

distant event coupled with poor construction brought on by the death of the master mason?

Illuminating the attitude and behavior of faults 5 or 15 kilometers below the surface is an inverse problem for which the geodetic, gravity, and magnetic models of chapters 7 and 9 hold sway. Although new space geodetic techniques such as the Global Positioning System or Very Long Baseline Interferometry are barely given a nod, the sense of how locked and creeping portions of faults can be imaged by monitoring slow crustal deformations over a 50- or 100-kilometer-wide zone is easily visualized. One thing that struck me is that certain gravity and magnetic data suggest the existence of dips in the upper 5 kilometers of the fault that are substantially different from 90°—for example, one of 55° to the southwest near the Big Bend and a northeasterly one of 40° north of Point Arena. The oblique thrust mechanism of the 1989 Loma Prieta quake has made it easier to accept a San Andreas fault that is not everywhere a simple vertical cut in the lithosphere.

Capping the volume is a lucid survey of the San Andreas heat flow paradox, a two-decade-old contradiction between the high shear stress measured in the upper 1.5

kilometers of the crust and the low shear stress that is apparently being dissipated in major earthquakes. The fault must have incredibly low strength. I wonder how it got that way.

The theme of the book is the complexity of the San Andreas fault system and the variety of tools that earth scientists have available to expose it. Depending on the reader's interests, certain contributions will surely seem overly simplified or overly detailed, but the collection well supports its thesis. Maybe they should supply one of those tee shirts with each copy.

STEVEN WARD

*Institute of Tectonics,  
University of California,  
Santa Cruz, CA 95064*

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