

energy sources in the importing countries. "Squeezing" by one country (too high a price) or by another (too low) results in what systems analysts call "suboptimization."

Chapter 9, "The Only Feasible Solution," is another optimization example. Industrial development in South Asia must keep pace with agricultural development in order that still-necessary food imports can be paid for with manufactured exports.

And Chapter 10 is a warning about the deadly grapefruit: a lump of plutonium that size is sufficient to poison the world, and we should work accordingly toward a reliance on solar, not fission, energy. That's hard to fault, though it does seem to me the authors have slighted nuclear fusion: for that we have a fuel source that will last ten billion years, and the by-product is helium. Solar energy has the enormous appeal of ubiquity—no power company can monopolize it—but fusion energy will outlast it by six billion years. For those obsessed with the long run, that might be important.

Chapter 11 is the Epilogue, and here the authors make their last plea for a systems view—one whole world of people, vegetation, animal life, and the physical environment—and for cooperation, not conflict. So be it.

Early in their book, the authors speak of one gap between man and nature and another between the developed North of the world and the underdeveloped South. The first gap is no sooner described than it is subsequently ignored. I find that tolerable, if not preferable, since I think that gap is largely mythical anyhow. Most of *Mankind at the Turning Point* is concerned with narrowing the second gap, the development gap. I find this not only tolerable but hugely appealing, as it keeps the problems of human dignity and the human condition squarely before us.

Mihajlo Mesarovic and Eduard Pestel have used the computer as a tool, not a toy. They have given us a thoughtful book, a contemporary analytical methodology, a renewed challenge, and answers that we know intuitively to be sound.

Systems Analysis in Public Policy: A Critique by Ida R. Hoos

(University of California Press; 259 pp.; \$10.00)

John R. Cunningham

The growing dominance of the Office of Management and Budget (OMB) in shaping federal policy is one of recent history's more remarkable and least understood developments. The old Bureau of the Budget was transmogrified by President Johnson, with increased power, additional staff, and an altered mandate. The Nixon Administration used it both as a boot camp for bureaucratic gauleiters, who were then assigned to oversee other agencies in the bureaucracy, and as a major control mechanism for blunting Congressional intent and departmental influence on federal policy. There is no indication that the present Administration intends to alter the direction of these developments. Although there is increased media comment regarding the growth of Presidential power, it is worthwhile to examine one of the institutional mechanisms that has been spawned by, and in turn accelerates, this executive imperialism.

The name change from Bureau of the Budget to Office of Management and Budget, although little remarked at the time, seems to have signaled a significant shift in attitudes and marked the ascendancy of a new managerial and technocratic style among those who determine policy. The budget is no longer conceived simply as an adjunct to policy decisions. The budgetary process, in the new mode, is seen as an instrument for managing programs. It thereby becomes a powerful means for establishing policy without the necessity of going through traditional political channels. The effectiveness of this process is evident in the impoundment procedure developed to frustrate Congressional will and in the subtle and more insidious influence that OMB has in scuttling or redirecting established programs within departments. A further step is taken

when the task of reducing duplication in government surveys, for instance, is seen as authority to question the content of social science research. This recently occurred in a social psychology project funded by HEW but stalled by OMB queries about the purpose of certain questions on an interview form.

OMB's appearance at the apex of the federal decision-making pyramid has coincided with the widespread adoption in academic, foundation, and corporate circles of an array of analytic techniques broadly referred to as systems research. (The terms "systems approach," "systems analysis," "systems engineering," and "systems research" must be considered synonymous in discussions of this sort, since they are used interchangeably and with abandon by adherents.) In government this set of techniques is usually found under the rubric "Program, Planning, and Budgeting Systems" (PPBS). "Management by Objectives" is another manifestation of this general movement.

The new dominance of "systems analysis" in viewing society's problems seems to have provided both a theoretical base and academic sanctification for the emergence of the OMB and for the widespread acceptance of its style and method throughout the federal bureaucracy and beyond. This is not to say that a direct causal relationship exists, but rather that the relationship, though noncausal, is significant of what C.J. Jung used to call "synchronistic." In questioning the validity of systems analysis I do not mean to depreciate the need for concentrated and systematic thought concerning the problems facing the society nor to disparage the effort to develop rational procedures for conducting the public business. Nor do I wish to suggest a lackadaisical approach to

public planning, cost allocation, and decision-making; nor a diminution of cost-consciousness in government expenditures. As Gandhi observed, "without properly kept accounts, it is impossible to maintain Truth in its pristine purity." (These obeisances to the obvious ought not to be necessary, but an identity between "systems analysis" and systematic analysis or rational procedures has grown up in some quarters. The confusion arises because the systems people tend to arrogate the standards of rationality unto themselves.)

