Letters

Approach to Societal Problems

Amitai Etzioni's recommendation (Editorial, 6 Sept., p. 817) that "humility is of the essence" when approaching societal problems is unassailable. Were his supporting arguments more modest and his concluding statements less threatening to the need for a continued search for nonempirical, basic advances in the sciences underlying our presently limited technology, I would be more fully supportive of his views.

The decline of auto deaths in 1974 may have been caused by serendipity ("the 55 mile an hour speed limit, introduced . . . to conserve energy") or by shoulder harnesses made mandatory in 1974 autos, or by both. The declining number of mental patients in state mental hospitals may have been caused "chiefly by the discovery of tranquilizers," or by the acceptance of Eysenck's findings (*1*) that the absence of treatment was no less effective than conventional treatment, or by the civil-rights movement for mental patients prompted by the writings of Szasz (*2*), or by combinations of these factors along with the evolution of better treatment procedures.

The moral? It is clearly an oversimplification to claim that engineering students trained to solve successions of practical problems daily are ideally equipped to tackle societal problems, although such suggestions are periodically offered by educators. Is it less simplistic to argue, however, that the scientific approach to these complex problems should be "in the sense of a rational, open-minded, empirical orientation" without attempting solutions based on "a priori beliefs and assumptions"? Empiricism may be the main scientific tool of the social scientist whose armamentarium lacks the conveniently reliable formulas of an engineer, but does it really follow that technology should not be harnessed to help solve the very problems that its past enormous success has helped to create? Or that new fundamental breakthroughs should not be sought in the underlying sciences?

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References

1. H. J. Eysenck, *J. Consult. Psychol.* **16**, 319 (1952).
2. T. Szasz, *The Myth of Mental Illness: Foundations of a Theory of Personal Conduct* (Harper & Row, New York, 1961).

The sociological moral that Etzioni draws from "the humbling lesson in the recent sharp decline in highway fatalities" involves a presupposition that is contrary to the historical facts. The 25 percent reduction in deaths after imposition of the 55 mile an hour speed limit to conserve energy may have come as a big surprise to editorial writers or to "safety experts," but it was foreseen by epidemiologists and statisticians in the accident area. For example, in a letter (*1*) to the *New York Times* that was published when the speed limits were first proposed, I predicted a 25 percent reduction in deaths.

This was not just a lucky guess. The efficacy of speed control was evident many years ago. For instance, it was clear from the analysis of the thousands of accidents studied by the Auto Crash Injury Research program which I helped to set up at Cornell University Medical College more than 20 years ago. Speed control was a key recommendation in my 1960 article "How to cut the highway toll in half in the next ten years" (*2*). If these recommendations had been implemented at that time, more than 250,000 Americans who have been killed in highway accidents since then would now be alive (*3*).

The real sociological question is, Since we had the scientific knowledge to cut the highway toll a decade ago, why didn't we do so? There is a straightforward answer to this question. Repeated efforts at speed control—both by law and by vehicle design—were made. For example, when William Haddon was head of the National Traffic Safety Bureau, he repeatedly tried to get the auto industry to agree to a maximum design speed, but even a token limit of 100 miles an hour was bitterly opposed.

All of these speed control efforts were decisively defeated by the "speed lobby"—a corporate coalition of auto makers, oil companies, trucking interests, and highway builders who appear to believe that high speeds mean high profits. The "speed lobby" is now going all out to kill the 55 mile an hour speed limit.

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References

1. I. D. J. Bross, *New York Times*, 24 September 1973, sec. 1, p. 42.
2. ———, *Public Health Rep.* **75**, 573 (1960).
3. ———, *ibid.* **78**, 27 (1963).

Azároff correctly quotes me as favoring an "empirical" (but not an "empiricist") approach to societal problems, that is, openness to data and acceptance of *scientific* theories, models, and concepts. My quarrel is with those who make public policy on the basis of unverified hypotheses, theorems argued for but poorly supported. In short, Azároff and I seem to work for the same side.

Bross is correct—in retrospect. The trouble is that most societal problems are complex, and good relevant data are scant. Therefore, when solutions are proposed—in letters to the *New York Times* and elsewhere—it is quite difficult to determine a priori what will work. Hence I suggested that the modesty with which we argue for our solutions should reflect the modesty of our supporting data. It is not just a question of proper demeanor; we should alert the "client" that most of us most of the time will need to revise our counsel as we progress. For this reason, while Bross is absolutely correct that we do not use much of the knowledge we do have because of pressures of vested interests, I hold to my position that quite often we know very little to begin with.

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