LETTERS

Pentagon Decision-Making

R. Jeffrey Smith, in his article "Pentagon decision-making comes under fire" (News and Comment, 4 Jan., p. 32), describes the results of problems that are not new, not unique to the Reagan Administration, and whose causes are not fully discussed. The system has changed some since I was heavily involved, both as a staff member and as one of the voting members of the Defense Systems Acquisition Review Council (DSARC). However, I have kept in touch with participants and believe the following comments are correct.

Procedures are not the basic problems. Rather, they are lack of support from the top, imprudent (but understandable) deference to the uniformed services, and lack of accountability. The office now called Program Analysis and Evaluation (PA&E, once known as Systems Analysis) was set up to provide critical independent analysis of all aspects of the defense program. The PA&E staff papers prepared for the director of PA&E before the DSARC meetings have (at least in the past) covered exactly what Smith describes as not being available at those meetings: gaps in available information, weaknesses in cost estimations, flaws in the rationale supporting the system, and probably the latest intelligence on threats the system is designed to face. However, if these issues are raised at DSARC meetings, the service that is proposing the weapon system will artfully argue they know better, at least implicitly arguing that the real military know far more about weapons and war than do the civilians of PA&E. But PA&E analysis incorporates the insights and knowledge of junior officers, who are closer to current operations than are the generals and admirals who decide the service positions. With rare exceptions, the DSARC members defer to "military judgement" or the confidence of the technologists that a system is needed, will be built for the amount estimated, and will have the performance described.

Such imprudent deference is driven by two factors. First, the Secretary of Defense (and the Department of Defense's internal chief operating officer, the Deputy Secretary) do not support challenges to the prevailing service wisdom. It takes interest, good intuition, and courage (knowledge helps) to decide in favor of a young civilian analyst over the bemedaled chief of a service (or the chairman of the Joint Chiefs of Staff). If the people at the top do not back up those who ask tough questions, the questioners eventually remain silent (or are silenced). Second, no one is held responsible for the problems Smith mentions. When schedules slip, costs are much higher, performance is degraded, or the system just won't work, no one is held accountable. Program managers have moved on, senior service people have been promoted or retired, civilian leaders have left. Even when the responsible people are still in their jobs, no one makes them take responsibility. When the costs of a system increase drastically, or a system that should have been tested before production turns out to be a lemon, Congress and the press berate the "Defense Department," or the "defense establishment," or "the Administration." But they do not criticize the DSARC members, the Secretary or Deputy Secretary, or the chief congressional sponsors.

The analysts are not always right and frequently may see only a piece of the many factors that go into a decision. However, 20 years of experience indicate to me that the people asking the embarrassing questions have been much more accurate in predicting costs, performance, schedule, and the threat than have been the senior officers and program advocates. Perhaps the procedures need changing. But without attention and support at the top, accountability for those who make and recommend decisions, and an attitude by the DSARC members that encourages tough questions, insists on answers, and takes a skeptical approach to the advocates, the problems Smith describes will not be solved.

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Global Energy Study

We would like to counter some impressions that may have been sown by David Dickson's article (News and Comment, 4 Jan., p. 34) about our analysis of *Energy in a Finite World*, the major study by the International Institute for Applied Systems Analysis (IIASA).

Some, including the director of the IIASA study as quoted in Dickson's article, say that our aim is to resurrect the well-worn "soft" versus "hard" energy conflict, thus rallying all non-"soft" people to the study's side. In fact, we have always made very clear that our analysis was independent of the substantive positions in the energy debate and supported or opposed neither "side." To say otherwise is to obscure the deeper criticisms we have made.

The IIASA study was a large-scale research program involving more than 140 scientists and many millions of dollars. Our detailed analysis of the work has revealed serious flaws and inconsistencies that not only bring the conclusions of the study into question, but also are difficult to reconcile with the widely published accounts of the work. As for the project director's statement that our analysis reflects a misunderstanding of the distinction between "craft" (systems analysis) and "science," a major part of our analysis was actually devoted to this distinction and to the confusions created in this regard by the study's own inconsistent self representation.

Overall, our findings bear indirectly on the substance of the energy issue; but they point directly to the inadequate processes of peer review and quality control in the field of policy analysis modeling, which appears to want the authority of science without being subject to its disciplines. These are problems that go beyond specific energy arguments or specific institutions. It is surely to IIASA's credit that our critical analysis was able to be performed there, we hope to the advancement of policy analysis and policy-making.

A concise summary of our more detailed papers in *Policy Sciences* (*1*) appeared in *Nature* (*2*).

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1. B. Keepin, *Policy Sciences* **17**, 199 (1984); B. Wynne, *ibid.*, p. 277.
2. B. Keepin and B. Wynne, *Nature (London)* **312**, 691 (1984).

Development and the Market Process

Gerard Piel, in his editorial "Let them eat cake" (26 Oct., p. 393), criticizes the argument by U.S. representatives at the second United Nations conference on population in August in Mexico City that "intervention by the state must not be allowed to inhibit the response of sufficiently motivated entrepreneurs" to help solve the economic and population problems of developing countries. He says

the market process cannot do the job required and argues for U.S. action to aid developing countries by pouring money and technical assistance into their state-dominated systems.

