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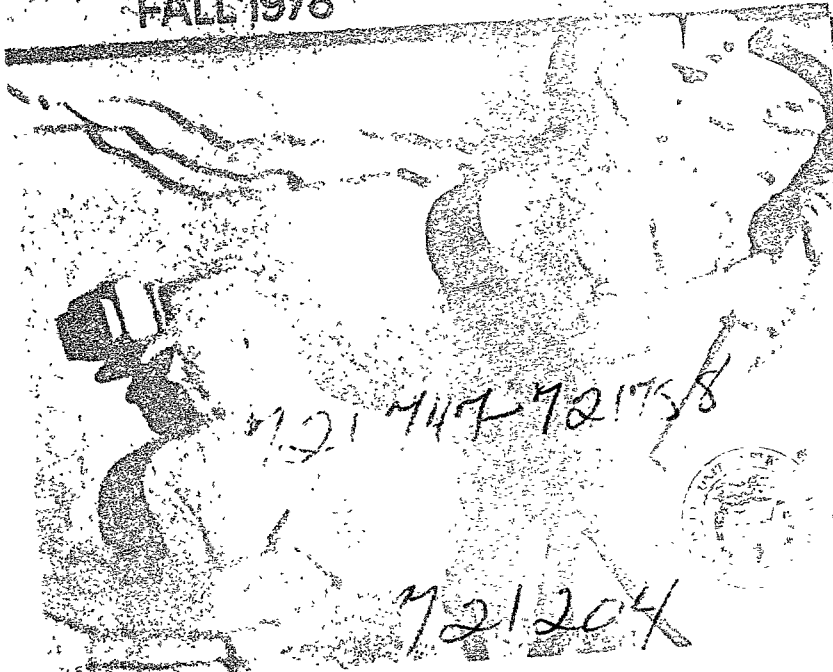
THE GAO REVIEW



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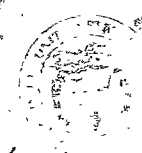


FALL 1978



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SCULPTURES AT THE "G" STREET ENTRANCE



(Compressed view)

American laborers and professional workers are depicted in the bas-relief sculptures that decorate the red granite portals of the recessed entrance of the buff limestone GAO Building on "G" Street. The sculptures were designed in 1951 by Joseph Kiselewski, noted U.S. sculptor, of New York.

Nine feet high and 15 feet long, the two panels curve around both sides of the entrance. They contain about 30 figures representing Americans most affected by Government programs.

On the front and back covers of *THE GAO REVIEW* is a partial section of the two tiers that divide each panel. The panel on the right side of the entrance depicts agriculture in the top tier and mining in the bottom one. Among other themes included in this panel are fishing, warehousing, and transportation.

The panel on the left side of the entrance shows the professional worker and the occupations that concerned the economy in the 1950s. These included the themes of engineering, science, education, and art.

Themes such as the military were left out at the time, 5 years after World War II, and themes such as space, welfare, crime, and atomic energy had not yet become areas of major national concern.

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721748

GAO Helps Improve State Department Services to U.S. Travelers Detained Abroad

GAO recommendations should result in better consular services for American travelers arrested in foreign countries. The efficiency and effectiveness of the State Department's posts abroad are being improved with better training and management of consular personnel.

Consular services of the Department of State have always been important in its activities at U.S. posts abroad. These services primarily justify the presence of many U.S. consulates general, consulates, and consular agencies.

Over the past several years, the public, the media, and the Congress have been increasingly attentive to consular services primarily due to the rising demand for such services as the number of U.S. citizens living and traveling abroad increases.

GAO examined the effectiveness and efficiency of consular services to Americans arrested or detained abroad, found that the services, quality, and level can and should be improved, and identified ways to do so.

Problems indicated the need for greater State Department emphasis on this service, more timely notification of arrests by the host country, and better training for consular personnel.

The number of U.S. citizens jailed abroad has risen from an

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estimated 1,000 persons in the early 1970s to about 2,200 in 1977, most of whom were arrested on drug-related offenses. It is estimated that over 2,000 U.S. citizens will be jailed abroad during 1978.

Prompt and effective consular assistance to U.S. citizens arrested abroad is important to assure that they are treated fairly and justly and that their human rights are protected.

GAO found that the level and quality of consular assistance to these persons could be improved. In some countries, problems arose because consular officers were not promptly notified of arrests. In other instances, consular assistance was inadequate because consular personnel (1) gave low priority to these services, (2) did not follow established State Department procedures, and (3) lacked sufficient training. Circumstances over which officers had little or no control, such as the integrity of local attorneys, also affected assistance.

The assistance provided and problems experienced varied in the countries we visited, but the most significant problems noted were in Mexico. Of 44 American prisoners we interviewed there, 35 said they had requested Mexican officials to notify American consular officials of their arrest; only two said the consulate was promptly notified. Case files reviewed in Mexico City showed that consular officials most frequently learned of arrests through local newspapers—even though a consular treaty between Mexico and the United States provides that such notification be made if the arrestee requests it.

Early notification and prompt presence of a consular official were particularly important in Mexico because many Americans alleged that they were beaten or otherwise abused when arrested. Although notifications of arrests were delayed similarly in Germany and India, mistreatment or abuse was not alleged.

Even when notified of an arrest, consular personnel did not always promptly nor frequently visit the arrestee, investigate alleged abuse, or maintain pertinent case records.

Other problems affecting the quality of consular assistance were that consular officers often were not familiar with the country's legal system and did not always provide prisoners with legal information packages. Consular officers had difficulty in preparing lists of reputable attorneys, were assigned to arrest and detention work for relatively short periods of time, and found it time consuming to visit some countries' widely dispersed prisons.

U.S. prisoners frequently complained about their inadequate diet and medical care. In these situations, consular personnel could do little but assure Americans that treatment was similar to other prisoners' or seek donations to supplement prison food or medical care.

However, Public Law 95-45, passed June 15, 1977, established a program to provide emergency food and medical care to U.S. citizens incarcerated abroad. GAO believes this program, although difficult to administer, should alleviate pris-

oner concerns about diet and medical care.

To improve the quality of consular services, GAO recommended that the State Department (1) train consular personnel in host country legal systems, (2) provide arrestees information on their legal and judicial rights, (3) assign arrest and detention officers on a relatively long-term basis, and (4) assure adequate staffing of consular posts.

In commenting on GAO's report, the Department said it was developing a major program to overcome the problems noted in this area and specified plans to implement GAO's recommendations, such as developing a consular personnel training program on comparative criminal law and on preparing information packages for arrestees.

The Department, however, disagreed with the need for longer term assignments for consular officers in the arrest and detention area. We believe the Department should reassess its position, especially in countries having special problems.

The situation of American prisoners in one of these countries, Mexico, has been altered by a 1977 treaty between the United States

and Mexico. Under this treaty, which provides for prisoner exchange between the two countries, approximately 235 Americans and 38 Mexicans were transferred in December 1977. The State Department has estimated that from 50 to 100 Americans will be transferred in 1978, leaving about 250 to 300 Americans in Mexican jails. The State Department believes that the American prisoner population will remain within that range in the coming years.

Another development in the American prisoner situation in Mexico was the decision by the Attorney General of Mexico to not press charges against persons found to have "small" amounts of drugs for personal use.

These developments should reduce the number of U.S. citizens in Mexican jails, and thereby reduce the consular workload. Resultantly, Americans remaining in Mexican jails should receive better consular services.

GAO believes that when its recommendations to the State Department are implemented, consular services to all U.S. citizens detained abroad will improve.

All We Want Is a Room with an Ocean View

Sighing nervously, we squirmed in our seats and rechecked our watches wondering when this adventure would reach its welcome conclusion. In those long moments before touchdown, a once-in-a-lifetime opportunity was taking on a new, discomfoting connotation. After all, landing an airplane atop a rocking, rolling, slippery, floating airfield is no small feat. The pre-flight briefing was not totally reassuring since we learned the arrested landing on the aircraft carrier would be no worse than a "sudden stop." The copilot looked young enough to be anticipating his high school prom—we were both praying he would make it.

Only a few weeks earlier we had volunteered to audit the supply system of the U.S.S. Midway, an aircraft carrier homeported in Yokosuka, Japan. That in itself was not startling since Navy supply

jobs are common in the Far East branch. However, when we learned we could expect to earn our sea legs during some part of the job, visions of seasickness pills and Navy coffee quickly filled our minds. After our initial shock and apprehension, we began to recognize the benefits. How many GAO auditors have even been on an aircraft carrier, much less ride one at sea? Although we could not admit it, the glamour and allure of the open seas were taking their toll on us. This was destined to be a memorable supply job.

After word surfaced in the office that we had been selected—make that volunteered—for the sea cruise, we soon learned the amazing variety of ways to prevent seasickness. Advice included eating crackers or bananas, keeping our stomachs full, keeping them empty, watching the horizon, and staying home.

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Mr. Sykora joined the Far East branch in 1976 after spending 4 years in the Kansas City regional office. A graduate of Oklahoma State University, Mr. Sykora is a CPA and a member of the Oklahoma Society of CPAs, AICPA, and AGA.

We were a little concerned about our accommodations. Being civilians probably wouldn't help our chances for a good room—especially one with an ocean view porthole. But, being civilian auditors could really qualify us for the worst. We'd have to wait and see.

Several days before departure, our Navy liaison said we would meet the Midway in the Yellow Sea near Korea. That meant we would land on the flight deck rather than walk aboard as we had hoped. But then we decided that was best—do it the hard way!

The Departure

We left Honolulu on Sunday, April 3, for the 7-hour flight which, due to crossing the international date line, arrived in Tokyo Monday afternoon. We checked into a hotel and, thanks to the 5-hour time change, were asleep before 8 o'clock and up again by 3:30 a.m. We left the hotel at 6:00 a.m. to allow enough time to find Atsugi Naval Air Station for our scheduled 9 a.m. flight to the Midway. In less than a half day we traveled by train from the hotel, bus to the base, automobile to the airfield, airplane to the Midway, and finally, by Navy ship.

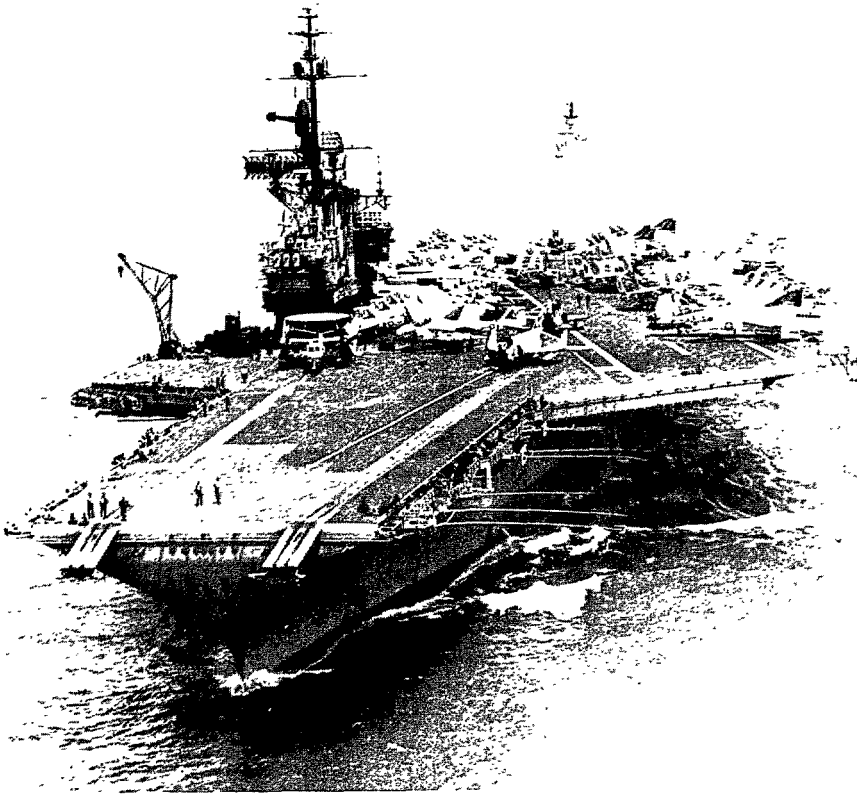
The flight from Atsugi was delayed for 2 hours because the Midway was conducting flight operations and our plane would be in the way. Just what we needed—more time to think about the flight, or more precisely, about the landing. At last it was time to board the plane for the most memorable part

of the trip. Our mode of transportation was a "COD,"—carrier on-board delivery, a small propeller supply plane which delivers mail and newspapers, priceless commodities to sailors at sea.

We climbed the tail loading ramp and moved to the front of the passenger area. Since the seats face the rear of the plane, we found ourselves in the last row. The flight crew demonstrated how to don our life vests, complete with a saltwater-activated flashlight and shark repellent (now they had our complete attention); shoulder/lap harnesses; and helmets. Then we were off. The interior was quite a disappointment after our frequent trips on wide-body aircraft. The only windows were 6 inch portholes, six rows away, the baggage was stowed behind us, and the noise level was too high to carry on a conversation. So, we waited and thought: "I can handle a sudden stop. . . ."

After 2¼ hours the flight attendant checked everyone's safety harnesses for the landing. He really didn't need to check ours—we made sure the belts were tight. A few more minutes and we'd be on the Midway. We knew the pilot was circling because the sun frequently passed the windows. The minutes dragged by—10, 20, 30, 35—until 40 minutes after we were mentally prepared for the landing, the flight attendants began waving their arms. We knew this was it.

Suddenly we felt the engines roar to full power as the plane's hook grabbed the cable on the Midway's flight deck. The next sensations we felt were like those of



U.S.S. Midway

traveling blindfolded in a car at high speed when the wheels suddenly lock. But the crash you are expecting never occurs. Shortly we rejoined our stomachs and shook hands to congratulate each other. We had survived an arrested landing and were overcome with confidence, relief, and pride.

The Midway

Our home and office for the next 6 weeks was a conventional-pow-

ered, medium-sized aircraft carrier originally commissioned in the mid-1940s. She is longer than three football fields, displaces some 65,000 tons, has a top speed of 30 knots, and gets about 16 feet per gallon of fuel. In addition to flying and servicing about 80 jet aircraft, each day her crew prepares and consumes 13,000 meals, distills 280,000 gallons of fresh water, and performs all the basic administrative and support functions required at any stationary military establishment.

The supply officer greeted us on the flight deck and escorted us to the officers' mess for lunch. Our meal was soon disrupted when the ship sounded general quarters for a drill. During general quarters all hands must report to assigned duty stations and close all water-tight hatches within 5 minutes. We quickly moved to the supply department office where we were confined until the drill ended. That short trip quickly acquainted us with the nemeses that would confront us throughout our stay: low overheads, ladders, and kneeknockers.

Since we are both over 6 feet tall, we occasionally misjudged the overhead clearance. BUMP! On the other hand, being extremely attentive to overhead problems could result in stubbed toes as you trip over a kneeknocker—a hatch (door) which stops about 15 inches off the deck (floor). Regular hatches have a low ledge which require a slight foot lift to clear—just high enough to become a nuisance. The ladders (stairs) are steep and have very narrow steps. Climbing the ladders was easy. The descent was another story, particularly when carrying something large such as a briefcase.

We were assigned state rooms in the bow of the ship—and far from an outside wall: no ocean view. Unfortunately, we both were the second occupants in the rooms and therefore relegated to the top bunks. It is difficult to describe how small a room can be. Bunk beds lined one wall, dressers attached to the opposite wall with 3 feet of space in between. The door

opened to within a foot of the bunks, so moving around required cooperation when both occupants were in the room.