The irony that a style and a reorganization inspired and initiated by the Democrats under LBJ are used to dismantle his Great Society only highlights the effective "bipartisan" gloss and seemingly nonpolitical nature of the systems technique. Much of the enthusiasm for the adoption of these methods has been fueled by the false belief that they were overwhelmingly successful in the Department of Defense and in the space effort. Spawned from military operations research, sophisticated and blended with advancing computer technologies in the war-oriented research at the RAND Corporation, systems analysis techniques were grafted onto all aspects of the federal government by a Presidential Executive Order in 1966. This fiat specified that all agencies should follow the lead of the Pentagon in the implementation of "program, planning, and budgeting systems." PPBS had been developed while McNamara's major fiscal officer, Charles Hitch, was RAND's chief economist in the 1950's. (Mr. Hitch is currently president of the University of California.)

These methods, as is now painfully obvious, did not increase efficiency nor hold down costs at the Pentagon. They were an abysmal failure on their own proving ground, yet were foisted on the rest of society with little opposition. If the well-known litany of cost overruns in military procurement isn't evidence enough, one need only point to the multibillion dollar overruns on the interstate highway system, the \$916 million overrun for the Apollo moon-landing modules, or any number of other programs, which the General

Accounting Office last year cited as totaling \$81.2 billion in current cost estimates against \$43.4 billion original estimates—a \$37.8 billion in extra costs of programs using PPBS budgetary wizardry. These figures, one might add, are pre-1974 double-digit inflation numbers and cannot be discounted on that basis. The added irony of charging Roy Ash with bringing economy and efficiency to federal programs as director of OMB, after his reign at Litton during that corporation's unconscionable milking of the Pentagon, underscores the falseness of the bipartisan pose, the arrogance and the blindness of systems analysis as a methodology.

The complex of personal attitudes shared by government executives and their academic cohorts during the initial developments was examined by David Halberstam in his *The Best and the Brightest*. The chapter on McNamara especially illuminates the characteristic worldview of the administrator, sophisticated and decent in his private life, who ably perceives plans, programs, facts and calculations, but never sees people, wars, wounds, and bleeding. The notion of the "kill-ratio" probably epitomizes as well as anything can this mania for quantification and the reduction of human life and community into the manageable and logical components of the atomistic systems model.

Unfortunately, even among those who realize the horror and bankruptcy of the doctrines and attitudes that brought us the Indochina war and other disasters there is insufficient appreciation of the continued currency and remarkable expansion of the ideas, assumptions, and techniques undergirding that operation. An attempt must be made to understand the structural weaknesses and the proclivities of the methods of analysis rather than seeing only individual instances as unique or as aberrations. Operations research in mufti has become systems analysis in tweeds.

Ida R. Hoos has written a tremendously useful essay, which looks at the present state of systems research in its civilian guise. Especially when viewed in conjunction with the Ellsberg revelations, the Proxmire findings on overruns, and the Watergate trials, this

critique provides a searching view of the sources and probable causes for the wholesale misdirection, mismanagement, failure, and corruption in so many government efforts (beyond the simple cause of human venality, as in the Agnew case). While examining in detail many of the major experiences with systems management in public enterprises, Hoos offers abundant evidence of the alarming prevalence of these notions still, at all levels of government, despite their manifest failures.

A research sociologist at the Space Science Laboratory of the University of California at Berkeley, Hoos scrutinizes the many claims of systems analysis and finds them misleading at the least, if not purposefully deceptive. She shows that the systems approach is destructive of the goals of comprehensive understanding of social problems, of sound management of ameliorative programs, and of adequate control and review of expended resources—the very ends for which its proponents claim systems analysis provides the most rational and innovative procedures. The high costs and failures of the systems approach are demonstrated in the fields of education, health care, waste management, supersonic transport, and information management, in addition to the already known Pentagon procurement fiascoes.

