DISCUSSION

G. Z. Libertiny

Mr. Egerer in his paper restates some of the classical old arguments, namely that the engineer should concentrate his effort in the field in which he is an expert (i.e. engineering) without attempting to get involved into problems in which he is not an expert (i.e. greater societal problems of the nation.) He writes: "The Engineer, in most cases, must design a product to compete favorably in the market of a free enterprise system in which one of the basic tenets is to maximize the profit, a system with which I am (i.e. Mr. Egerer) fully in accord. . . . the engineer must perform those functions for which he has been employed or retained. These functions rarely allow him the time, freedom, and funds to explore the social implications of his work. . . . Even if the engineer has the time, freedom and funds to explore the social implications of his work he would be greatly handicapped in doing so. First the engineer is not trained in the social sciences." . . . etc.

I could not disagree more with Mr. Egerer's ideas about the responsibility of engineers [1]. It is true that the products must be saleable. However, frequently "least expenditure" has been interpreted literally and in a narrow sense by industry and the engineering profession, and while the consumers have paid a relatively low price for the products, the true and hidden cost has been passed on to society. Within the scope of this statement, the environment has been abused by steelmakers, power companies, chemical plants, transportation systems, and other industries. Relatively cheap, but sometimes unsafe, automobiles, lawn mowers, oil heaters, airplanes, and other products have been manufactured.

One does not need to be hot "in the lofty regions of unachievable idealism" to understand and recognize that the responsibility of a truly professional engineer in our changing society goes beyond the creation of effective devices for the least expenditure and the creation of wealth for their employers. They must be concerned with the interest of the public and the interaction of technology with environment and society.

Mr. Egerer thinks that engineers are not trained to handle the problems of our society. Unfortunately, most of the leaders of government can hardly be classed as experts in everything. As a matter of fact the engineers are uniquely trained to solve many of the great problems of our time, by having a strong scientific background together with a practical mind. The only hope, perhaps, for our planet to survive the stresses caused by overpopulation lies in the hands of engineers. Exactly because of their unique training, engineers should be more involved, individually and through their societies, with the administration of our civilization. Both the individual engineers and the engineering societies have a moral responsibility to ensure that public interest is adequately represented in engineering and technological decisions. Engineers and the engineering societies, if they are to be respected by the public as true professionals, must be actively involved in initiating legislation whenever the special background of the engineering profession can contribute to the correct method of solution.

Fortunately for the engineering profession, more and more engineers, including recent past presidents of ASME [2, 3] find the "time" to be involved in the administration of our planet. Through the stated "Goals" of ASME [4] it is clear that ASME recognized its importance and responsibilities in these matters and took the first step to show leadership to its members.

An individual who does only what he is told to do without thinking about the immediate and long term implications of his work might be an excellent technician but cannot be called "professional" in the correct sense. All of us should attempt to become truly professional engineers.

References


Authors' Closure

Professor Libertiny missed the entire point of my paper, and I would suggest that he read it again, including the title of the paper. It is unfortunate that he finds it necessary to object to my belief in the profit motive of the free enterprise system, although I respect his right to object.

Professor Libertiny rightfully pointed out the leadership ASME is giving to the engineering profession; however, he failed to mention that ASME is ignoring the basic requirements of recognizing an established profession, namely the need for examination and registration of the members of that profession. Registration is the first step toward the establishment of a profession because it has as its basis the protection of the health and welfare of the public.

In my paper I pointed out the need for registration as a first step; after all, we must learn to crawl before we can walk.