Adjusting to the strange noises and unfamiliar surroundings posed a challenge—particularly our first night on board. The Midway had experienced some problems with the catapult, which launches the airplanes. So, from 2:30 to 5:30 in the morning they ran “no loads”—firing the catapult without launching a plane—before starting flight operations for the day. First there is a rushing noise, then a crash, followed by a chain slowly dragging back into place. There seemed to be no pattern to the interval between the “no loads,” so sleep was out of the question. It was like waiting for the second shoe to drop to the floor.

Telephones ringing during the night gave each of us headaches, not from the ringing but because we both sat up on our bunks and banged our heads. The ship was ingeniously designed with a beam directly over the top of both bunks.

Our first full work day introduced us to rough weather and the flying squad. As our chairs rolled slowly to and from the desk, we innocently asked whether the ship ever rocked more than we were then experiencing, since we were surprised that a 65,000-ton ship could be so affected by the ocean. The responses were usually “what rocking?” We learned only novices ever acknowledged that they noticed the wave action on the ship.

The flying squad is a group of personnel assigned to act as troubleshooters for emergency situ-

ations such as fires, flooding, and steam or fuel leaks. That first day the ship's intercom directed the flying squad to investigate smoke in the compartment directly below where we were working. After checking our office and several others adjoining us, they found that the ventilation fan which served our work area had burned out. As soon as they disconnected the fan, the temperature began to rise in the office and the air became charged with cigarette smoke—not exactly ideal work conditions. We quickly decided to move to the officers' lounge where we had plenty of room and cool air. That became our new office for the remainder of the assignment.

During the next few days we worked flexible hours so we could watch aircraft launches and recoveries. Nighttime aircraft landings are fascinating yet frightening, even to observers. One pilot told us that they experience more stress during night landings than during actual combat conditions. After all, an aircraft carrier is an awfully small spot in a dark ocean.

As we watched some night landings from primary flight control, the equivalent of an airport control tower, one pilot was waved off as he approached because the deck was not clear. He "bolted" on the second pass (missed the cable with his arresting gear hook) and had to swing around for a third attempt which put him in a critical fuel situation. If he missed again, the Midway would launch a tanker airplane to give him more fuel. The tension mounted as he made his third pass. Fortunately, he made a

successful landing which concluded flight operations for the night.

It is rumored that Navy fighter pilots are among the cockiest in the military. After watching nighttime flight operations, we agreed that virtually any degree of cockiness would be justifiable.

After 5 days at sea we pulled into Yokosuka, Japan, for a welcome 10-day stay. The weather, however, was horrible—cold, windy, and rainy. We gladly checked out of our state rooms and began waiting for a taxi to take us to the hotel. Unfortunately, about 100 other people were also waiting for taxis, so our first minutes on land were rather wet.

Being on land caused a problem we had not anticipated. We both experienced a slow rocking sensation as if we were at sea. What at first had been a humorous situation turned into an annoyance. We were on land, but our bodies would not believe it. After 3 days we were finally acclimated to land and regained our "land legs."

All too soon our stay in Yokosuka was over and we were on our way to Subic Bay in the Philippines. Once we arrived, we again bolted for a hotel as soon as possible—this time without any annoying rocking sensations. But we did experience a cherished Navy tradition—liberty boats. These water taxis provided our transportation between the Midway and shore. The boats were every bit as crowded as a transit bus but the salt air was far fresher.

The Midway was scheduled for overhaul upon return to Yokosuka, so they offloaded the ammunition

and most of the planes at Subic. The return trip to Yokosuka was uneventful since we were fully accustomed to idiosyncracies of ship-board life.

Before the assignment started we had to safeguard the Midway's itinerary since it is classified as confidential information. However, we found on three separate occasions that the schedule was widely known in the local community. We stopped at the Yokosuka tailor to have a coat repaired. The tailor asked what ship we were on and then said we were leaving in 2 days and wouldn't need the coat in the Philippines, our next stop. The hotel clerk cautioned us to make our return reservations early since the Midway would be returning on May 5. After docking at Subic Bay in the Philippines we walked through Olongapao to reach our hotel. "Welcome Midway" signs greeted us all along the way. The signs had obviously been prepared in advance. So much for security.

Although we had legitimate complaints about noise and cramped working conditions, we found no fault with the food. Breakfast usually included fruit, juice, eggs, bacon, and french toast or pancakes. The lunch choice was between a hot meal or sandwiches and cake or ice cream for dessert. The evening meal offered pork chops, roast beef, chicken, or fish as standard entrees and special meals such as beef wellington, prime rib, or lob-

ster tails for important occasions such as the day before arriving in port.

Entertainment is rather limited but adequate: watching movies in the ward room, complete with freshly made popcorn, or somewhat dated T.V. programs on the closed circuit television system; or photographing sunsets over the ocean. Physical fitness advocates can try jogging on the flight deck, provided the occasional 30 MPH winds are not unacceptable. Naturally, our favorite form of entertainment was watching and photographing aircraft from every conceivable angle and location. Between us we amassed at least 400 slides of A-6s, A-7s, F-4s, and E2Bs being launched, "caught," washed, towed, etc. The big mystery is why our families and friends don't find these 3-hour slide shows as entertaining as we do.

In spite of the knee knockers and shark repellent, no-loads and liberty boats, occasional boredom and cleverly concealed nausea, our 6 weeks afloat provided us an experience which was worth putting up with these inconveniences. What would have otherwise been a somewhat routine supply job became an exciting and entertaining adventure and a source for a still-growing repertoire of sea stories. Nevertheless, we have been careful to conceal our exuberance lest we be called on again to "volunteer" for sea duty.

721748

GAO, Evaluation, and the Legislative Process

This article is the first in a series of articles which discuss current issues and controversies in the field of program evaluation. These articles, cosponsored by the editors of this journal and by the evaluation group of the Program Analysis Division, will appear in The GAO Review throughout the next year. We hope that these articles will attract contributions from evaluation professionals in a variety of occupational situations: legislative, academic, State/local, etc. Many of the articles will be accompanied by commentaries from evaluation professionals in GAO, relating the articles to GAO's own unique responsibilities in the area of program evaluation. This article is based upon a speech delivered by the Comptroller General earlier this year in Lincoln, Nebraska.

The objective of GAO audits (and evaluations) is stated in the Budget and Accounting Act of 1921. The Comptroller General is directed to make recommendations to the President and the Congress for greater economy and efficiency in Government expenditures.

Although Title VII of the Budget Act of 1974 designates GAO's evaluation authority, it does not explicitly state GAO's evaluation objectives. The implicit objectives of title VII are that GAO help the Congress carry out four activities:

1. Reviewing and evaluating at the request of committees or upon its own initiative, the results of Government pro-

grams carried out under existing law.

2. Developing, upon request of committees, statements of legislative objectives and methods for assessing and reporting actual program performance.
3. Analyzing and assessing, upon request of committees, Federal agency program reviews or evaluation studies.
4. Suggesting, on its own initiative, methods, to the Congress, for reviewing and evaluating existing Government programs.

Title VIII of the Congressional Budget Act of 1974 states that, to the extent practicable, the Office of

Management and Budget (OMB), in cooperation with GAO and the Congressional Budget Office, should provide budget and program-related information to State and local governments. The recently enacted Program Information Act has prompted a new OMB study of information needs.

GAO has cooperated in assisting State and local governments. GAO, as a sponsor of the Joint Financial Management Improvement Program, has suggested projects to assist State and local auditors in their work. GAO has often provided speakers and technical assistance at professional meetings which seek to upgrade and improve the quality of State and local audit activities. Furthermore, GAO has published a series of documents describing standards for and examples of audit activities that can assist State and local governments.

Brief Examples of GAO Standards, Guidelines, and Case Studies Which Can Guide Cooperative Work

The major publication of this kind is *Standards for Audit of Governmental Organizations, Programs, Activities, and Functions, 1972*. This publication is supplemented by five pamphlets, including a case study based on experiences gained in Illinois in auditing State activities. GAO continues to assist financial auditors through publishing such documents as *Audit Guidelines for Audit of Financial Operations of Federally Assisted Programs*.

As the scope of audit activities has expanded over the years, the role of program evaluation has become increasingly important. Also, responding to one of the above four activities under Title VII of the 1974 Act, GAO issued, in 1976, a guidance document, *Evaluation and Analysis To Support Decisionmaking*. This document is a basic step in developing and recommending methods for evaluations for use by the Congress.

Many new approaches, techniques, and skills are needed by auditors and evaluators. GAO has illustrated the use of certain new techniques through the publication of case studies. A recent example of this was the 1976 publication, *An Audit Use of the Chi Square Test for Independence*. Other case studies deal with evaluations of, for example, a cost-effectiveness analysis of weapons, and solving audit problems with computer simulation.

Also, GAO is currently developing more specific guidelines for evaluations of particular activities. These include guidelines for evaluating models for use in decision-making and for auditing and reanalyzing results of social research and social experiments for policy.

Sunset and Oversight Legislation

In general, sunset legislation provides that, unless reenacted, legislation authorizing programs or agencies can be terminated on a predetermined date. Some current proposals in the Congress require that affected programs be evalu-

ated before legislation is reenacted. In October 1977, the National Conference of State Legislatures identified 23 States with some form of sunset laws. These laws all integrate evaluation into the sunset cycle. At the State level, sunset legislation is targeted mainly at regulatory agencies, but some States have enacted more comprehensive sunset laws. The Congress also has interest in further developing its own reauthorization and evaluation procedures as evidenced by oversight legislation it is currently developing.

The importance of intergovernmental relationships is shown by a 1977 GAO report, "Changing Patterns of Federal Aid to State and Local Governments, 1969-75." It emphasizes the crucial role of State policies in distributing Federal aid. Not only does a State exert great influence over the amount of aid it receives, it largely controls the distribution of aid to localities. In most cases, plans for allocating program funds are summarized at the State level for Federal approval. Most funds then must filter down through a State agency for distribution to local governments or beneficiaries.

Besides dispersing Federal aid to counties, cities, school districts, etc., States have their own aid programs. Some cities, like New York, receive more aid from their States than from the Federal Government. The apportionment of a State's own aid affects and is affected by the presence of Federal funds. The impact of Federal aid programs thus cannot be assessed

completely without understanding and considering State policies.

The need to analyze the total U.S. budget was a major factor leading to the creation of the Senate and House Budget Committees and the Congressional Budget Office in the Congressional Budget Act of 1974. This same legislation also emphasizes the need for improved flow of information on Federal programs and fiscal data to State and local governments. A recent report issued by GAO on how fiscal problems impact a local government is entitled, "Long-Term Fiscal Outlook for New York City." Several perspectives taken in that report deal with the city's economic base, budgetary problems, and intergovernmental fiscal relationships.

The need to evaluate the combined effect of Federal/State/local funds and policies is being recognized. State legislative bodies are becoming concerned with their lack of knowledge and control over Federal funds. Certain trends have become increasingly apparent regarding both Federal and State aid programs. These trends include both proliferation and tremendous growth in recent years. For example, Federal aid has grown from \$19 billion in 1969 to \$60 billion in 1975.

An Improved Legislative Framework For Evaluation

An improved legislative framework to carry out both Federal and State evaluation is needed. A recent GAO report entitled, "Finding

Out How Programs Are Working: Suggestions for Congressional Oversight, outlines an approach for carrying out congressional oversight of programs. This approach can be used by congressional committees to track programs as they are carried out or changed in response to legislation.

GAO's suggested approach is designed to help committees avoid common pitfalls in obtaining program evaluations. The Congress continues to pass authorizing legislation requiring agency evaluations such as in the legislation creating the new Department of Energy. If enacted, any of the various "sunset" or program evaluation proposals would have a major impact on the way the Congress and the Federal agencies view evaluation and expend evaluation resources.

Impact of Congressional Interest on GAO

One quantitative measure of growing congressional interest in program evaluation is the growth in GAO staff devoted to program evaluation. GAO attempts to meet the needs of the Congress in both its responses to congressional requests and also in its self-initiated work. Therefore, it can be argued that growth in the amount and proportion of GAO program evaluation is indicative of growing congressional interest.

Growth in program evaluation is also influenced by other factors, such as the growth in GAO staff capability to perform program eval-

uation. Since 1973, GAO has nearly doubled its staff resources applied to program evaluation from roughly 30 percent to 50 percent of staff years. During the same time period the staff devoted to congressional requests dealing with program evaluations has increased by 250 percent.

Oversight Orientation of Sunset Proposals

Perhaps the major interest in sunset legislation results from growth of programs operating under statutes providing permanent and indefinite authority. Federal sunset legislation would require systematic review of these programs, which are not now systematically reviewed to support reauthorization and which account for a large part of the Federal budget. Another reason for interest in sunset legislation is that a systematic review of programs by functions or subfunctions could be made simultaneously. The Congress could then have the opportunity to examine and compare groups of similar programs instead of considering them individually in bits and pieces. This approach would focus debate in an entire policy area across jurisdictional boundaries. Cross-impacts would surface during the review of a major policy area, and this could be relatable to budget categories on which priorities are established under the Congressional Budget Act in each budget cycle.

There also has been recent renewed interest in evaluation expressed by individual Members of

Congress. They have expressed concern about the lack of adequate and timely information for oversight and deliberations on policy alternatives. Some Members of Congress have suggested that the problem is not so much a lack of information as it is a lack of its synthesis and translation into a form which is useful to them.

Many Members of Congress have expressed a need for objective information and analysis to counterbalance the subjective, impressionistic, anecdotal, and self-interested information presented by executive branch administrators, lobbyists, and other self-interested parties. They want evaluative information from someone who is not an advocate of any program or activity—from a source which is independent and objective.

Translating Legislative Policy to Meaningful Evaluation Measures

Other Members of Congress have expressed concern as to whether the language contained in legislation is sufficiently clear to enable a useful evaluation to be made of the activities authorized by the legislation. At the program delivery point some "real process" is being carried out on a day-to-day basis. In a program evaluation study, it is this real process and its effects that are measured to produce answers to questions concerning program outcomes and impacts. Evaluators are usually the people who must make these real measurements and con-

vert the measurements into answers to oversight questions.

The evaluators are among the first people (and occasionally the only people) who encounter the problem of extracting through an actual measurement of concrete, real-world situations the answers to questions which have been shaped by abstract statements in the political or policy world. The evaluators must determine from the rhetoric of policy exactly what has occurred. Our suggested oversight approach is designed to develop these measurements in a way that will make sense to the policymakers in the Congress.

The requirements for a workable oversight process are that it (1) provide for requirements, implementation, feedback, and response, (2) permit addressing the different levels (legislative intent, policy, implementation, process, outcome, impact) at which comparisons between intent and actions can be made, to the extent that these are of interest to those responsible for oversight, and (3) take place over time in a way that is within the capabilities and interests of the groups involved. In addition, the oversight process should emphasize specific points in time for discussion and agreement rather than emphasize flow of paper.

We believe that the Congress, before requiring an agency to conduct a detailed, time-consuming, and costly evaluation study should first assure that the following oversight questions are answered in a manner consistent with legislative intent:

1. Has the executive branch ini-

- tiated implementation of the program?
2. Has the responsible executive agency developed, designed, and established the program?
 3. Are specific program activities and operations being carried out at the field or operating level of the program?
 4. Can the operating program be evaluated and can congressional oversight questions be answered using agreed-upon measurements and comparisons within acceptable limits of time, costs, and precision?

Conducting a costly evaluation study would be unwarranted if the answer to any of the above questions is "no." No program evaluation will show an unimplemented or inappropriate program to be successful. Nor will an evaluation be useful in oversight if program performance is not defined and measured in a manner acceptable to the Congress. These same four questions can be a key link of congressional intent and oversight to State concerns.

