

ENGINEERING AND SOCIETY

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Abstract. Most of the papers dealing with engineering and society encompass a broad range of relationships some of them suitable not only for engineering but also for other fields of education. In this paper we will try to be specific and concentrate on some questions that we believe to be proper to engineering. Also we will focus on the new problems concerning the relationship between engineering and society raised by the present conjuncture. First, the technological advances occur in a pace never seen before. The rhythm imposed to the modern life has changed the behavior of the contemporary man and woman before their expectations for the future. Hope has been substituted by fear in many cases. The history is being compressed in diminishing time intervals. The new generations graduate equipped with a knowledge background that is barely accessible to older generations maybe only 20 years apart. That is, a young engineer joining a company brings in new ideas and techniques and frequently challenge seniors colleagues. Second, the new engineer is embedded into a new environment where the technical performance of a product is not considered as the only, and sometimes the main, characteristics to compete in the market. Nowadays a new discipline has come into play with a tremendous force, marketing. We live in the era of image. People are induced to buy a product not by the inherent technical quality but according to what it looks like, and following the general trend leaded by some attractive image. Along with the same trend nowadays the search for profit has surpassed the search for technical excellence. A third aspect concerns the consequences of the tremendous technological advance that we were able to develop in the last four decades. We face now critical problems that appeared only a few years ago, as the threatening of the environment brought up by the growing industrial activity and by the increasing number of goods today available for and affordable by a large numbers of people. Big companies have been dismantled due to several reasons, economic, technical and managerial. The automation of production processes and engineering design by the use of computer based techniques has also introduced new models in the engineering organization. A forth characteristic of our time is the closing distance between the scientific discovery and the technological application. As a matter of fact there are much more new scientific findings on the shelf than we are able to convert into technology useful for the society wealth in the short run. The closing gap between science and technology has introduced a new relationship between the consumer and the industry. It has been seen more and more frequently the use of science trustworthiness to qualify a new product that has not yet passed all tests needed to be approved for a safe use. Finally, as a fifth point and maybe the more crucial is the lack of interest for the things concerning the spiritual side of all human being provided by the new technological facilities, games, communication, and the like. Unfortunately "non-applicable" science, arts and literature has gradually been put aside by the new generations. What about the mysteries of nature, are we still able to appreciate? How many people spend some hours of their entire life thinking about our origin and fate? How about God? Have we being able to transmit to our students the joy of knowing? Those points, we believe, are new aspects of our life deeply linked to engineering and technological advance. We are not allowed to ignore them and we are co-responsible to help solving the problems brought by the never before seen development reached nowadays with roots in the engineering activity of the last decades.