ABSTRACT

Structural engineering is a profession. A profession is characterized by the need to exercise judgment within a domain defined by a set of canons. The structural-engineering canons have developed sometimes as a result of and sometimes despite the interaction between science and experience. That structures were built successfully without science and, worse yet, even with the wrong science for hundreds of years and that science has, so far, been insufficient to guarantee predictability (except engineering for earthquake response), emphasize the challenge in discriminating between the poles: “Science is all!” and “Experience is all!” The territory in between is vast and slippery. It is difficult to navigate a true course without giving in to the lure of one pole or the other. 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 goal of this talk is to encourage engineers to review the works of Harald M. Westergaard, Hardy Cross, and Nathan M. Newmark as a whole not for the specific processes but for the general principles of their art of thinking about structural design.

DATE: FRIDAY, APRIL 5th 2002
TIME: 2:00 – 4:00 PM (EST)
LOCATION: 140 KETTER HALL, NORTH CAMPUS, UB

FACULTY, GRADUATE STUDENTS & ALL OTHERS ARE INVITED TO ATTEND. For further information please contact the UB-EERI Student Chapter at ubeeri@civil.eng.buffalo.edu or at (716) 645-2114 (ext.2437)

Refreshments will be served between 1:30 and 2pm. Limited seating.