Future Links Between Evaluation and Policy

The components needed for sound policy analysis do exist in the Congress in part, and its support agen-

cies. By using these components as an adjunct to the political process, the use of evaluation and analysis in the process can be improved.

Real world decisionmaking and many of the activities which support it are complex, uncertain, hurried, and subject to all kinds of constraints: some understandable and some seemingly arbitrary. These difficulties are compounded by the existence of competing or complimentary objectives (or their related programs) which may also need to be considered. Evaluators, analysts, and other reviewers can do little about these difficulties; but, if they understand the complexity of the situation, they can perform in a way which is of maximum usefulness under the circumstances.

The need for continuous evaluation of complex Government programs is recognized and well established. Sophisticated techniques are being designed to improve evaluation methodology and the accuracy of study findings. However, there still is a wide gap between our technical ability to evaluate programs and our ability to manage these evaluations so their results directly aid decisionmakers. Ultimately, the purpose of evaluation is to improve the decisionmaking process and the overall management of programs.

721749

The Changing Face of the Panama Canal Enterprise

This article is dedicated to the memory of the late, great Ellsworth H. Morse, Jr., who, after having concerned himself with Panama Canal financial matters throughout his career with GAO, visited the Canal for the first time less than a month before his untimely death. At that time, the author promised Mr. Morse he would write an article about the Panama Canal and GAO involvement there; past, present, and future.

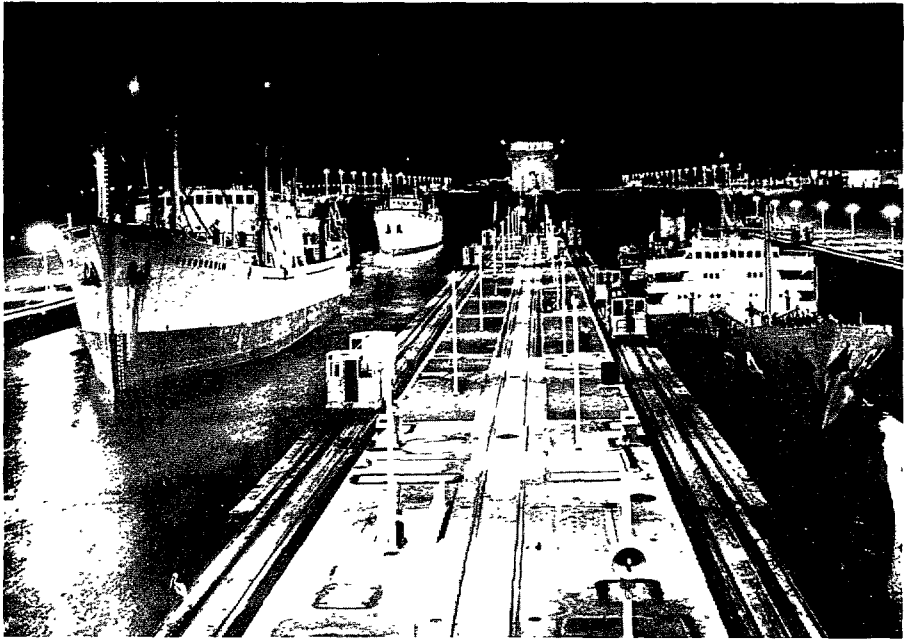
On September 7, 1977, President Jimmy Carter and the Republic of Panama's Chief of Government, General Omar Torrijos, signed two treaties before a room of dignitaries including 13 other American Chiefs of State. The treaties provide for a gradual relinquishing of U.S. control over the great Panama Canal, spelling the end of an era that has affected the lives and fortunes of many in the General Accounting Office (GAO) as well as being perhaps the greatest success story of U.S. Government involvement in a directly operated financial enterprise. This article reviews GAO's past involvement with the Panama Canal as its public accountant and glimpses into the future as this great Yankee undertaking winds

down to a final conclusion at noon December 31, 1999.

How Did It All Begin?

The Isthmus at Panama, discovered by the Spanish explorer Balboa in 1513, has always fascinated man's imagination. Here, a scant 50-mile width of earth separates the Pacific and Atlantic oceans. For over 40 years, Frenchmen, Chinese, West Indians, Yankees, and others from all corners of the planet hacked and clawed away at those 50 miles of earth to finally assure that men on ships could pass between the seas. The building of the Panama Canal is masterfully chronicled in David McCullough's

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The sun falls each day, but the operation of the canal fails to ease up at all when night comes. A 24-hour operation, an average of 35 ships transit the canal daily. Three vessels are shown as they pass through Miraflores Locks, southbound.

contemporary history, *The Path Between The Seas*, where he describes its 1914 completion as "America's Moonshot of the Early 1900s."

The Panama Canal, whose functions and political history have recently been under close public scrutiny, is truly a monument to Yankee ingenuity and resolve. Its designers demonstrated such rare foresight that roughly 70 years after the canal's opening, most of the world's commercial ships and all but the largest aircraft-carrying warships can still pass through it. Furthermore, the Canal was designed to be flexible so that it could still be modified to accommodate even larger (deeper draught) ships without altering their basic struc-

tures. Its 1,000 foot long and 110 foot wide locks which dwarfed the largest 1914 ships still accommodate the 960 foot length and 106 foot beam width of the luxury liner Queen Elizabeth II, which transits the Canal occasionally, each time paying a toll of about \$65,000.

In addition to being an engineering and construction masterpiece, the Panama Canal has been a rousing financial success. In fact, this profound contributor to world commerce has paid back to the original investors (U.S. taxpayers) many times its construction and operating costs through reduced consumer prices and higher ship-manufacturers' profits.

The initial construction cost was

about \$1.2 billion—\$600 million by French investors and \$600 million by U.S. taxpayers. Of course many hundreds of millions of dollars have been invested since on replacements and improvements. Without raising toll rates from 1914 until 1974 and again until 1976 the Canal has made a modest profit virtually each year since opening.

What Role Did GAO Play?

The histories of GAO and the Panama Canal Company and its predecessor the Panama Canal and Panama Railroad Co. have been closely intertwined. The list of GAO personnel who have plied their trade on the Isthmus reads much like a "Who's Who" in GAO, past and present. Our modern era involvement is divided into a number of distinct parts, all marked by the presence of GAO's finest.

Early Post World War II Era

After World War II, world commerce flourished and Canal revenues soared. With this increased activity GAO decided to give the Canal greater attention by sending more auditors than it had usually sent in the past—that is, two men for 6 months. A "Radiogram" from Washington announcing the 1947 audit and GAO crew's pending embarkation read:

General Accounting Office advises informally Robert F. Brandt, James D. McNamara, Oscar A. Olson, Robert S. Rosenberger, Adolph T. Samuelson, and Oye V. Stovall designated to

go to Canal Zone in connection with Canal-Railroad audit.

Most of the illustrious 1947 crew made deep and lasting marks on GAO, if not on the Canal enterprise. Bob Brandt, for example, later served as director of the European branch, Oye Stovall as first director of the International Division, and A. T. "Sammy" Samuelson as long-time director of the Civil Division and Assistant Comptroller General.

Corporation Audits Era

The Panama Canal Company was organized in 1950 as a wholly owned Government corporation, and so was subject to audit under the provisions of the Corporation Control Act—enter the late William E. "Big Bill" Newman to make his profound and lasting mark on the Canal enterprise. As a brash young assistant director of the Corporation Audit Division, Bill Newman resolved to mix efficiency and economy objectives with the legal requirement to audit the company's financial statements. Perhaps the greatest tribute to Bill Newman's effectiveness was an article published on July 9, 1953, in the English language Panama City newspaper "The Star and Herald." The banner line read:

New Man (Not Newman) Heads GAO Audit Here

and continued:

William Newman who early this year called for sweeping slashes in the

Canal Zone, will not direct the annual audits started this month by the General Accounting Office.

* * * *

When he testified last year before a House Appropriations subcommittee, Newman called for drastic cuts in the Canal Zone, including reduction of 5,000 employees, elimination of the 25 percent differential for locally-hired U.S.-rate employees, placing of Canal employees on the graduated leave system, and sale of one of the Panama Line Steamers.

Incidentally, most of the recommendations were ultimately accepted resulting in savings of millions of dollars to Canal users.

Other GAO notables who followed or assisted in the pre-1956 era are Charlie Roman, a long-time director of the Far East branch, Frederic Smith, later deputy director of the Office of Policy, Mort Henig, now deputy director of HRD, John Carroll, Seattle regional manager, and many others.

The Civil Division Era (1956-1972)

When GAO's Division of Audits was abolished in 1956, the Civil Accounting and Auditing Division (CD) emerged as the Canal enterprise auditor. For a number of years the audit staffs were mainly from the Washington office, occasionally from the New York regional office in the early years, and often from the New Orleans regional office in the later years.

Arthur Schoenhaut, now executive secretary of the Cost Accounting Standards Board, headed the Canal audits for a time and still

boasts that his was the last audit yielding meaningful audit findings. While all may not agree with Art's claims, there can be no doubt of his presence on the Isthmus. Kermit Gerhardt, long-time associate director of CD, was also in charge for a time. And Clerio Pin, director of the Management Services Division, and his family spent 6 weeks on the Isthmus when he, as a fledgling assistant director in CD, was in charge of the Canal audit. Among others who visited one or more years were Don Pullen; Frank Toth; Benny Quattrociocchi; Bob Iffert; and Walter H. "Dick" Henson, now deputy director of FOD, then, New Orleans regional manager.

Field Operations and International Division Era (1972-Present)

In 1972 authority for auditing the Canal passed to the Field Operations Division and in 1976 to the International Division, which in 1975 had organized its Latin America branch in Panama under George DeMarco's leadership. Visitors to the Isthmus included John Thornton, FOD's first director; Stu McElyea, its current director; and Ken Fasick, now International Division's director. Walt Sheley as Dallas regional manager was a frequent Panama visitor and devotee, and is still much admired by Canal Company managers.

Finally, 25 days before his sudden and untimely death, Ellsworth "Mose" Morse and his wife visited the Canal with Comptroller General and Mrs. Elmer Staats. They

stopped off in Panama after attending an international meeting of chief accounting, auditing, and fiscal officers in Lima, Peru.

Where Do We Go From Here?

While the Canal Treaties will certainly change the nature of the Canal enterprise, there is no reason to believe GAO's role will change radically during the remainder of the century. In fact, the myriad of issues that must be resolved will certainly concern us.

Luckily for GAO, 1978 happened to be the year in which the regular biennial financial audit was underway when the Canal Treaties were signed by the respective Chiefs of State and were tendered to the Senate for ratification. This gave us a "leg-up," so to speak, to answer the deluge of congressional questions received. At the time of this writing Mr. Staats had already testified before the House Committee for Merchant Marine and Fisheries and the Senate Armed Services Committee, discussing the financial impact of the Panama Canal Treaties on the future Panama Canal Commission enterprise. Also, we expect to receive a number of questions from House of Representatives' Committees when legislation is considered to implement the Panama Canal Treaty. Mr. Staats' personal involvement with the Panama Canal issues was at one time so intense that someone jokingly referred to him by the new designation "team leader" for the Panama Canal assignment.

In his testimony before the Congress to date, Mr. Staats has ad-

ressed a number of issues which must be resolved for the successor Panama Canal enterprise to function smoothly in a partnership between Panama and the United States. These were discussed by Mr. Staats in his testimony and were often repeated on the Senate floor during Panama Canal Treaty deliberations. Some flaws were improved by Senate reservations which were, no doubt, prompted by Mr. Staats' testimony.

To begin with, GAO was concerned that the treaties were offered for Senate approval before an implementing legislation package was drafted. Some questions which the legislation must answer are:

- What form will the successor agency "The Panama Canal Commission" take? A corporation? Other?
- Who will audit the successor commission? And under what authority?
- Will the successor enterprise be required to pay interest in the net U.S. investment as the present Panama Canal Company does (as most other wholly owned government corporations also do)?
- Who will the successor agency head report to? The Secretary of the Army? Transportation? Other?

While a number of the knotty questions can be resolved by legislation, other pressing financial problems must surely be resolved between the United States and Panama if the future partnership is to work. These include:

- Should the United States provide for making all payments to Panama prescribed by the Panama Canal Treaty, even though unmet contingency payments will be forgiven when the Canal enterprise passes to Panama Control in 1999?
- Who will pay for any improvements to the Panama Canal between treaty ratification and the year 2000? Over what time frame?
- What principles shall apply for providing cost data between the Canal Commission and Panama for services provided by the parties? Who will audit the cost data? How will disputes, if any, be resolved?
- What property can legally be granted to Panama when it assumes some Canal operating functions such as railroad; port terminals?
- What pricing principles will be involved for services such as railroad transportation



The giant container ship "Kowloon Bay"—a snug fit in the Miraflores locks.

terminals, and bunkering, provided by Panama to the Panama Canal Commission?

—How will “revenue surpluses” mentioned in the Panama Canal Treaty be determined before contingency payments to Panama can and should be made?

A few things should be done which will require neither legislation nor diplomacy but will involve a lot of hard work. The most important of these is taking a complete inventory of property to be retained for future operations, disposed of, or granted or sold to Panama for use in functions it assumes by treaty right. This will be no small job, inasmuch as the last complete inventory was made in 1955.

Finally, a number of serious issues can be resolved by neither law, treaty, nor hard work. These matters rest with natural forces of the future but are certainly worthy of scholarly study to assure that whatever can be done will at least be considered.

—In view of the added finan-

cial burden of from \$40–70 million (initially) annual payments to Panama, will Canal revenues be adequate to cover all future costs, or will the Congress be asked to appropriate funds to assure that the Canal will be operated efficiently as required?

—Will the Canal enterprise be able to attract and retain a skilled work force to assure successful operations through this century—a force that can change smoothly to Panamanian leadership and control when United States stewardship ceases?

Of course, only time will answer the questions posed and GAO’s concerns for successful future Panama Canal operations. The General Accounting Office as the Canal enterprise’s public accountant will do anything within reason to help make America’s great success story—the Panama Canal—continue throughout the waning years of U.S. control.

Planning for Staff in the Federal Government: Congressional Interests and Agency Practices

Do legislative and executive branch concerns about Federal work force planning coincide? This article explores management's dilemma in planning work force and meeting congressional desires. Mr. Boegehold prepared the material for a workshop of the Human Resource Planning Conference, Atlanta, Ga., March 9, 1978, and also presented it in a speech to the Manpower Analysis and Planning Society, Washington, D.C., March 16, 1978.

Background for a Dilemma

Federal managers at many levels can make or break work force planning. Some of the managers run something big—like a Cabinet department—with more employees than you can easily count or find. Others run something small—like a 5-person or 100-person section of a field office processing claims for veterans, social security, health, farming, or Indians. Most of the Federal managers who run these operations have a common problem—they don't face a bottom line comparing achievements against costs. The good ones may prepare

their own "profit and loss," but they hold it close unless it is very favorable.

For example, GAO's boss, the Comptroller General, is able to tell the Congress that with a GAO budget of \$176 million, mostly for staff and certainly for a lot of paper, he saves the Government \$5.6 billion. The savings represent GAO recommendations acted on by Federal executive agencies and the Congress during the past year. Many Federal activities are not suitable for such comparisons. Their managers at times are held to a result, but not to efficiency in achieving it, such as when the

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propeller on an aircraft carrier must be fixed regardless of cost. Federal managers are not usually given an explicit target or demand for efficiency. They often get away with: "If I don't get more resources, I can't do the job." Or they can set a vague workload target which can't be used against them, such as "Enhancing the Federal Forests," an actual target in the Forest Service.

