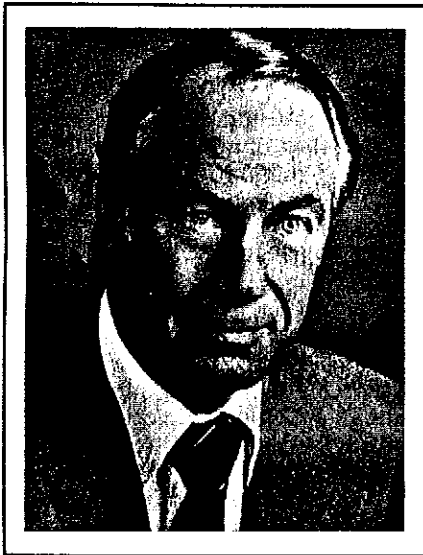


# NEWSLETTER

Canadian Council of Professional Engineers

Conseil canadien des ingénieurs



## Weathering the Winds of Change

The engineering profession has not escaped the buffeting changes which are a trademark of the technological explosion. Neither has it been immune to the sudden reversals experienced by all of us every day.

Last October, CCPE held a workshop during its semi-annual meeting to explore the effects of such changes on the profession and to provide any necessary mid-course corrections to the direction being taken by the Task Force on the Future of the Engineering Profession.

In August, 1987, the Task Force began to examine the evolving role of the engineer in the workplace through a country-wide survey of engineer employers and users. The overall purpose of the exercise was to identify where the profession should be heading as we move into more uncertain economic times. Once these goals have been outlined, the profession will have to face the strategic planning challenge of how we can achieve them.

The workshop turned up some old and new notions. It would appear that there continues to be a need to recognize the dual ladder principle by which an engineer can choose a technical specialist path or a managerial path and still receive comparable recognition and compensation. However, this

is largely an idealized set of circumstances which occur only in certain corporate environments. In Canada such occasions are limited. Instead, there is an increasing tendency for engineers to move rapidly into the management stream, a factor recognized in at least one provincial act (Ontario's) where engineering is now defined as the taking of responsibility for engineering work, rather than the performance of it.

It is increasingly being accepted that the management of existing technology is as important to the public interest as the creation and application of new technology. It is therefore incumbent upon the profession to be concerned with the maintenance of technical competence, particularly for those that remain in the technical stream. Perhaps, the profession should more formally recognize that there are two streams, technical and managerial, and that each has special needs in terms of professional development and career progression.

The workshop also examined the rationale governing the regulation of the profession through licensure. There appeared to be general agreement that such regulation is necessary to serve and protect the public, particularly where third party legislation to protect the user of technology is not in place.

During the workshop, a number of issues relating to ethics and morality were raised. The adoption of a code of ethics and its strict adherence is a distinguishing feature of all professions that is not well understood by the general public. This is especially so with respect to engineering.

The Code of Ethics applies to all engineers as professionals. Morality, on the other hand, applies to individuals at a personal level and includes such factors as upbringing, environment and beliefs. Concern was expressed by the workshop participants about the dichotomy that is often evidenced between the two concepts. An example of this would be those instances where members of the profession find themselves facing the dilemma of whether

or not to blow the whistle on a colleague who has breached the Code of Ethics.

As technology impinges increasingly on the workplace, its impact on the role of engineers is slowly re-defining what constitutes acceptable professional conduct for both the technical and managerial streams. The Code of Ethics needs to be revised.

Finally, the workshop tried to wrestle with the question of literacy and the engineer under the banner of "public participation". While it was generally agreed that engineers should become more involved with public life, particularly in the political arena, it was observed that many are poor communicators and some border on illiteracy!

If increasing numbers of new engineers are heading into the ranks of management, and technologists are filling the void they leave behind, then it behooves the profession to re-examine its entry requirements. It might be desirable, for instance, to place more emphasis on understanding and respecting the economic, managerial, political, social and environmental issues surrounding technical development. Moreover, it would greatly benefit young engineers to understand the diverse nature and history of human societies, as well as their literary, philosophical and artistic traditions.

These latter objectives have been identified as specific goals for undergraduate engineering education at MIT after two years of intensive study and are intended to "broaden the focus while preserving the competence". The correlation between the findings of the Task Force and its consultants and MIT's objectives seems strong enough to suggest that we could greatly benefit from such studies in Canadian institutions.

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