It is a great pleasure and an honor to present the Structure and Tectonics Division 1996 "Best Paper Award" to John Suppe, George Chou, and Steven Hook for their paper entitled Rates of Folding and Faulting Determined from Growth Strata. which was published in the volume entitled Thrust Tectonics edited by Ken McClay in 1992. Over the last decade and a half, John Suppe, his colleagues and students have changed the face of structural geology with numerous important contributions to our understanding of the geometry, kinematics, and mechanics of fold-and-thrust belts as well as extensional and strike-slip provinces. It is, in fact, difficult to imagine a single group with greater influence on the course of structural geology during that time interval. Many of these contributions, as with the paper we honor here tonight, have resulted from exemplary collaboration between industry and academia. Lest this citation sound more like a career contribution award, I will not take time to enumerate their many, diverse contributions, but will instead limit my remarks, albeit broadly, to the topic of the paper. Following, in part the early work of Lionel Weiss, Rodger Faill and others on kink folding, the Princeton group created a new paradigm in balanced cross-section construction. The importance of their approach can be measured by the heated debate that it still inspires more than a decade later, the extensive adoption of the techniques by industry, and as well by the commonly heard phrase "a Suppe-style cross-section". With respect to the heated debate, it should be noted that, in a footnote on the first page of their paper, Suppe, Chou, and Hook state explicitly that kink band migration is not the only important folding mechanism in the upper crust. Suppe's early papers on kink geometry were, overtly, a static geometric description of thrust belt structures, a balancing of areas in triangles, etc. He and his colleagues, however, certainly must have had a reasonably good idea of the kinematics of these structures, even as most of us were wrestling with the geometric implications for our own thrust belts. The paper which we recognize here today is a logical outgrowth of this earlier work. It is not their first publication dealing explicitly with how structures grow through time and here we acknowledge earlier work, particularly by Suppe and by his student Don Medwedeff but it is the most general and complete. If you want to understand the kinematics of structures, how the rock particles track with time through the structure, you need a tape recorder. Sediment which accumulates around and above a growing structure provides that tape recorder. As Suppe has pointed out, these "growth strata" are analogous to the magnetic stripes on the ocean floor. Rather than providing a "cookbook" for interpreting growth strata associated with specific types of thrust belt structures, Suppe, Chou, and Hook’s paper begins with a general treatment of the five possible ways that the two kink axial surfaces, which define a limb of a fold, can move with respect to the rock particles and each other. Out of these five possible interactions arise some very striking growth strata geometries. On one level, a fundamental contribution of this paper is to remind us that a seemingly simple structural geometry, which we see as a snapshot in time, can have an exceedingly complex deformational history. Their work provides a framework for interpreting a variety of curious and apparently paradoxical geometries of synorogenic strata which are commonly observed in seismic data and in the field, and gives us a quantitative method for extracting meaningful rates of horizontal and vertical growth of individual structures. Beyond the specific techniques introduced in this paper, however, there is a more important aspect to this new found focus on growth strata: For the past ten or fifteen years, structural geologists and stratigraphers have been on very divergent paths as exemplified by the development of jargon nearly impenetrable to each other’s discipline. The topic of growth strata has gotten numerous stratigraphers, structural geologists, and surface process geomorphologists talking, and arguing, once again. To interpret growth strata properly, one must understand not only the kinematics of the underlying structure, but also the three-dimensional geometry and episodicity of the depositional system. Nowhere is this interdisciplinary rigor more necessary than in the realm of active tectonics.
where one can assume neither continuous deformation nor continuous deposition over the time window of study. John Suppe, George Chou, and Steven Hook, we know that this paper is not the culmination of your work on thrust belts in general and growth strata in particular but just a step along the way. We congratulate you and look forward to your forthcoming work.

Response by John Suppe

Editors' note: John Suppe writes that he and Steve Hook made informal responses to Rick's citation and didn't write anything down. John says, "We basically said that we were very grateful to Rick for his wonderful citation and to the SG&T Division. We also commented on this paper being an example of the opportunities for important cooperation in upper crustal structural geology that exist between academics and industry. Finally, we had a lot of fun doing it!"