President Carter's civil service reforms, recently proposed to the Congress, touch on the accountability of managers. But we'll have to see what the Congress does. Its record on prior, similar proposals is not reassuring. It has been wary of a Federal Executive Service and it doesn't like the politics of diluting veterans' rights. It's swept away a lot of work management problems under the guise of protecting the tenure of civil service employees.

The possibility of a change in their accountability usually gets Federal managers to react with too little or too much work force planning. They either wait for the system or work around it. The energizer is a series of incentives and deterrents.

Congressional Interests

Unfortunately for the composure of some Federal managers, the Congress is urged by its constituents into an interest in just about every part of Federal workforce planning—every infinitesimal, disjointed, assumption-based part, as well as how the parts are wired together. Let me give you some

examples of the extent of this interest.

I work in GAO's Federal Personnel and Compensation Division. During calendar year 1977 we received 78 requests from the Congress—36 from committee chairmen and 42 from individual members—asking us to review some or all parts of work force planning for one or more Federal agencies. The subject matter covered the work force spectrum—from recruiting, placing, and training people to contracting out their jobs, revising their organizational dynamics (to borrow a phrase from the American Management Association), revising their travel plans, paying them, promoting them, transferring them to other agencies, and firing or retiring them.

The armed forces were a verdant field for congressional requests, such as:

- Please, GAO, look into the proposed move of directorate X from the Pentagon to some location far from Washington. This type of request usually involved us in an interesting study of incentives, cost or otherwise. In recent years the Congress has wanted the Defense Department to reduce the size of its Washington contingent. So the military game becomes: keep the function, but do it elsewhere.
- Here is a broader one. Please, GAO, look into the status of staffing standards in determining defense support personnel require-

ments. This one took us about 15 months of hard work in the Army, Navy, Air Force, and Marine Corps. We made some suggestions for improvement and came up with a model for an effective staffing system which Defense is now adopting in some areas.

— And, of course, requests about the all-volunteer force, military retirement, unionism in the services, and many other Defense issues have come tumbling in.

The Congress hasn't let us ignore the civilian agencies either, with requests on the Government Employees Training Act (1958), Civil Service retirement practices, civilian employees ceiling control, in-house versus contracting, employing the handicapped, use of work measurement in the Department of Housing and Urban Development, and pay comparability and staffing requirements at selected Federal agencies.

All of these requests have involved agency work force planning. A few of the requests have gone fairly deep into the subject. The real interest of many members was summarized by an exasperated Senator, who said: "The Federal Budget? We can't determine who is doing what!"

Congressional interests ultimately spur action. The House Committee on Interstate and Foreign Commerce, for example, is working on a bill upgrading the staff-power planning capability for environmental and health re-

sources at Federal, State, and local levels. It could be a quantum jump in long-term staffpower planning. At the Federal level, it would affect the Department of Labor, the National Science Foundation, the Environmental Protection Agency, and the Department of Health, Education, and Welfare (including one of its operating arms, the Public Health Service). More importantly, it may affect every State and community.

In another very important example for those of us who believe in professional human resource planning, the House Armed Services Committee last year persuaded the Navy to create a competitive career pattern for officers in manpower and personnel fields. This was a big step! Train experts in manpower and personnel whose career progression will be similar to those in the traditional combat skills.

The same committee, together with the Senate Armed Services Committee, said the Navy's explanation of shore staffing needs was unsatisfactory. They directed the Navy to complete a shore staffing standards program by June 1979. The Navy's approach was to identify the breakpoint in workload for each incremental increase in manpower. The logic is to support workload and justify staff.

The System

The Federal manager's initial approach to work force planning is close to that of a manager in private enterprise. Companies gener-

ally prepare a forecast of sales and then estimate the work force needed to make the product and/or provide the service. The work force estimates are built, when possible, on past performance indicators, such as time standards, labor used per work unit, and experienced ratios of indirect labor.

Similarly, Federal agencies start with their estimates of future work load, which are pretty good for, say, the Veterans Administration's estimate of claims to be processed or the Forest Service's estimate of timber to be prepared for cutting. Most, if not all, agencies, however, must await an annual decision by the Congress on the types and extent of programs to be undertaken.

Thus, the Federal manager gets his/her workload estimate and, considering past experience, standards of performance, and work mix, does his/her workforce planning.

A typical problem at this stage is that the Congress has increased his/her workload with no increase (or even a decrease) in staff. The answer *could* be more productivity. It usually is to reduce the scope of work. Inspectors select smaller samples for review or, in agencies like the Securities and Exchange Commission, spend less time on each case.

Let us consider the system where knowledgeable managers have made a good interface between workload and staff. Think of a supply activity where supply actions are ordering, receiving, storing, and shipping. If a military depot, for example, receives an order from an organization for an item the depot is out of, the order becomes a

back order to be filled when the depot's supply arrives. When the system beaters learn that a back order is a black mark under the work force planning system, they find a legitimate reason—such as a wrong part number—to cancel the back order and reinstate it after the end-of-the-week or month workload data has been counted.

The system beaters challenged the Postal Service's method of relating staff needs to workload as measured by tons of mail processed. They did this by inflating the reported weight of mail processed.

Several years ago agencies began to shun work measurement systems when the Office of Management and Budget and its predecessor organization, the Bureau of the Budget, used the information from the systems to reduce civilian ceiling spaces.

Recently, we have found that more and more Federal agencies have again begun to operate staff planning systems based on standards developed through work measurement. The results of these systems have been proposed staffing levels higher than permitted by OMB, the White House, and the Congress.

GAO has issued many reports illustrating the problems caused by insufficient staff in Federal agencies. These problems have built up work backlogs and stalemated legislative mandates in areas such as inspecting Federal dams; monitoring student loan programs; administering supplemental social security income for the aged, blind, and disabled; supporting the natural

grain inspection system, and making across-the-board cuts in Defense instead of analyzing needs and benefits and using workforce planning as a basis for changes.

Federal programs should be effective and well administered. The lean should not be cut with the fat. Thus, a challenging goal represent-

ing the interface between planned output and minimum staffing needs should be a known condition for Federal managers at all levels before they receive staff. Good human resource planning is the answer to many of the problems in management of the Federal Government.

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Mission Budgeting: The Need, How It Works

Mission budgeting for the Federal Government was one of the most important reforms offered by the Commission on Government Procurement. Mission budgeting is an end-purpose and need-oriented approach to funding. As this article points out, it offers significant advantages to the Congress, executive branch, and industry.

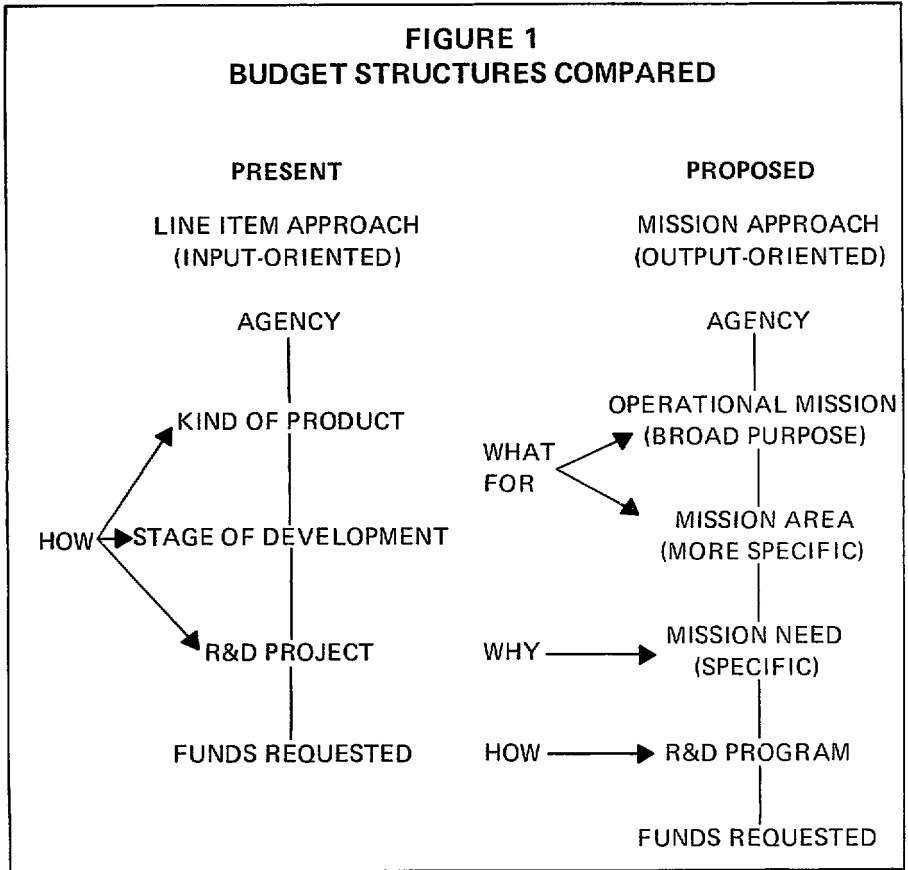
The traditional format of the Federal budget has long been a concern of the Congress, several national study commissions, and many other observers of Government affairs. To these critics the annual budget has become a great mass of seemingly structureless detail. Policies and purposes are very difficult to fathom. Agency budget requests do tell *how* money is to be spent, but are not very enlightening about *what* the money is for and *why* it is needed. (See fig. 1.)

Members of the Congress term the present budget "mind boggling," "incredibly complex," and "a hodge podge of unrelated elements." The research and development (R&D) budgets of the agencies, replete with technical detail, are still more difficult to grasp.

R&D budgets have grown into extensive lists of "line items." (See fig. 2.) These are R&D activities and programs grouped under various technology facets, agency departments, and classes of final products. Many of these line items may be merged, split up, and renumbered from one year to the next and are, therefore, difficult to track.

The present budget format gives few clues about why R&D projects are needed, where they are going, what policies they are embodying, or what major programs are being started. About all the Congress can do in its annual review is to "red flag" the salient ones (large jumps in funding, publicized projects, etc.), and conduct hearings on them.

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To gain some control and make its presence felt the Congress zeros in on the few suspect line items it has time for, scrutinizing managerial, contractual and technical detail. This is the "micromanagement" by congressional committees often complained of and cited by the Procurement Commission as constraining executive branch flexibility.

Missionizing the Budget

A mission budget organizes and classifies projects and activities by agency mission. The budget is structured so as to give an increasingly closer look at the purpose and the need to spend the money.

Mission budgeting does not trade the big picture for detail. It simply regroups or reclassifies the line

**FIGURE 2
A TYPICAL LIST OF LINE ITEMS**

**APPROPRIATION:
1319 N RESEARCH DEVELOPMENT TEST & EVAL, NAVY**

LINE NO	PROGRAM ELEMENT NUMBER	ITEM NOMENCLATURE	THOUSANDS OF DOLLARS		S E C
			FY 1979	FY 1980	
88	63217N	VSTOL SUPPORT	11,657	53,335	U
89	63219N	AIRCRAFT ARMAMENT SYS	4,060	7,212	U
90	63228N	CV TACTICAL SUPPORT CENTER	4,190	3,283	U
91	63230N	NATO CROSS CERTIFICATION	3,000		U
92	63254N	AIR ASW	2,895	5,153	U
93	63257N	V/STOL ACFT DEV	40,810	116,843	U
94	63259N	ACOUSTIC SEARCH SENSORS (ADV)	886	2,836	U
95	63260N	AIRBORNE MINE COUNTERMEASURES	15,870	13,656	U
96	63261N	TACTICAL AIRBORNE RECONNAISSANCE	4,761	3,716	U
97	63262N	ACFT SURVIVABILITY/ VULNERABILITY	3,853	3,538	U
98	63304N	ADV SURFACE-TO-AIR WPNS SYS	19,507	12,275	U
99	63305N	ADV A/L AIR-TO-AIR MSL SYS (AGILE)			U
100	63309N	SHIPBO INTER RANGE CMBT SYS (SIRCS)	14,481	37,515	U
101	63310N	SURF TO SURF MSL DEV	1,121	2,245	U
102	63311N	INTEGRAL ROCKET RAMJET	8,133	23,900	U
103	63313N	AIR TO GROUND WEAPONS	7,110	9,770	U
104	63317N	DEFENSE SUPPRESSION SYS	1,206	10,644	U
105	63318N	ARMY/NAVY SAM TECH	4,742	5,890	U
106	63358N	WEAPONIZING (PROTO)	7,119	6,790	U
107	63366N	TASK FORCE AAW WPNS COORDINATION	3,195	6,267	U
108	63367N	SUB ASW STANDOFF WPN			U
109	63369N	A/G STANDOFF WEAPONS	5,465	19,016	U
110	63370N	BEYOND VISUAL RANGE AIR-TO- AIR MSL	18,356	29,869	U

**FIGURE 3
WHAT IS MISSION BUDGETING?**

- IT ORGANIZES (COLLECTS) "ACTIVITIES" AND "THINGS" INTO THEIR END-PURPOSES (MISSIONS)
- PROVIDES AN INCREASING CLOSER LOOK AT THE PURPOSE AND THE NEED TO SPEND THE MONEY
- THEN SHOWS HOW THE MONEY IS TO BE SPENT

items so that their relevance to missions and mission purposes is quite clear. In other words, there is no loss of detail in mission budgeting, just more intelligible access to it.

Figure 4 shows how a set of projects might be linked in a hierarchy of energy missions and mission areas.

As figure 5 indicates, one can peruse a mission budget from the top down or bottom up. It is not a oneway street.

For a perspective on the old versus the new, figure 6 shows how the traditional approach to a Department of Defense R&D budget request compares to a mission budget format.

Note that there are four product classes on the lefthand side (each containing many line items) for one particular mission. The Congress is hard put to discern from this scattered activity what the "master plan" is for carrying out a mission, whether the necessary capabilities exist, and whether more or less

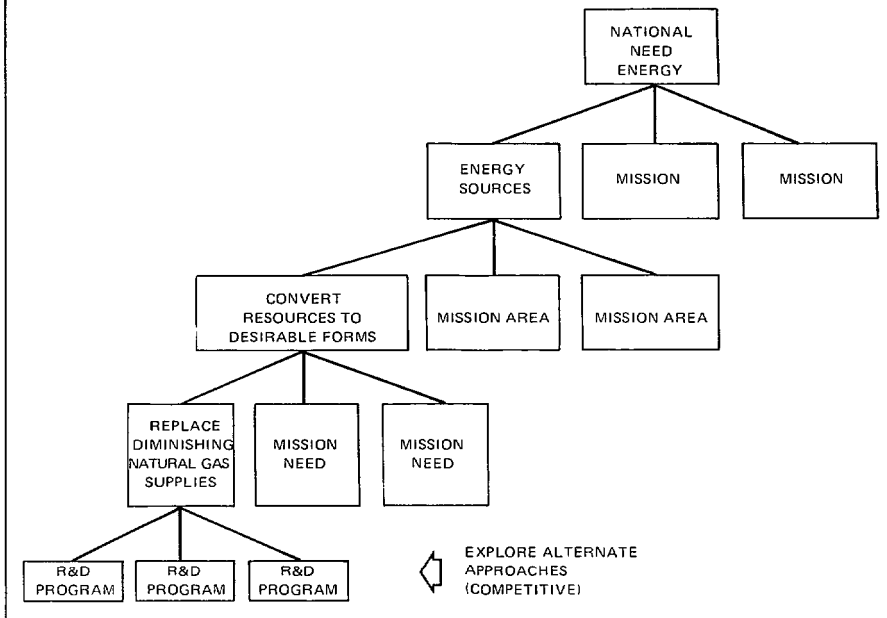
funding is needed. Mission budgeting pulls these scattered line items together under purposeful headings and links them to needs. (See fig. 7.)

