jurassic are illustrated and provide information on the lithostratigraphy of the area. I suspect that if sedimentary stratigraphers had had

their way with the editors, this tome would have been twice as long. Don't let this minor criticism deter you from this extremely extensive descriptive text. There is no shortage of beautiful maps and even a few photographs.

I am glad to have this book on my shelves and recommend highly to you. This volume must represent a labor of love for the editors, though I am sure all of them were delighted when their task was complete. Now the text is finally out in front of the geological public and I am sure you will appreciate it.