



EARTHQUAKE ENGINEERING RESEARCH INSTITUTE

at the University of Notre Dame

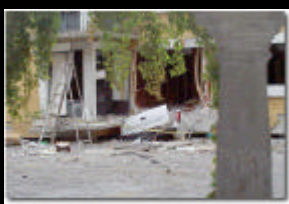


*Earthquake Engineering Research Institute and Department of Civil
Engineering and Geological Sciences proudly present:*

A Way of Thinking

A seminar by Dr. Mete Sozen

Kettelhut Distinguished Professor of Structural Engineering
Purdue University, West Lafayette, IN



Tuesday, February 19, 2002 at 9:30 am
133 Mendoza College of Business

ABSTRACT

Today, ready access to versatile and powerful software enables the engineer to do more and think less. It is not often questioned whether the exact analysis of the approximate model qualifies as an approximate analysis of the structure itself. To contemplate once again the role of analysis in design is not a waste of time.

A way of thinking about structural design was developed in a series of iterations in mid 20th century by three engineers. Their goals were not global. The whole was made up of specific solutions for specific problems. But when their contributions are viewed together, a complete way of thinking about structural design becomes discernible.

The thinking of Hardy Cross, Herald M. Westergaard and Nathan M. Newmark did not always intersect completely. But when it came to the relationship of structural mechanics to design, they were completely together. To them structural mechanics was perfect as long as it was not applied. When it was applied, it had to be applied with judicious care to maximize return in relation to investment. As long as one was going to be wrong anyway, one might as well be wrong the easy way.

The goal of this talk is to encourage engineers to review the works of Westergaard, Cross, and Newmark as a whole, not for the specific processes, but for the general principles of their art of thinking about structural design.