The Defense Department has taken its first step towards reorganizing its budget presentation to the Congress. Figure 7 (left hand side) introduces a new term, "tactical programs," in DOD's 1978 format. Still, linkage of particular R&D projects to mission is not as clear as with the mission format nor is the idea of competing R&D efforts (if any) so explicit as in the mission budgeting approach (see right hand side).¹

For instance, note how quickly (left hand side) we jump into specific products and technologies. Now let's look at a full missionized approach on the right hand side.

¹ "Mission Budgeting: Discussion and Illustration of the Concept in Research and Development Programs" (PSAD-77-124, July 27, 1977) pages 47-51 and 66.

FIGURE 4
A MISSION STRUCTURE



Here, we proceed from a general mission down to a very specific need and we start funding the exploration of alternatives, not a particular technology or product solution.

A significant part of mission budgeting is the prominence afforded to the declaration of mission need. As the Procurement Commission observed, in the past there have been systems solutions in search of a rationale or need. Now, declaration of need is to be a separate, formalized event in advance of any program start. Like the budget structure itself, the need is expressed in end-purpose terms and, significantly, is *stated apart from any particular solution*.

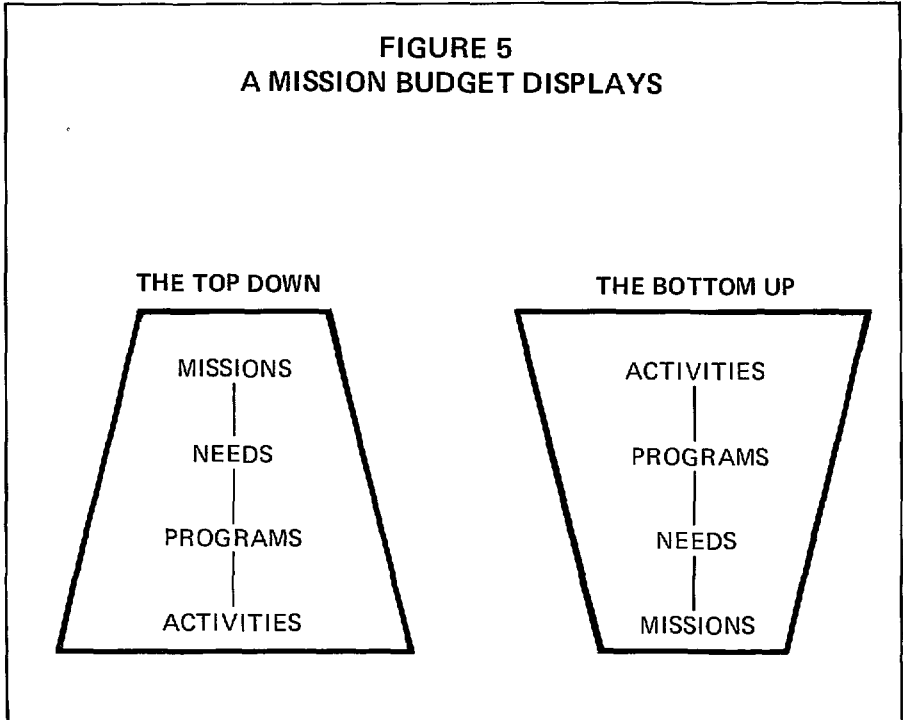
Impact on the Congress

Mission budgeting impacts both Government and industry, but it has special advantages for the Congress as figure 8 shows.

The first thing mission budgeting does in congressional policy evaluation is to display the agency's activities in clear end-purpose terms. (As the GAO report indicated, some agencies may have a difficult time doing this.)² Mission budgeting then groups the programs and activities by missions and by needs. Any overlaps within the agency or between agencies

² Ibid, p.10

FIGURE 5
A MISSION BUDGET DISPLAYS



become visible and can be dealt with on their merits.

Mission budgeting tends to open up congressional review to fundamental policies, strategy, and basic assumptions underlying agency spending decisions. For example, it permits debate on agency approach to executing its missions; encourages review of agency effectiveness in carrying out its missions; and allows the Congress to adjust funding levels of the missions according to its own view of their priority and worth in solving national needs.

Figure 9 shows the type of policy review a mission budget evokes in the case of Defense. Congress' role

is not to determine the threat or the strategy; rather it will review these high level military determinations and weigh them in light of the country's national defense and foreign policies.

The Congress can begin to make judgements about *value* versus *cost*. As Congress looks at the total picture over a longer term, there could be a mission costing say, \$5 billion a year that is "worth" only half as much to our national defense as one costing \$2 billion a year. *Value versus cost* is something that usually eludes Congress—and the executive—today.

Congressional policy assessment can be reflected in the budget by

**FIGURE 6
CONVERTING TO A MISSION APPROACH
DEPARTMENT OF DEFENSE**

TRADITIONAL APPROACH		MISSION APPROACH	
	(BILLIONS)		(BILLIONS)
MILITARY SCIENCES	\$XX	1. TECHNOLOGY	
AIRCRAFT AND RELATED EQUIPMENT	XX	BASE	\$XX
MISSILES AND RELATED EQUIPMENT	XX	2. MISSIONS	
MILITARY ASTRO-NAUTICS AND RELATED EQUIPMENT	XX	a. STRATEGIC	
SHIPS, SMALL CRAFT, AND RELATED EQUIPMENT	XX	OFFENSE	\$XX
ORDNANCE COMBAT VEHICLES AND RELATED EQUIPMENT	XX	DEFENSE	XX
OTHER EQUIPMENT	XX	CONTROL	XX
PROGRAM WIDE MANAGEMENT AND SUPPORT	<u>XX</u>	THEATER	
		NUCLEAR	XX
		b. TACTICAL	
		LAND	
		WARFARE	\$XX
		AIR WARFARE	XX
		OCEAN	
		CONTROL	XX
		COMBAT	
		SUPPORT	<u>XX</u>
		c. DEFENSEWIDE	
		MISSION SUPPORT	XX
		3. MANAGEMENT AND SUPPORT	<u>XX</u>
TOTAL	<u>\$XX</u>	TOTAL	<u>\$XX</u>

**FIGURE 7
CONVERTING AT THE PROGRAM LEVEL**

TRADITIONAL APPROACH		MISSION APPROACH	
	1978		
BUDGET ACTIVITY	TACTICAL PROGRAMS	MISSION	TACTICAL AIR WARFARE
BUDGET SUBACTIVITY	COMBAT AIRCRAFT TECHNOLOGY	MISSION AREA	INTERDICTION
BUDGET CATEGORY	ADVANCED DEVELOPMENT	MISSION NEED	ALL WEATHER STRIKE CAPABILITY
R&D PROJECT(S)	COMBAT AIRCRAFT TECHNOLOGY	PROGRAM STEP	EXPLORING ALTERNATIVE SOLUTIONS
FUNDS REQUESTED	\$2.5 MILLION	R&D PROJECT(S)	<ol style="list-style-type: none"> 1. ALTERNATIVE MANNED FIGHTER DESIGNS 2. REMOTE PILOT-LESS VEHICLES 3. MISSILES 4. OTHER COMPETING CANDIDATES
		FUNDS REQUESTED	\$ _____

FIGURE 8
HOW IT HELPS THE CONGRESS

- STRESSES POLICY – BROAD THRUSTS FEDERAL ACTION
- NEW PROGRAM OVERSIGHT
- NEW ACCOUNTABILITY MEASURES

simply adjusting mission funding levels up or down. For example, if there are imbalances in defense capabilities or a different view of priorities, Congress can easily adjust the level of funding for particular missions.

The second advantage will be a more incisive congressional oversight. (See fig. 10.)

With a mission budget presentation the executive is affirming to the Congress a mission need and priority. It is a request to fund *need exploration only*, not a specific answer. And, the agency need not seize on a particular solution to “materialize” a program and sell the Congress on the need for funding.

It is worth stressing: mission need approval is a separate distinct event to be discussed with the Congress before any agency program begins. Because of its end-purpose orientation, the funding of this need by the Congress (1) stimulates differing and innovative responses to Government problems and (2) finances competitive exploration until a demonstratable choice can be made.

Another oversight change involves the funding of the “technology base,” the pursuit of new knowledge apart from devising specific solutions. (See fig. 11.) The idea is to collect technology base activities scattered across many different products and lines of effort into one funding category and keep it distinct from solution development programs.

One way technology base funds are diverted is to finance preliminary design work on given solutions. If taken very far these efforts can cut off alternatives, competition and new technology—and at the same time, reduce the advancement of new knowledge.

Under traditional budgets, such matters as mission needs, new program starts, and program alternatives are exposed to the Congress very late in the process—after a single solution is defined in great detail, many people, organizations, and careers are committed to it, and the solution is being proposed for large scale funding. Funding a mission need instead of a solution starts a new chain reaction:

FIGURE 9
STRESSES BROAD THRUSTS OF FEDERAL
ACTION AND POLICY

- CLARIFIES AGENCY RESPONSIBILITIES AND LINKS TO NATIONAL NEEDS
- HIGHLIGHTS OVERLAPS WITHIN/BETWEEN AGENCIES
 - HARNESSES INTERSERVICE RIVALRY ON SAME NEEDS
- ENCOURAGES CONGRESSIONAL REVIEW
 - DEFENSE POLICY
 - THREAT ASSUMPTIONS
 - MISSION-STRATEGY-OPTIONS
 - MISSION CAPABILITY/NEEDS
- EASILY CORRECTS IMBALANCES IN MISSION FUNDING LEVELS FOR
 - MISSION "WORTH"
 - CHANGING PRIORITIES
 - CAPABILITIES REQUIRED

—New programs become visible at their very start when Congress can assess their needs, goals, and priorities before they acquire irreversible momentum.

—Agencies do not have to commit themselves prematurely to solutions in order to gain congressional funding.

—Instead, agencies can invite innovative solutions from all sources and those with greatest potential can be explored at low funding levels.

—Congress can rely on re-

views of agency mission needs and program goals and on private enterprise competitions and leave management of individual programs to agency officials charged with that responsibility.

Figure 12 lists the new accountability measures, the third major advantage for the Congress.

Because the Congress will be dealing with mission goals—levels of performance or capabilities—the members can begin to ask how far did we get with the money we gave you last year?

**FIGURE 10
INSTALLS NEW CONGRESSIONAL APPROACH
TO PROGRAM OVERSIGHT**

- FUNDS A CONFIRMED NEED, NOT PREDETERMINED SOLUTION (SYSTEM)
- SURFACES PROGRAMS EARLY BEFORE KEY DECISIONS MADE
 - NEEDS AND PRIORITY FOR SCARCE R&D RESOURCES CAN BE AFFIRMED
 - MISSION OBJECTIVES CAN BE CLEARLY DEFINED
 - DIFFERING INNOVATIVE SOLUTIONS TO GOVERNMENT PROBLEMS CAN BE CREATED/EXPLORED
 - COMPETITION AND DEMONSTRATION CAN BE ASSURED BEFORE MAJOR FUNDS COMMITTED

Federal activities would be linked directly to end-purpose needs expressed in terms that the public understands. Executive agency accountability would shift from an activity or input basis to an output orientation. They and the President could be held accountable for achieving the level of mission performance funded by the Congress.

The question will be asked, and people in the executive agencies—program managers and others—know the question will be asked. This is a very strong motivator. And, with results at the forefront, the Congress has a clearer and simpler way to track outcomes of appropriated funds.

If the Congress and top executive

levels are satisfied with mission policy reviews and the new approach to overseeing Federal programs, less and less time will be spent on what few operating experts like—detailed over-the-shoulder management.

Impact on the Executive Branch

Figure 13 shows the expected changes on the executive side. The main idea is that the emphasis would shift from laying out product solutions, that is, conceptual and basic preliminary design work on systems (which is really an industry role) to more mission and tech-

**FIGURE 11
THE TECHNOLOGY BASE**

- SEGRATES FUNDING FROM MISSION NEED FUNDING
 - HIGHLIGHTS FUNDING FOR ADVANCING KNOWLEDGE
- BUT
- GUARDS AGAINST EXTENDING WORK INTO DESIGN WORK THAT CUTS OFF
 - ALTERNATIVES
 - COMPETITION
 - NEW TECHNOLOGY

nology base managing which the Procurement Commission believed were the primary agency functions.

The last item in figure 13 cannot be overstressed—for the first time agency operations and management decisions will be compatible with and tied to the budget process.

Impact on Industry

On the industry side, there are several advantages. (See fig. 14.) The full airing of missions, needs, and priorities should be welcome and there should be a better focus for research and development plan-

**FIGURE 12
REORIENTS ACCOUNTABILITY TO THE
CONGRESS, PUBLIC**

- OUTPUT ORIENTED
 - ● WAS MISSION PERFORMANCE OR CAPABILITY THAT CONGRESS FUNDED ACTUALLY ATTAINED?
- RELIEVES CONGRESS OF MANAGING DETAILS THRU ANNUAL MISSION REVIEWS, STRENGTHENED PROGRAM OVERSIGHT

FIGURE 13
HOW DOES IT HELP THE EXECUTIVE?

- STRENGTHENS TOP AGENCY POLICY REVIEW
- SHIFTS FROM SOLUTION TO MISSION AND TECHNOLOGY BASE MGT.
- ALLOWS FLEXIBILITY AND FUNDS TO EXPLORE SOLUTIONS
- REDUCES TIMES FOR RECOGNITION OF NEED
- ENCOURAGES MGT. BY OBJECTIVE
- INTEGRATES OPERATIONS AND MANAGEMENT DECISIONS WITH BUDGET PROCESS – A MAJOR GOVERNMENTAL CHANGE

ning. Independent research and development programs will be much more crucial to business success. It will help a firm get into the "ball game." Once into the game, there will be direct congressional funding of the need so the firm does not have to "carry" the agency for lengthy periods until that program is approved. Once the need is approved, program funding is available.

By funding a mission need rather than a preconceived solution, there is also much more design freedom and reward for the best contractor ideas. Finally, industry won't have to wait years for a Request for Proposal (RFP) and detailed specifications. A program can be started up without them. The RFP will be the "mission need." Specifications will be the end result of competitive design and demonstration

work rather than rigidities laid down in the very beginning.

Figure 15 summarizes characteristics of traditional and mission-based budgeting.

The Future

The Congress has required presidential mission presentations (the 1974 Budget Act) but has yet to require review and funding of agency operations on a total mission basis. Several agencies and committees, however, are considering or conducting experiments. (Examples are Defense, HEW and Energy.)

Because expenditures must be tied closely to meticulously defined needs, mission budgeting will floodlight the "rivers and harbors" type projects. Some in the Congress may find mission budgeting unpalatable for this and other reasons.

FIGURE 14
HOW DOES IT HELP THE INDUSTRY?

- EARLY NEED RECOGNITION; SIMPLIFIES I R&D MGT.
- INCREASED TECHNICAL LATITUDE ALLOWED:
BEST IDEAS REWARDED
- PROCESS MORE OPEN, PUBLIC
- MUCH EARLIER FUNDING ON NEW PROGRAMS

But according to congressional staff, the chairman of one public works committee "favors the mission concept." Perhaps the growing outrage in the Congress over the impenetrability of the present budget will overwhelm any opposition to the new illumination. Besides the linkage of national need, controlled funding of missions and a results orientation should appeal to constituents in this new era of taxpayer discontent.

Many in the private sector believe governmental activities to be inefficient, unproductive, and free of "bottom line" accountability. Mission budgeting with its stress on carefully articulated needs, priorities and end purposes enables measuring accomplishments in a disciplined way.

As brought out in a recent GAO report, a shift to mission-based budgeting—even on an experimental basis—depends on bilateral support of and cooperation between executive and legislative branches.