It is surprising to hear this tired old prescription raised again. Competition among companies, sometimes bitter and cutthroat, and competition from foreign companies such as in Japan and Taiwan, has resulted in a standard of living in America that is the envy of the world. Contrary to Piel's examples, the market process is alive and vigorous in the United States and in large parts of the industrialized world.

Piel's prescription has been tried in parts of Africa, notably Tanzania, which has received huge amounts of money and technical aid for the last 20 years. However, the country is littered with abandoned projects set up by do-good bureaucrats in far-away places like London, Stockholm, and Washington. The country is poorer now than when the British left! In contrast to Tanzania, we see countries like Singapore, Taiwan, Korea, and Japan using the market process to make impressive strides toward an industralized economy.

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Piel's preference for subsidized industrialism as a purveyor of economic well-being on a global scale is as much ideology as is the Reagan Administration's faith in supply side theory. Industrialism as a mode of adaptation is dependent on limited and nonrenewable resources that are further subject to political variables over which no people dependent on such industrial ecosystems have control. The very process of subsidization implies that industrial modes can be imposed regardless of the natural conditions and cultural environments. Such systems function only as long as the implanted institutions can feed on the subsidy and its residuals. In the United States, the federally subsidized railroads served the national interest for barely more than a century and are now becoming specialized haulers for an ever fewer number of industries. Paul Hawken has argued that the United States is actually undergoing contraction of its own industrialized economy (*1*). Like the colonies we exploited in the past, our resources are now subsidizing industrialization elsewhere. We export timber instead of lumber, hay instead of dairy products, copper ore instead of wire, wheat instead of bakery goods—jobs instead of what jobs produce.

It is not by accident that the only successful non-Western industrial system came into being in Japan through a blending of indigenous social and economic structures with the freedom to choose compatible technologies from already established industrial systems rather than through subsidization. In the United States and Britain, centralization and bureaucratization have led to inefficiencies that are partly responsible for industrial decline, and there is reason to believe that Japan eventually will have to face these same problems (*2*). Development is an internal process and not a condition that anyone can bestow on a people.

Piel's faith in the efficacy of industrialism to alleviate hunger merely perpetuates Marie Antoinette's view of the poor: the industrial formula for development will bring them cake, so little attempt is made to help them attain the kinds of self-reliance that will provide bread.

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1. P. Hawken, *The Next Economy* (Holt, Rinehart, and Winston, New York, 1983), chapters 1 and 4.
2. M. Harris, *America Now: The Anthropology of a Changing Culture* (Simon and Schuster, New York, 1983), pp. 24–25.

Inexplicably, Piel presents as accepted fact that adequate theories and bodies of knowledge exist which (i) allow us to truly understand the economic development of Western civilization and the industrial revolution; (ii) meaningfully predict birth, death, and population growth rates for at least 100 years into the future and the ultimate size of world population; (iii) establish an absolute scale of physical well-being, including an optimum value that is to be popularized; (iv) demonstrate that the planned establishment of an industrial infrastructure in a society is superior to the market process in achieving economic development; and (v) show that the policy shift announced by the United States in August at Mexico City is harmful.

Piel points to instances of government involvement in various areas in the United States as support for his reasoning. But one can easily draw opposite conclusions from exactly the same examples: the highway system might well offer better service at lower cost if it were completely private; our railroads were built by private enterprise, ruined by government interference, and had to be effectively nationalized to keep them running; the costs of our water distribution systems have been far higher than necessary as a result of pork barrel politics and other inefficiencies related to their being "sanctioned government enterprises"; our smokestack industries have been severely damaged by government policies encouraging inefficient operation (intervention in labor disputes, for example); and our aircraft and electronics industries would survive with even more vigor if their nonmilitary government customers were made private and taxes were lowered commensurately. In fact, one can argue that our society's successes and strengths result from its free market orientation, and its failures and weaknesses from an unfortunate movement toward central control of its economy. As a corollary, aid policies encouraging individual industriousness will be more beneficial than those based on more government planning.

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The pathways to industrialization taken by Japan, Taiwan, and Korea sustain two sides of my thesis. One must ignore the present as well as the recent past to see those remarkable developments as the outcome of the free play of market forces: Japan, a feudal and now strongly dirigiste industrial economy; Taiwan and Korea under dictatorships that mock the adjective in "free world"; and postwar economic development in all three economies brought to ignition by the massive subsidy of U.S. economic and military aid. As for Singapore, it flourishes as an entrepôt and cheap labor market for multinational corporations that is ratcheting its way under strong Japanese-style central planning and control up the ladder of value added by manufacture.

All four cases of accelerated industrialization go to sustain the third side of my thesis: with the popularization of material well-being all four populations have advanced through the demographic transition to near zero-growth with low death rates and low birth rates.

Competition and the diffusion of economic initiative have, of course, played their part in the success of these economies. That lesson appears not to have been lost on China. If the lesson has been lost on the ideologues of the U.S.S.R., our idealogues should take note of the Andrei Sakharov thesis that the social orders of the two superpowers are entrained in convergent evolution.

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