**Message to Young Scholars**

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Two extremes that motivate advancements in engineering research are the desire to improve conditions for humanity and the desire to increase fundamental understanding of the physical world in which we live. Both of these types of motivation can lead to significant accomplishments if the researcher is willing to study and work long and hard enough to achieve lofty goals. It is mainly curiosity about the underlying nature of physics that has motivated my own research. The complexity of the conservation equations of chemically reacting flows attracted me to combustion as my field of specialization, and I have been richly rewarded by being shown the intricacy yet simplicity and beauty in the structures of flames. However, irrespective of whether an individual’s attraction to an area stems from science or applications, there is satisfaction to be reaped by trying to do the best work possible.

Today's environment tends too often to be one of tight schedules and narrowly focused practical objectives. Engineers are asked to deliver pre-specified results economically on pre-specified dates. Appreciation for the science in engineering wanes. Only over the short term can such an environment generate the most useful products. Most long-term advances stem from research with broader objectives and without strict time tables. High-temperature superconductivity, break-even nuclear fusion (possibly cold) and fullerenes are among the scientific discoveries that engineering attention may bring into the service of mankind. But that attention cannot be programmed precisely, not even through team efforts rather than individual activity. Freedom to explore the unexpected new turn is essential for continued engineering progress. It is that freedom which in the past has caused predictions of the progress in time frames exceeding about ten years usually to be overly pessimistic.

The main message that I would leave to future researchers is to work industriously with both honesty and objectivity. Do not abandon results that fail to conform to preconceived notions, for it is often such results that new discoveries lie concealed in. Do not stop thinking about a problem just because the time limit or funding has ceased. If I had quit work when the time and money were depleted, then I would have accomplished less than half of what I have now succeeded in doing. Be persistent in your research. Think on it continually, even while asleep, ever seeking to increase your own understanding. Treat it as art, and learn to love it. In the long run, you will find even that devotion itself to be rewarding. And with a little luck, you will succeed in contributing to the future welfare of humanity.

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