An illustrative program to achieve these objectives is offered in that report.³

As mission budgeting evolves there may be a tendency for the agency to simply reshuffle its projects under new mission labels. That won't work. The key is to start off with good mission structure. Then continuous mission analysis will reveal mission needs for programs and the objectives sought. Finally, there must be clear separation of new knowledge funding from exploration of program solutions for operational missions—otherwise control over new program starts is lost.

Analysis of Federal agency mission planning and performance and exploration of this new budgeting idea could become increasingly important to the Congress and GAO.

³ "Legislative Recommendations of the Commission on Government Procurement: Five Years Later" (PSAD-78-100, July 31, 1978) p. 26.

**FIGURE 15
CHARACTERISTICS OF TRADITIONAL AND MISSION BUDGETING COMPARED**

<u>CHARACTERISTICS</u>	<u>TRADITIONAL LINE-ITEM</u>	<u>MISSION-BASED</u>
EXPENDITURE:		
END-PURPOSE SHOWN	NO	YES
NEED SHOWN	NO	YES
TIME SPAN	PAST ADJUSTED FOR IMMEDIATE FUTURE	PRESENT, FUTURE
PREPARATION :		
CENTRALIZED OR DECENTRALIZED ANALYTICAL EXPERTISE REQUIRED	BOTTOM UP LITTLE	TOP DOWN, BOTTOM UP MUCH
ORIENTATION:		
MANAGEMENT REVIEW	LOW LEVEL	ALL LEVELS
POLICY ASPECTS	ABSENT	MAJOR FOCUS
FRONTEND PROGRAM DECISIONS	OBSCURE	VISIBLE
MANAGEMENT EXECUTION	LIMITED	WIDE
FLEXIBILITY		
ACCOUNTABILITY	LACKING	CHARGEABLE
PUBLIC UNDERSTANDING	NIL	CONSIDERABLE

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Zero-Base Budgeting in the Federal Government: An Historical Perspective

The authors provide an historical perspective of zero-base budgeting (ZBB) in the Federal Government. In so doing, they trace the budgeting developments, and the reasoning behind such developments, which gave rise to President Carter's ZBB efforts.

Through a long chain of events, budgeting has evolved from a series of unrelated agency requests (made directly to the congressional appropriations committees) to an annual event composed of a series of interrelated legislative and executive actions.

A *budget*, in its broad sense, is a plan of action. More specifically, a budget is usually thought of as a financial plan stating the estimated revenues and expenditures

required to accomplish specified tasks or programs.

Historical Developments of Budgeting

Historically, budgeting in the Federal Government has gone through many changes. Prior to the Budget and Accounting Act of 1921, Congress dominated the spending and raising of Federal

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funds. Heads of executive departments and agencies presented their annual budget requests, emphasizing the object of expenditures, directly to specialized appropriation committees of Congress. These committees would allocate funds independently of one another, while the Senate Finance and House Ways and Means Committees were responsible for raising revenues. Thus, neither house had before it a comprehensive fiscal year budget. Furthermore, if an agency's request for funds were denied by one appropriations committee, the request could be submitted to another committee.

By the early 1900s it became evident that fiscal deficits, rather than surpluses, were becoming common. In response to this condition, Congress passed the Sundry Civil Expenses Appropriation Act in 1909 requiring the Secretary of the Treasury to inform Congress of anticipated fiscal deficits and recommended actions. President Taft, however, did not make use of this act. Instead, he requested, and was granted in 1910, funds to establish the Commission on Economy and Efficiency.

The Need for a National Budget Surfaced

Two years after the commission was established it recommended to President Taft that the executive branch prepare an annual comprehensive budget of anticipated revenues and expenditures. According to this proposal each department and agency would submit their

budget request to the President who would consolidate the individual requests into a total proposed budget which would then be submitted to Congress. The recommendations of the Taft Commission represented a major potential shift in budgetary power in that the President would now play a leading role in the budgetary process.

It was not until 1920 that a budget and accounting bill was passed which included many of the recommendations of the Taft Commission. The bill did not, however, give the President the power to remove the head of what was to be the newly created accounting department, i.e., the Comptroller General, and thus President Woodrow Wilson vetoed it.

Eventually, under President Warren Harding, Congress passed the Budget and Accounting Act of 1921 which closely resembled the earlier bill. The major provisions of the 1921 act was concerned with (1) the establishment of a Bureau of the Budget, nominally within the Department of Treasury with a director to be appointed by the President, (2) the transmittal of a comprehensive budget by the President to Congress, and (3) the creation of the General Accounting Office, under the control and direction of the Comptroller General of the United States. The act, however, left departmental budgets and procedures for preparing them unchanged.

The Budget and Accounting Act of 1921 represented a major change in the budgetary process within the Federal Government. No longer would departments and agencies

act as independent agents in search of congressional funding. Instead, through the centralizing effect of the new budget, the President would be able to exert budgetary power over subordinate departments and agencies. And, although Congress maintained its ultimate authorizing and appropriating authority over the budget transmitted by the President, the executive branch began playing a more central role.

In 1939, as a result of the Reorganization Act, the Bureau of the Budget became an independent part of the newly created Executive Office of the President. This change was the direct outgrowth of the recommendations of the Brownlow Committee established in 1937 by President Franklin Roosevelt.

In 1949, a generation after the Taft Commission, the Hoover Commission recommended that the whole budgetary concept of the Federal Government be refashioned based on functions, activities, and projects—a performance budget. This was made a legislative requirement by the National Security Act Amendments of 1949 and the Budgeting and Accounting Procedures Act of 1950. The second Hoover Commission in 1955 recommended that the budget be classified in terms of programs or functions—a program budget. Thus, the move toward being able to compare program alternatives continued.

During President Richard Nixon's tenure in office, the Bureau of the Budget was renamed the Office of Management and Budget, which

more accurately reflected the broad managerial scope of this office.

Planning, Programming, and Budgeting System

In 1961, under President John F. Kennedy, the Department of Defense installed the Planning, Programming, and Budgeting System (PPBS). Whereas traditional budgeting was input oriented, PPBS is a long-range, output oriented approach to budgeting. The system places great emphasis on defining program objectives, with cost/benefit analysis an integral part of determining how a program is carried out. Therefore, PPBS requires the quantitative specification of the relationship between inputs and outputs. In sum, the introduction of PPBS was an extension of the scientific management, or rational economic, way of thinking. Under President Lyndon Johnson, in 1965, PPBS was utilized across the entire executive branch of government.

Management By Objectives

Management by objectives (MBO) was yet another executive branch step toward viewing the budgeting process from a scientific management approach. MBO, which was introduced in 1973, emphasizes setting up decision points, or milestones, against which objectives are measured. Participative management, decentralization, and self-evaluation are concepts which are often associated with MBO. It must be noted, however, that MBO is

more of a management philosophy, to be used in conjunction with a budget process, than a separate budgeting process.

The Institution of a Comprehensive Legislative Budget Process

In 1974 Congress passed Public Law 93-344, more commonly known as the Congressional Budget and Impoundment Control Act of 1974. It established, among other things (1) a new congressional budget process, (2) Budget Committees in each House, (3) a Congressional Budget Office (CBO), and (4) a procedure providing congressional control over the impoundment of funds by the executive branch. These changes were indeed profound in terms of restoring the waning congressional control over the Federal budgetary process.

Zero-Base Budgeting

The election of President Jimmy Carter in 1976 has set into motion the workings of yet one more budgetary reform concerned with controlling Federal expenditures. Upon election, President Carter promised to implement zero-base budgeting (ZBB) across the executive branch beginning with fiscal year 1979. According to Carter, ZBB can reduce Federal spending and more efficiently allocate resources utilized. Growth in government expenditures, combined with general public reluctance to accept further tax increases as evidenced by California's well publicized Proposition

13, has made such a stance popular.

ZBB Compared to Incremental Budgeting

Incremental budgeting assumes that current budget appropriations are the result of past appropriations adjusted for only small changes. Implicit in this budgeting process is the idea that existing programs are carried forward. Furthermore, incremental budgeting is usually assumed to be more political in nature than analytical. Thus, its critics usually claim that incremental budgeting leads to excessive total government spending and a misallocation of funds among programs.

Unlike incremental budgeting, ZBB does not assume that existing programs are automatically carried forward. Instead, all existing and proposed programs are considered on their future merits without regard to previous appropriations. Therefore, some old programs are expected to expire while new ones are expected to emerge. In sum, an analytical or rational economic approach, as opposed to a political process, is assumed to dominate the ZBB process.

ZBB Applied to Various Types of Organizations

The origin of ZBB has been traced back to at least 1924 and probably goes back much further. As early as 1962, the U.S. Department of Agriculture used a variant of ZBB to formulate their fiscal

year 1964 budget estimates. However, the process was branded a failure and was not used again until the late 1960s when Texas Instruments, Inc., developed and effectively utilized a modern version of ZBB. Their success with ZBB apparently prompted other corporations (including Xerox, Boeing, Eastern Airlines, Westinghouse Electric and General Dynamics) and States (including Georgia, New Jersey, California, Texas and Missouri) to adopt the concept.

The modern version of ZBB is usually considered as not being applicable to direct manufacturing costs since these expenditures are determined by market factors where cost/benefit analysis seems less appropriate. Instead, ZBB is seen as a budgeting process which is most appropriate for indirect, service oriented, costs. Of course, such costs are of prime importance in the Government sector and thus ZBB has apparently found a home in governmental budgeting.

The Basics of ZBB

The modern version of zero-base budgeting consists of the following five basic steps: (1) determining decision units, (2) developing decision packages for each decision unit, (3) ranking decision packages, (4) consolidating the rankings at higher organizational levels, and (5) allocating resources.

Decision units represent discrete organizational activities for which a separate budget, or budget line, is prepared. That is, since ZBB is output oriented, decision units rep-

resent any meaningful organizational element that requires individual attention, such as a program, project, or work plan. From a practical standpoint, decision units are often chosen based on cost centers, providing these centers are tied to the organization's objectives.

For each decision unit a set of decision packages is prepared. A decision package describes the activity under consideration as well as its objective(s). Alternative ways of performing the activity and alternative levels of effort (assuming various levels are feasible) for the course of action chosen, would be noted in a decision package. Separate packages are prepared for incremental levels of spending for each activity. For example, a particular activity may have three associated packages often called "a set of packages," i.e., one of three, two of three, and three of three. The minimum level package might be 70 percent of last year's activity level and the second and third packages could be the activity level up to 90 percent, and 110 percent respectively. Decision packages also contain descriptions of the costs and benefits associated with performing the activity, as well as the consequences of not performing the activity.

The format, content, and usefulness of these decision packages seem to vary greatly among and within the organizations using ZBB. Yet, in some sense decision packages represent the "nuts and bolts" of ZBB. Therefore, if ZBB is to have any chance of inspiring more efficient resource allocations, it seems mandatory that decision

packages be prepared with the utmost conscientiousness. The time and effort spent at this stage of the process will most likely determine the success of ZBB.

Once the preparation of all the decision packages for an organizational unit is completed, they are ranked in descending order of importance. That is, the most important package would receive the highest ranking, the second most important package would receive the next highest, and so on. In ranking a set of packages relating to a given activity, the package relating to the minimum level of effort would have to be ranked higher than the other packages in that set. The same principle would hold for the incremental decision packages relating to an activity, i.e., the first increment would have to be ranked higher than the second increment, etc. However, the set of packages relating to one activity do not have to be ranked consecutively. Each package stands alone and must compete with the packages developed from other activities. Once this ranking process is completed, the packages are sent to the next organizational level manager, who continues the ZBB process.

As decision packages are sent up the organizational ladder, the manager of the next level is theoretically required to consolidate the rankings of the various subunits reporting to him/her. Ultimately, it is top management's task to establish the final priority rankings for the entire organization. In the case of the executive branch of the Federal Government, this means

that the President and his staff have final responsibility for the way programs are ranked. In theory they should be able to compare programs across agencies. Thus, while many argue that ZBB encourages decentralization because decision packages are initiated at the lowest levels of the organization, an equal number argue that in the final analysis ZBB really encourages centralization.

The completion of the ZBB ranking process is followed by the allocation of the organization's resources. Theoretically, higher ranked projects would be funded before lower ranked projects up to the point that all resources are fully allocated. Operationally, this logical allocation procedure may break down, especially where the consolidation process is stopped at a middle level of the organization.

In sum, zero-base budgeting is an attempt at increasing the rational-comprehensive, or scientific management, approach to budgeting. It is means-end oriented, relying heavily on a clear statement of the objective(s) and value(s) of an activity. Quantitative economic analysis is given a prominent role in the process. In terms of the Federal Government, ZBB is a system by which the executive branch can gain tighter managerial control over the budgeting process, possibly at the expense of the legislative branch.

Some Advantages and Disadvantages of ZBB

Among those points commonly

noted in favor of ZBB are: (1) it is a rational, optimizing approach to budgeting, (2) it forces objectives to be clearly stated, (3) it forces a clear statement on program priorities, (4) it encourages decentralization, (5) it opens up channels of communication between those involved, and (6) it allows existing programs to be terminated. The points often noted against ZBB include: (1) the results are no different than if incremental budgeting were used, (2) the paperwork generated is excessive, (3) the workload imposed upon managers is greatly increased, (4) the benefits from many programs cannot be quantified in the sense that is required for the ranking process, (5) the process really has a centralizing, rather than decentralizing organizational effect, and (6) it attempts to turn what is naturally a political process into a managerial process.

The above lists of advantages and disadvantages of ZBB can easily be extended. However, ZBB's real worth, or lack thereof, is an empirical question which requires experience to be answered. President Carter's introduction of ZBB will provide just such experience at the Federal budgeting level.

Federal Government Experience with ZBB

The Federal Government's implementation of ZBB began in October 1976. At that time the House Committee on Appropriations asked the National Aeronautics and Space Administration (NASA) and

the Consumer Product Safety Commission (CPSC) to prepare appropriations justification materials for fiscal year 1978 along ZBB lines. The purpose of this request was for the House to have a pilot test on the applicability of ZBB to the Federal Government. This pilot test was restricted to three NASA centers: the Kennedy, Johnson, and Marshall Space Centers, and to CPSC.

Given the newness of the ZBB procedures as applied to the Federal Government, it seems unfair to judge the pilot test with NASA and CPSC. Yet, at least two points resulting from this test are worthy of mention. First, it became immediately apparent that the development of cost/benefit analyses or sophisticated performance measures was a problem that required solving if ZBB were to be successfully used in the Federal Government. In the case of the pilot test, neither NASA nor CPSC developed such measures. And, not surprisingly, given the relationship between the cost-benefit analyses and ranking procedure, neither NASA nor CPSC ranked the decision packages. Second, the budget execution, as opposed to its proposal, may be improved as a result of ZBB. That is, ZBB can help in implementing a budget due to its focus on priority choices and the increased communication among managers concerning those choices.

Upon taking office in January 1977, President Carter wasted little time in implementing ZBB throughout the Federal Government. White House Bulletin No. 77-9, issued on February 14, 1977,

requested the various departments and agencies to prepare the fiscal year 1979 budget under a ZBB system. As a result, the 1979 budget that Carter transmitted to the Congress in January 1978 was the first Federal budget prepared using ZBB principles and procedures. Given that this was the first wide-scale use of the technique, it is probably still premature to bring in a verdict on the process. However, a plethora of critics and supporters have already begun to surface.