An information system that Lockheed developed for Medi-Cal illuminates, for Hoos, a "technical approach that confuses the management of an enterprise with the management of its record-keeping." The Aerojet General report on solid waste management for the City of Fresno reveals, "...the simplistic solutions they were inviting" by using a "methodologically nonsensical approach...in which benefits were conceived [and] concretized in quantitative terms." A water resource allocation study by RAND demonstrates how "discriminatory value judgments prevail throughout systems analytic procedures." Dr. Hoos adds: "Who is the Paul being paid and the Peter being robbed, whose benefits become whose costs, is not a question of indisputable accounting but rather a highly subjective interpretation." A whole series of

vapid findings, simplistic, arbitrary assumptions, and pernicious effects are available in the public domain, but they are buried in reports few bother to read. It seems that promises contained in the bids and proposals are so ringing that they serve not only to sell the method, but to short-circuit real critical evaluation as well. Hoos has provided a long overdue evaluation of these promises. And while doing so she also provides a look at the fundamentally pathogenic predisposition of this approach to social problem-solving.

Some of her theoretical objections to systems management are similar to the ones advanced specifically against urban system planning by Richard Sennett in his *The Uses of Disorder*, and by Lewis Mumford more generally in his *The Myth of the Machine*. These criticisms concern the misrendering of reality by the use of vague and misrepresentative analogies, and the distortions caused by mathematical modeling. These weaknesses are beginning, in fact, to be acknowledged by some of the proponents of the systems approach. Von Bertalanffy cautioned early against the misuse of his general systems theory, and Russell Ackoff has recently advanced a revisionist view. Part of the problem appears to be the misleading connotation, whether by accident or design, of the systems appellation itself. The systems approach, in spite of the seeming inclusiveness of the nation, proceeds in a mode of fractionation rather than comprehensiveness. The procedure is to isolate the process or institution to be "system-analyzed" from its milieu and then break it up into its constituent elements or "subsystems," following basically an atomic analogy. To appropriate the term "systems" to describe such a procedure is highly misleading.

The *raison d'être* of systems analysis as a methodology, it seems, is to infuse a dynamism into the traditional, static model of the machine; to provide life and movement—usually by way of feedback—to the hoary old notion of clockwork. Regardless of how elaborate its linear programming, computer algorithms, or simulation games, it remains what Jung in another

context characterized a "cheerless machine fantasy" stamped with the "dreariness of calculated processes" simply inappropriate to a community of human beings.

In response to the hubris of the systems engineer, who claims universal applicability for his methodology based on the interchangeability of "systems," Hoos shows how a disdain for the wayward and sporadic and a lack of regard for uniqueness and individuality breed inevitable failure. It is the latest wrinkle in the old "ends/means" controversy. The method becomes the end in this case, and like the uroboric tail-eating serpent finds its justification in a tautology of maniacal proportions.

The basic notion of the systems approach, despite its sometimes arcane and confused terminology, remains a simple variant of the problem of the parts and the whole. The assumption is that the whole, the "system," is greater than its parts, even though the parts combine in the model by simple arithmetic accretion. In communities of human beings, however, which after all is what schools, libraries, hospitals, and bureaus are, the whole should exist only so far as it contributes to the health and happiness of the parts. When the whole takes precedence in a democratic society, the condition is pathogenic. Whether called a system, the goal, or the five-year plan, attention and concern is directed toward control and prediction. No room can be left for the random or unpredictable; excluded are those features of life that make it worth living. The technique, then, despite its claims of neutrality and objectivity, in its inception, its processes, and its purpose, is fundamentally autocratic and, derivatively, totalitarian.

A major unappreciated weakness of the approach lies in its need for explicitness regarding all aspects of the system to be studied. Usually conceived as one of the more attractive features of the methodology, this need for precision and the aversion to ambiguity leaves no room for what Polanyi has called "tacit knowledge." This is the simple and obvious phenomenon that, in his words, "we can know more than we can tell."

When the systems man proceeds to make judgments (which, after all, is the basic purpose of the technique) on the basis of totally explicit alternatives, regardless of how many options or courses of action are generated in the analysis, he vitiates the very basis for choice in the human arena. The determination of public policy is precisely the process of choosing among competing alternatives in the tacit dimension. The practical result of the systems approach in the affairs of men is to shore up the status quo. The insistence on explicitness camouflages value judgments inherent in the methodology and, one must presume, shared by its proponents. The apparent scientific objectivism isolates the "is" from the "ought" and considers only the former. This serves to crystallize the existing order into the ideal order and to insure the psychic subsidy of things as they are.

