

Reflections of Clarence M. Eidt, Jr.

It has been said that “the trouble with our time is that the future is not what it used to be.” While the notion of trouble may be debated, there can be no doubt that the future for the engineering profession is not going to be the same. The list of technological and social developments impacting our profession today seems endless...ranging from alternative energy developments, CAD-CAM and biochemical engineering, to dual-career families, quality circles, and re-industrialization. Meeting the challenges posed by these and similar forces for change is going to require, as never before, engineers of depth and breadth.

Technical depth in one's discipline has always been the hallmark of a sound engineer, and this will certainly continue to be the case. However, tomorrow's problems and, indeed, today's, are often straining traditional boundaries and imposing additional demands. Resolution of complex technical issues, for example, increasingly requires a broad-based technological

perspective spanning several engineering and scientific disciplines. Moreover, advances in system analysis and optimization techniques are making such interdisciplinary approaches ever more practical.

The net effect is that today's engineers and managers must have both depth and sufficient breadth to bridge effectively to other disciplines if they are to deal with the full scientific, engineering, and economic complexities of the technical matter at hand.

This breadth of understanding must encompass social issues as well, and much has been written about the shortcomings of engineers in this regard. Perhaps it is true that we have tended to think of ourselves as men and women of things, not words. There may have even been a time when this was an appropriate role, but certainly not today and definitely not tomorrow.

While recognition of the importance of our technical and economic input to societal decisions is growing, our counsel regarding human values is less avidly sought. Engineering has, however, much to offer in the latter area as well. For technology and human values are inevitable entwined and, not unlike technology, human values are also continually changing. As societies mature, erstwhile luxuries soon become necessities, exotic technological capabilities become commonplace, and deferred hopes and aspirations become urgent. In this context, the impact of engineering in the future may well be conditioned as much by its influence on the invisible structures of human thought as on the visible structures of material achievement.

No, the future of engineering will not be the same. It will be more intellectually demanding and socially fulfilling than ever before. It is where the action will be, and where the opportunities will exist for men and women of dedication to make a real contribution.