Assessment of ZBB in the Federal Government

The White House, in their May 2, 1978, press release provided a balanced view on the experience of the first year with ZBB. Among the benefits attributed to ZBB were: (1) elimination of a few programs, (2) identification of program trade-offs, (3) greater involvement by top agency officials in the budget process, (4) improved communications among top, middle,

and lower levels of management, and (5) greater clarity of program objectives. The problems noted included: (1) increased paperwork, (2) need to modify decision unit structures, (3) problems in defining program objectives, (4) difficulty in ranking programs, and (5) determining minimum levels of funding which presented problems for most agencies.

The use of ZBB in fiscal year 1979 must be viewed as a trial run since it takes time to set in place any new system. Even the critics of ZBB generally concede this point. Thus, the real test will come with the fiscal year 1980 budget experience. In an effort to assure its success, OMB has addressed the first-year ZBB problems in its May 25, 1978, Circular No. A-11. Also, a pilot test to compare programs across agencies is being conducted by the Department of Energy and the Environmental Protection Agency. Only time, and empirical examination, will allow the rendering of the final judgement on the use of ZBB in the Federal Government.

The Team Approach Works

“... The idea is that a small, semiautonomous group, given sufficient management backing, can cut through ‘red tape’ and get quality results in much less time . . . given ‘meaty’ assignments, conspicuous management backing, and exemption from most standard operating procedures, small groups are enthusiastic, imaginative, and very results conscious.”

The preceding quote is part of the introductory paragraph from Timothy Desmond’s article in the Spring 1978 *GAO Review*. The theory espoused in that article was proven valid during two recent GAO assignments described in the following articles. The first shows how the team approach, involving 2000 staff days and 28 team members, was used to issue eight reports on Indian Affairs programs in a 6-month period. In contrast, the second illustrates the versatility of the concept by describing how a small, six-person team used only 267 staff days to provide an oral briefing to a congressional subcommittee. The briefing took the place of a 1000-staff-day review. Commonalities between the two assignments include timeliness, quality, client satisfaction, and effective resource allocation.

The Team Approach and Indian Affairs

Senator Robert E. Byrd, Chairman, Subcommittee on Interior and Related Agencies, Senate Committee on Appropriations, on August 9, 1977, requested GAO to make a comprehensive review of Bureau of Indian Affairs (BIA) programs and processes and to report the results to him by February 15, 1978.

On September 12, 1977, I was assigned the responsibility of heading up the Interior/Land audit site and immediately faced the problem of how to do the audit. I knew little about Indian programs but much about conducting reviews under the project manager concept, having been a project director on several reviews. I also knew that to meet the reporting deadline, we had to forego our traditional way of doing business.

At the same time we were planning our review, a Community and Economic Development Division (CED) task force on Washington/field relations was proposing a team concept for performing our reviews. I decided, therefore, to set up the review under the project manager concept and, as we moved into the review phase of the assignment, to incorporate the essential

elements of the team leader concept that was being developed by the CED task force.

Planning

Senator Byrd had requested us to audit 11 separate areas. The Human Resources Division (HRD) was preparing a final report, on Indian higher education programs, that would respond to one area. CED and HRD were jointly reviewing the implementation of the Indian Self-Determination Act with a draft report that would respond to another area. And our Financial and General Management Studies Division agreed to review BIA's control over administrative expenses. That left CED with eight review areas.

Nine of the 15 auditors at the audit site were assigned to review Indian affairs programs, and our Denver, Los Angeles, and Seattle regional offices were asked to participate. The regional and assistant regional managers did an outstanding job in selecting and assigning the right people for the review.

During the latter part of September and most of October the audit

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site and regional office staff spent a considerable amount of time obtaining information about Indian programs, planning the assignment, and discussing it with *Max Hirschhorn*, Deputy Director, CED. On November 1, 1977, we informed the Comptroller General that, to enable us to meet the tight reporting time frame, CED's portion of the review would be segmented into six major areas and would be undertaken through the project manager concept. A total of 2,000 staff days and 28 staff members—10 from CED, 10 from Denver, 4 from Los Angeles, and 4 from Seattle—were needed. As shown in the table, five project managers were selected for the areas reporting directly to me, the project director.

During October 1977, the project managers and team members gathered preliminary information, determined the scope of their jobs, prepared review objectives, selected

assistant project managers, developed review guidelines, and selected locations where the audit work was to be done. We then met with the committee staff and agreed on the scope of each area we were evaluating. This step was extremely beneficial for the committee staff as well as CED and regional office staff, providing both parties with a clear understanding of what was expected and what we could deliver within the time frame.

With the planning phase of the review completed, we were ready to start the fieldwork. This was in early November 1977, and with a February 15, 1978, reporting deadline, I was uncertain whether we would be able to complete this assignment on time.

We had several things going for us, however. First, the project managers reported directly to me during the entire assignment. Likewise, all team members, whether

Review area	Project manager	Staff	
		CED	Region
BIA Education Programs School construction priorities Boarding school operations Need for Indian education center in Albuquerque	Steve Gazda	3	10—Denver
Indian self-determination grants and contracts	Bobby Moore	None	2—Los Angeles
BIA budgeting system	Charlie Cotton	None	2—Los Angeles
Business development or reservations	Dave Lawson (Seattle)	1	3—Seattle
BIA employment training program and BIA coordination with other agencies	Dennis Parker	1	None

from Washington or the field, reported directly to and were responsible only to their project managers. Second, the project managers and team members were required to work full time on the assignment and were insulated from other duties as much as possible. Third, project managers clearly knew that they had the authority to make major decisions for the day-to-day conduct of the assignment and knew that they would be accountable for the success or failure of their assignments. Fourth, each project member knew the importance of the assignment to the appropriations subcommittee and was willing to work as a team and put forth a 110 percent effort to complete the review on time. And fifth, CED and the regional offices were willing to do whatever was necessary to help us meet our reporting deadline.

Execution

To meet the February 15, 1978, reporting deadline, each team was asked to submit a draft report by the middle of December 1977. This gave each team about 2 months to perform both the headquarters work and fieldwork. To accomplish this, each team member was given a segment of the work and was expected to perform audit work in Washington and in the field, regardless of whether he was from Washington or a regional office. Because Indian reservations and BIA schools are located in isolated areas, Washington and regional office staff had to commute long distances to audit sites, work long

hours, and travel together for about 2 months.

Traveling together as a team, though, did have its benefits. It gave the project managers an excellent opportunity to determine the strengths and interests of each team member and to assign them audit tasks accordingly. And it gave the team members an opportunity to get to know each other, fostering true team spirit. This contributed greatly to the outstanding execution of the audit work.

By mid-December all the teams had completed their fieldwork and were drafting reports. By this time, I had made several field trips and was becoming knowledgeable about Indian programs and familiar with the project managers and team members. Each team member was committed to meeting the reporting deadline and willing to do whatever was necessary, including working 7 days a week and nights.

Reporting

Between mid-December and mid-January, things were happening so fast that it's hard to remember exactly how or in what order the reports were drafted. Everybody involved made personal sacrifices such as not taking leave, not attending holiday parties, and working weekends and holidays. Seven reports were drafted in Washington and one in Seattle. Each project manager was responsible for pulling together the first draft on the basis of input from team members—both CED and regional.

I reviewed each draft, gave my comments, and worked with the

project managers and team members on reorganization, rewriting, etc. This early involvement together with constant contact with the teams during the review helped me to get a good understanding of what our major findings, conclusions, and recommendations were going to be. The team members were able to get a good understanding of the kind of report I expected in terms of meeting the Office's reporting standards.

The revised drafts started coming in in late December and early January. Now all we had to do was process them through the office, obtain agency comments, have them edited, final typed and printed. Could we do this in a little over 1 month? I doubted it, but had made several arrangements which really helped:

1. My boss agreed that, if I was satisfied with a draft report, I could send it concurrently to him and the Office of the Director for review. We processed five reports this way, and sought his assistance for the other three.
2. Because of the tight reporting deadline, we were unable to obtain written comments. Instead, we gave the reports to agency officials for 1 week and met with them to discuss the reports, which worked extremely well. We also met with the Under Secretary of the Interior and the Assistant Secretary for Indian Affairs and obtained their comments on the draft reports.
3. An editor was assigned to the

audit site to edit reports; help develop charts, tables, etc.; work with Graphic Services; and help process the reports through the Office of Publishing Services.

4. We obtained a lexitron typing machine, which enabled us to type four of the reports at the audit site.
5. The Offices of Policy, Congressional Relations, General Counsel, and Information were alerted that the reports would be coming through in January and February 1978.
6. Early arrangements were made with the Office of Publishing Services to type four reports and print and distribute the eight reports.

The reports were issued by the reporting deadline as follows:

- “Report on Past GAO Reports Concerning the Effectiveness of Bureau Coordination With Other Federal Agencies” (Feb. 8, 1978, CED-78-47).
- “The Bureau of Indian Affairs Needs to Determine How Well Its Indian Training Program Is Working and Assist Tribes in Their Training Efforts” (Feb. 13, 1978, CED-78-46).
- “Bureau of Indian Affairs Not Operating Boarding Schools Efficiently” (Feb. 15, 1978, CED-78-56).
- “Questionable Need For All Schools Planned by the Bureau of Indian Affairs” (Feb. 15, 1978, CED-78-55).

**THE TEAM APPROACH
AND INDIAN AFFAIRS**

- “Information On Organization and Functions of the Indian Education Resources Center” (Feb. 15, 1978, CED-78-57).
- “Controls Are Needed Over Indian Self-Determination Contracts, Grants, and Training and Technical Assistance Activities to Insure Required Services Are Provided to Indians” (Feb. 15, 1978, CED-78-44).
- “Tribal Participation in the Bureau of Indian Affairs Budget System Should Be Increased” (Feb. 15, 1978, CED-78-62).
- “More Federal Efforts Needed to Improve Indians’ Standard of Living Through Business Development” (Feb. 15, 1978, CED-78-50).

Performance Appraisals

After we started the review of Indian affairs’ programs, the regional offices agreed that the project director would rate the team leaders and that the project managers would rate the team members. In one instance, the project manager visited the regional office to discuss the advisory ratings with team members and counsel them on their strengths and weaknesses. This worked out well, but highlighted a problem: CED and regional offices use different criteria in preparing ratings.

Results

The eight reports issued by CED contained 58 recommendations to

the Secretary of the Interior and the Secretary of Commerce and 2 recommendations to the Congress.

During hearings before the Subcommittee on Interior, Senate Committee on Appropriations, the Senate Select Committee on Indian Affairs, and the Subcommittee on Interior, House Committee on Appropriations, Members of the Committees and witnesses repeatedly referred to our reports. Various BIA officials repeatedly testified on the usefulness of our reports in identifying serious problems and formulating corrective actions.

Forrest Girard, Assistant Secretary of the Interior for Indian Affairs, testified that our reports point to a *general breakdown* in BIA operations and that, as a result of the reports, he had decided not to conduct a comprehensive internal audit of BIA programs, as he had promised during his confirmation hearings last fall. In his statement for the record, Mr. Girard pledged to use the reports as a management tool to bring about needed changes and improvements.

Mr. Staats can point to this assignment as one where we were timely and very successful in responding to the needs of the Congress. The Senate Appropriations Committee stated the following in its report on BIA’s 1979 budget request (Senate Report 95-1063, Aug. 2, 1978):

The Committee wishes to commend GAO as an organization and its personnel individually for the fine work performed in connection with the effort to make Indian programs more effective. In order to have the GAO findings early enough to aid in

fiscal 1979 appropriation decisions, the Committee asked for 10 separate investigations to be completed by February 15, 1978, leaving little more than 7 months for this work. GAO set up several investigative teams to carry out this difficult mission, and all reports on findings and recommendations were in the Com-

mittee's hands on or before the deadline. Despite the need for haste, the reports were professional, accurate, and constructive. They will be of great value to the Department and the BIA as well as to Congress in assuring more responsible and effective management of Indian programs.

Toxicity and Teams

In an October 20, 1977, request from the Chairman and Ranking Minority Member, Subcommittee on Health and Scientific Research, Senate Committee on Human Resources, GAO was asked to look at the management and coordination of chemical testing programs in several agencies. We were to report back to the subcommittee by January 1, 1979, at the latest. Mathew Solomon's group of GAO's Human Resources Division planned a 9-month, 1000-staff-day review to which the Washington regional office assigned Howard Cohen to monitor the assignment and Bob Campbell to lead a team of Mike Bollinger, Cliff Moore, Sharon Cekala, Jon Sell, Eric Marts, and Rod Ragan. Doesn't this sound like a typical moderate-to-large review? Well, it was! But if we had used our typical "us (field) against them (headquarters planners)" attitude and normal pyramid-structured audit team, we would still be gathering data. However, on this job, the "them" aspect was omitted and "us" became we with a job to do for a client who needed some answers.

Our clients were two staff members of the Subcommittee on Health and Scientific Research, Senate Human Resources Committee. They wanted to know if testing

for the toxicity of certain substances (tris, asbestos, saccharin, etc.) was adequately coordinated throughout the Government.

Early phone contact with the Subcommittee staff established that they had only a vague understanding of intricate interagency coordination and current planning in the executive branch. As a result, we proposed that we delay our detailed agency work until we could brief the Subcommittee on coordination activities which several key agencies had recently begun.

Let me repeat that! A field audit team actually negotiated with a congressional subcommittee staff. Because of this contact, the job's scope and direction changed markedly. Before TEAMS, such changes may not have occurred that fast. And in your own experience, how many times have you wanted to call a congressional requestor and ask him what was really on his mind? Even the structure of our TEAM changed to accommodate our revised mission. As originally planned, we were divided into three subteams of two persons each. Each subteam was to visit one of the three agencies being studied. However, after negotiating with the subcommittee we became

Mr. Marts is a management analyst with the Washington regional office. He joined GAO in January 1974 after receiving his MBA from the University of Maryland. He also earned a Bachelor of Industrial Engineering from Georgia Tech, after which he spent 5 years working for engineering firms in the private sector.

one, six-person team. Thoughtful participative management by our team leader helped the subteams to pool their knowledge of the subject and to completely replan the assignment. Now the team's resources would be best used.

Our short term goal was now to provide an oral briefing for the subcommittee staff on a date about 8 weeks away. During the first 7 of those weeks, our team completed the necessary audit work and also developed a fully indexed, 30-page briefing document, supplemented with 16 viewgraphs. During the final week the team polished its presentation and made the detailed arrangements for the briefing.

On Friday of the 8th week at 2:00 p.m., we gave the subcommittee staff a 48-minute briefing. Discussion followed for about half an hour, and here's the bottom line: The briefing, while meant to be an interim status report, was so informative that it completely satisfied the subcommittee's needs and they said further audit work would not be necessary.

Although this may sound like we are tooting our team's horn, we are really tooting the "Team Concept" horn. How often do we save 733 staff days and \$124,000 and also give congressional staff otherwise

unavailable information. We did it this time only because our team had the managerial autonomy, the resources, and the supportive environment within which to carry out its objectives.

Conclusions

These assignments were successful primarily because of the dedication and intensive efforts put forth by all those who participated. The project manager or team approach contributed a great deal to the success of those assignments because clearly established lines of authority gave project managers the opportunity to foster a *team effort*. Further, substantial preliminary planning contributed to the successful execution of fieldwork; and the early review of draft reports by the CED project director facilitated report drafting and processing. The support of CED, HRD, and the regional offices together with the cooperation and assistance from the Offices of Congressional Relations, Policy, Information, General Counsel, and Publishing Services made it possible for both teams to meet their reporting deadlines, proving that GAO can respond to the needs of the Congress in a timely fashion.

Team Management in Literature

The authors present a bibliographic essay on recent literature in the field of team management. A description of selected works is included.

