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It is both gratifying and daunting to look back over the past two decades of enhanced cancer research. During the deliberations of the Yarborough panel, and legislative hearings on the National Cancer Act, I was a strong supporter. At the same time, I cautioned that the cancer problem was one of the most difficult we had ever determined to challenge, and we should make no glib promises about how quickly a crusade would reach its goals. I particularly warned that we simply did not know enough to make a well-founded direct attack: Large advances were needed in many cognate fields before we could take for granted that a purely technological effort (like the race to the moon) could succeed merely from large financial and political commitments. Even in space technology we have learned to be more humble.

In 1971 I wrote: "The greatest promise, of course, comes from the great leaps in basic biological knowledge of the last decade, many of them in the related areas of DNA and viruses. These have so far given only a few answers centrally connected with human cancer, but we are now able to formulate sensible questions about the nature of the cancer cell and the origin of its deadly differences from the normal."

I would still stand behind those words, even with the chastening thought that they remain almost too true today, that the promise is a ways from fulfillment. But their validity can scarcely be challenged, and I have no doubt that even in the next few years, if not months, revolutionary new concepts will be finding their practical realization on a number of fronts.

Can we guess how the National Cancer Program could be still more effective? Does it need more focus, more organized management? I would say to the contrary! Despite early premonitions, the National Cancer Institute has conducted its support of research with a breadth of insight that has encouraged an enormous range of creative discovery. Its fallout can be seen in fields far removed from cancer—from AIDS to biotechnology. Nevertheless, in almost all federally funded agencies, we have seen a progressively heavier hand on the oversight of individual research projects, too much emphasis on megabuck superprojects, and a risk-averse mentality on the part of investigators: They do not dare to expose their most creative ideas for fear of being criticized "for not having proven [in advance] that they can achieve their goals," (to quote a pink sheet I received some years ago).

Perhaps it is too much to expect that a government-funded program, with all the pressures of political accountability and demands for egalitarian access, can perfectly manage such aspects of personal creativity. It does not do that badly, provided that other institutions can pick up the slack; sadly, there is a rather dim prognosis for their health in the proximate future.

Apart from the direct costs and consequences of that deterioration, the quality of cancer research at this most exciting juncture will depend even more on the insight and effective policy direction of its leaders. I know they share these concerns, and they will deserve widespread assistance in eliciting the necessary political support to sustain the highest quality of science, and to support the morale of its workers, in a very difficult time.

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