The embrace of the "systems approach" by the administrative and planning sectors in the sixties is a social and political phenomenon that has not yet been explained. A look at the causes, which must surely be closely entwined with the development of high-speed electronic data processing and might include the macho attitudes bred in a generation by World War II and the cold war, could explain much of the current malaise in government, business, and education. A full exploration of this issue is not within the bounds or intent of Dr. Hoos's very fine book, although her critique provides abundant insight and much evidence for some preliminary hypotheses.

Many have discussed the theoretical weaknesses of the analytic, reductionist approach to human problems. One thinks of Keynes's original criticism of Tinbergen's econometrics, Ellul's expository of "la technique," Floyd Matson's description of the "broken image" of the behavioral sciences, Roszak's "myth of objective consciousness," or even Thomas Merton's demonstration of the malign effect on sixteenth-century monastic life of that period's overemphasis on simple rationalism, as well as Mumford and Sennet mentioned above. But systems analysis has been the

bailiwick of practical men, who will have no truck with metaphysics, hard-headed realists who can "think about the unthinkable" in Herman Kahn's tendentious phrase. Is it really too much to ask, as Hoos does in her book, that they ponder for a moment the thinkable, the tangible, effects of their arrogant myopia? And for the rest of us with public and intellectual responsibilities, isn't it time we called a halt to the incursion into every aspect of our public institutions of this malignant cancer? Its only contributions to the commonweal appear to be employment for industrial engineers and economists in areas for which they have little competence and a theoretical gloss for mean-spirited and reactionary decrees from a discredited administration.

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Briefly Noted

Ecology and Human Need by Thomas Sieger Derr

(Westminster; 174 pp.; \$3.45 [paper])

If you teach anything related to environmental studies, or even just social ethics in general, make this book assigned reading. Give it to eco-conscious friends on birthdays or on the next Earth Day. Hawk it on street corners. Thomas Derr has written a much needed, well-informed, straightforward, and altogether admirable tract on the connection between environmental concerns and social justice, both global and domestic. One small part, on the religious roots of the environmental crisis, appeared as the cover article in January's *Worldview*. That quality of insight and liveliness is sustained throughout. In short, *Ecology and Human Need* is warmly recommended.

The Legacy of Reinhold Niebuhr edited by Nathan A. Scott

(University of Chicago; 124 pp.; \$6.95)

A special issue of the University of Chicago's *Journal of Religion* now put between hardcovers. Those who do not subscribe to the *Journal* will want to look especially at the essays by Martin Marty ("Public Theology and the American Experience") and Langdon Gilkey ("Reinhold Niebuhr's Theology of History"). Other contributors are Robert McAfee Brown, Franklin Gamwell, Roger Shinn, Kenneth Thompson, and the book's editor, Nathan Scott. Altogether a sober and yet provocative assessment, with some revisionist angles, notably in the two essays singled out above.

Correspondence

[from p. 4]

borders, and so he hoped to divert their forces. By late 1974 it appeared the Kurdish Nationalists were going to be successful in their fight to exist as a nation.

On March 6, 1975, however, the Shah sold out the Kurds in the Pact of Algiers. Iraq conceded a considerable amount of territory to Iran, and the Shah in return withdrew all aid from the Kurds to halt the Kurdish resistance to Iraqi rule. Those Kurds who made it across Iran's borders before they were closed recently are now treated more like prisoners of war than refugees by their former trusted ally. Some 200,000 refugees have fled to the Turkish border, which has been closed not only to them but to the Red Cross in its attempt to administer humanitarian aid. The long trek through Iraq's winter mountains has taken its toll, and an estimated two thousand have just died of starvation at this border.

Considering Iraq's recent history of broken promises, brutality, and torture of the Kurds, and its present refusal to accept aid for their Kurdish refugees, what will happen to these people? In order to make the Pact of Algiers work, the Iraqis must eliminate their Kurdish problem. But what of the Kurdish people? It takes one back to the plight of other peoples, including the Jews in Germany, and to the fear that once again we may witness what may be more than full consciousness can bear. The fate of the Kurds now seems to be out of their hands, and as they watch their people dying in such large numbers, their only hope seems to be that the world will care. Why are we so silent?

I am a native American, formerly in foreign service, and along with others I have had the personal good fortune of experiencing the outstanding generosity and unique charm of these gentle people. I feel great anxiety at the loss that threatens this portion of our humanity; and us. Can we tolerate such sacrifice to the power struggle?

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