Project management, team approach, matrix management—all of these terms have been used to describe organizational responses to complex environments which demand a degree of flexibility not found in the traditional bureaucratic structure. In compiling this annotated bibliography, we found much literature on the topic; however, little of it addressed the use of teams in an organizational setting comparable to that of the General Accounting Office. By far, the largest number of articles and books dealt with teams used in an industrial/business context—scientific and technological enterprises where the end product is a major piece of equipment, a new product, or a physical facility. The internal structure of the team remained basically functional, and the team structure was combined with, or superimposed upon, a functional organizational hierarchy.

GAO is somewhat different from these other types of organizations in that most individuals do not

have specific functional specialties assigned to them, nor are they a part of a larger functional unit. CED and HRD have the same functions; the distinction between the two divisions is one of program areas rather than activity.

While there is little in the way of organizational parallel, the literature still has much that is applicable to GAO, especially on the "human" side of teams. We have screened most of the literature written in the last 5 years and annotated those items which we felt would be of most use to the staff.

The four books and articles mentioned in the following bibliography are available in the GAO Library.

"Team Building: Issues and Alternatives," by William G. Dyer; Addison-Wesley, 1977; 139 pp.; \$4.95.

"Managers are like coaches.

John Merryman, Office of Librarian, has a B.A. degree from Beloit College and a M.S.L.S. degree from Catholic University. He was with the Library of Congress before coming to GAO in February 1978.

Ms. Trivizas, Office of Librarian, received both her B.A. and M.L.S. degrees from the University of Pittsburgh. Before joining GAO in 1974, she worked at the National Academy of Sciences.

They must be able to look at the team effort with a practiced eye, see what is interfering with maximum effort (or find out what the blocks are), and then devise a strategy or plan to remove the obstacles and release people for maximum effort as they combine their resources to achieve common goals. That is the name of the game in team development." Approximately half of Dyer's book is devoted to basic programs and design options for implementing team development. He includes an interesting chapter on the emergence of the team concept and a "team-building checklist" used for determining if a team development program is needed. He shows that team development is a continual, ongoing process, not just a one-time activity. Chapter 7, "Developing the New Team," discusses team-building sessions. Initial sessions should address 1) team members' concerns and reactions to the work assignment, 2) clarification of goals, and 3) formulation of operating guidelines, such as how decisions will be made and how to insure completion of work. The second half of Dyer's book diagnoses problem areas and offers methods to make the team a more effective work unit. He addresses role clarification, revitalizing the complacent team, inter-team conflict, problem managers, and overcoming "unhealthy agreement." The latter occurs in collective situations such as group meetings where participants don't communicate their desires to others, and often agree to something opposite to what they feel. This impedes the forward movement of

the organization. Also included is a useful three-page chart entitled "Team Development Scale" for use in judging the effectiveness of a team.

"The Team," by Peter F. Drucker; in his "Management," p. 564-571; Harper & Row, 1974.

Drucker presents a straightforward analysis of the team concept, discussing prerequisites for team success, strengths, and weaknesses of the team principle. A team needs sharply defined objectives and an understanding of how job assignments relate to objectives. "Team members need not know each other well to perform as a team. But they do need to know each other's functions and potential contribution. 'Rapport,' 'empathy,' and 'interpersonal relations' are not needed. Mutual understanding of each other's job and common understanding of the common task are essential." Drucker stresses that it is the team *as a whole* that is responsible for the job. Teams need strong leadership—not in the sense of giving orders, but in the ability to delegate authority and decision responsibility. The team is inherently unstable and the major duty of the team leader is to clarify objectives and goals. Drucker identifies the major factors contributing to team failure: lack of communication, unwieldy size, and poor sense of duty. "Teams fail—and the failure rate has been high—primarily because they do not impose on themselves the self-discipline and responsibility that are required precisely because of the high de-

gree of freedom team organization gives. No task force can be 'permissive' and function. This is the reason why the same young, educated people who clamor for team work tend so often in reality to resist it. It makes tremendous demands on self-discipline."

"Task Teams for Rapid Growth," by William W. George; Harvard Business Review, March-April, 1977, p. 71-80. v. 55(2)

George gives an account of Litton Microwave Division's use of project teams for expanding production and developing markets. The team organization was developed within the traditional functional hierarchy. The author, a corporate vice-president of Litton, indicates that team development evolved over several years and relied on extensive external and internal training sessions. The team organization resulted in greatly increased profits and production; interaction between units improved and job turnover decreased. Three problems associated with team structure are noted: 1) team decisionmaking can be frustrating to the traditional manager, 2) much time is spent in group meetings, and 3) there is competition for priorities when an individual is assigned to more than one team. The author outlines the characteristics of a successful team leader: he must be a good decision-maker, be able to bring people with diverse backgrounds together, and be receptive and flexible to change.

"Conflict Management in Project Life Cycles," by Hans J. Thamhain and

David L. Wilemon; Sloan Management Review, Spring 1975, p. 31-50. v. 16(3)

"Managing Interpersonal Conflict in Project Teams," by Raymond E. Hill; Sloan Management Review, Winter 1977, p. 45-61 v. 18(2)

The first study identifies the types of conflict that occur during the life of a project, and ranks these types in order of intensity for the various stages of the project cycle. There are seven sources of conflict identified, the most intense being conflict over schedules, followed in order of intensity by conflict over priorities, conflict over manpower, conflict over technical issues, conflict over administration, personality conflict, and conflict over cost. The authors outline the principal methods of conflict resolution. The study allows the team leader to anticipate potential sources of conflict over the life of the project and make necessary adjustments. The second study deals exclusively with resolving interpersonal conflict between team members and also between supervisors and their subordinates. "Project managers emphasized that personality conflicts are particularly difficult to handle. Even apparently small and infrequent conflicts might be more disruptive and detrimental to overall program effectiveness than intense conflicts over nonpersonal issues, which can often be handled on a more rational basis." This study analyzes the approach of successful team managers in dealing with personality conflict. Both studies contain excellent bibliographies.

Interview: Rensis Likert

*Early in 1976, the Community and Economic Development Division (CED) contracted with Rensis Likert Associates to apply some of its research results and achieve organizational and management change. Now, 2½ years later, there are visible improvements in CED staff communications at all levels, surfacing and resolving problems, and staff participation in the decisionmaking process. The following interview by Anthony J. Reilly of Rensis Likert, founder of the Institute for Social Research, is reprinted with permission from John E. Jones and J. William Pfeiffer (eds.), *Group & Organization Studies: The International Journal For Group Facilitators*, vol. 3, no. 1, La Jolla, Ca., University Associates, Mar. 1978.*

Rensis Likert has developed a management system based on long-term research in numerous organizational settings. Under Likert's leadership, much organizational theory has been developed over the past thirty years at the University of Michigan's Institute for Social Research, the largest university-based research organization in the social sciences. Two books by Likert and a third written by him and his wife, Jane Gibson Likert, spell out his theory and research in great detail: *New Patterns of Management* (1961), *The Human Organization* (1967), and *New Ways of Managing Conflict* (1977).

A succinct description of Likert's System 4 theory is quoted here from his latest book:

The human organization of a System 4 firm is made up of interlocking work groups with a high degree of group loyalty among the members and favorable attitudes and trust among peers, superiors, and subordinates. Consideration for others and relatively high levels of skill in personal interaction, group problem solving, and other group functions also are present. These skills permit effective participation in decisions on common problems. Participation is used, for example, to establish organizational objectives which are a satisfactory integration of the needs and desires of all the members of the organization and of persons functionally related to it. Members of the organization are highly motivated to achieve the organization's goals. High levels of reciprocal influence occur, and high levels of total coordinated influence are achieved in the organization. Communication is efficient and effective. There is a flow from one part of the organization to another of all the relevant information important for

each decision and action. The leadership in the organization has developed a highly effective social system for interaction, problem solving, mutual influence, and organizational achievement. This leadership is technically competent and holds high performance goals.

G&OS: *Ren, I'm happy to see you again after a number of years and pleased that you've consented to this interview.*

LIKERT: I'm glad that you asked me. I enjoyed working with you when you were at the Institute for Social Research, and I've looked forward with pleasure to seeing you again.

G&OS: *Although you've retired from the Institute and the University of Michigan, you've continued your contributions to the field while splitting your time between Hawaii and Ann Arbor. How does it work out geographically for you and Mrs. Likert now?*

LIKERT: Currently, we spend about five months in Michigan and about seven in Hawaii. In both places, I'm working on matters related to Rensis Likert Associates, an action-research firm I founded when I retired from ISR.

G&OS: *You've put so much of your life into research, and now in this phase of your career, you're going the applied route. What went into your decision to invest so many of your years in research efforts?*

LIKERT: I ought to give you a copy of the proposal I submitted to the Office of Naval Research (ONR) in 1946 proposing a ten-year research program. I pointed out that we needed to do research to find out what basic principles and concepts of management resulted in the best job and organizational performance. I had no idea we'd wind up with such a complex system. I knew we'd find principles that were significant, but I hadn't really anticipated the fact that they could be integrated into a total system. In that proposal, I also stated that the first seven years ought to be devoted to discovering the principles and that research ought to be done during the last three years on how to help managers and organizations use the new knowledge. In the phase we're in now, we're doing research on the change process as well as experimenting with various ways of implementing the change.

G&OS: *As you wrote the proposal, how did you envision this kind of in-depth organizational research unfolding?*

“New York Division for Youth: A Collaborative Approach to the Implementation of Structural Change in a Public Bureaucracy,” by Donald K. Curew and others; *Journal of Applied Behavioral Science*, v. 13(3), 1977, p. 327–339.

Although major reorganizations in Federal and State bureaucracies are not unusual, the authors feel this particular one was unique “in that it was a broad-based change which involved management and workers struggling together with the planning, decisionmaking, problem solving and implementation of the change effort.” The New York State Division for Youth with its 2,100 government employees, a headquarters office having three major divisions, and a large field office system is the closest parallel to GAO so far encountered in the literature. A major accomplishment of the reorganization was the implementation of Youth Services Teams, reporting to a team coordinator rather than a functional supervisor, where individuals who had formerly been responsible for a specific function became responsible for the total treatment of a youth.

The authors stress the role of the employees themselves in making the team concept work. Successful implementation of the Youth Services Teams resulted from the team members meeting to clarify the roles and responsibilities of the team as a whole and each person in it, to identify problems, and to generate possible solutions.

The authors were optimistic about the potential for change in a large government bureaucracy if 1) top management is committed to, and willing to work for, the change; 2) top management perceives bottom level personnel as capable and motivated; 3) both management and organizational development facilitators are willing to collaborate with those in the organization affected by the proposed change, to be criticized, and to negotiate power issues; and 4) line staffs trust, and are able to participate directly, in all forms of the change effort that affect them.

“The Matrix Organization in Research and Development (Organizing and Administering Projects),” by Stewart P. Blake; Stanford Research Institute, 1977.

The matrix organization superimposes project management (i.e., project teams) on the standard functional hierarchy, in order to expedite decisionmaking, decrease project lead time, and make the organization more responsive to outside demands and pressures. Blake’s paper is an analysis of the duties of the project team leader in the matrix organization. Ideally, Blake says, the team leader should be a Renaissance man, for his job places him in a difficult position: he is given maximum responsibility and authority for the accomplishment of the job, while balancing the needs of the team against the limitations presented by his functional superiors. The team leader must maintain clear com-

munications within the team and between the team and the functional structure. A team that is decentralized compounds the problem. "Geographical remoteness" increases problems of cooperation. The farther a project team is from the home office with which it must do its work and receive its support, the more difficult become these relationships. Not only does the sense of urgency diminish and personal indifference increase, but it is more difficult to practice economy in time and dollars." While the author is committed to the matrix organization as an effective tool for increasing agency responsiveness, he concentrates on how the team leader can deal with its weaknesses. The matrix organization has been called an "elusive" and

"difficult" concept. A short summary of the matrix can be found in the January 16, 1978, issue of *Newsweek*, an article entitled "How to Stop the Buck Short of the Top," (pp. 82-83). Three more indepth articles include "Matrix Management: the Structure with a Future," by Leonard R. Sayles, (*Organizational Dynamics*, Autumn 1976, pp. 2-17); "The Human Side of the Matrix," by Paul Lawrence, Harvey Kolodny, and Stanley Davis, (*Organizational Dynamics*, Summer 1977, pp. 43-61); and "Problems of Matrix Organizations," by Stanley Davis and Paul Lawrence, (*Harvard Business Review*, May-June 1978, pp. 131-142). The definitive book on the subject is *Matrix*, by Davis and Lawrence, (Addison-Wesley, 1977).

Annual Awards for Articles Published in The GAO Review

Cash awards are available each year for the best articles written by GAO staff members and published originally in *The GAO Review*. Each award is known as the Award for the Best Article Published in The GAO Review and is presented during the GAO awards program held annually in October in Washington.

One award of \$500 is available to contributing staff members 35 years of age or under at the date of publication. Another award of \$500 is available to staff members over 35 years of age at that date.

Staff members through grade GS-15 at the time of publication are eligible for these awards.

The awards are based on recommendations of a panel of judges designated by the Comptroller General. The judges will evaluate articles from the standpoint of the excellence of their overall contribution to the knowledge and professional development of the GAO staff, with particular concern for:

Originality of concepts.

Quality and effectiveness of written expression.

Evidence of individual research performed.

Relevancy to GAO operations and performance.

Statement of Editorial Policies

1. This publication is prepared primarily for use by the professional staff members of the General Accounting Office.
2. Except where otherwise indicated, the articles and other submissions generally express the views of the authors, and they do not necessarily reflect an official position of the General Accounting Office.
3. Articles, technical memorandums, and other information may be submitted for publication by any staff member. Submission should be made through liaison staff members who are responsible for representing their offices in obtaining and screening contributions to this publication.
4. Articles submitted for publication should be typed (double-spaced) and generally not exceed 14 pages. The subject matter of articles appropriate for publication is not restricted but should be determined on the basis of presumed interest to GAO professional staff members. Articles may be submitted on subjects that are highly technical in nature or on subjects of a more general nature.

LIKERT: The plans for the research were described quite fully in the proposal. We planned to locate organizations or organizational units that were doing the same kinds of work and using the same technology but which differed substantially in performance. We planned to measure the leadership behavior and other relevant variables and discover which of these were associated with high performance. This was to be done for various kinds of work, for example, sales, clerical, manufacturing, and R&D and for all hierarchical levels. This is the plan we actually carried out. Now I am interested in research on how best to help organizations make use of what we have learned about successful management.

G&OS: *You're expending considerable effort, then, on narrowing the gap between your research findings and practical implementation of change.*

LIKERT: Yes, and we're doing research on the change process. The first research focus was on organizational theory and concepts. Now it's research on the change process. We're finding that certain procedures are far more effective than others and that certain ways of implementing them are more effective. Personally, I want to have enough day-to-day operating experience in change programs so that I'm knowledgeable about the problems and processes, although I don't spend full time on the OD change effort.

G&OS: *Ren, a lot of the research at ISR over the years has come about under your administrative leadership. How did ISR get started?*

LIKERT: Well, that really goes back a long way. During World War II, I was head of a division in the Department of Agriculture that conducted interviews nationwide with citizens. We were also doing studies for the Treasury, the State Department—all kinds of government agencies. More than half of our budget came from outside the Department of Agriculture. During the war, we developed our methodology and brought together sophisticated research design, improved interviewing procedures and rigorous probability sampling. We made use of the sampling research of the Statistical Laboratory at Iowa State University and Carl Rogers' work on interviewing at Ohio State University. We added to our staff persons who were doing excellent probability sampling in a survey unit in WPA (Work Projects Administration).

By the end of the war, we had developed some very sophisticated sample survey procedures—beyond what any university was teaching—survey research in all its dimensions. We decided that a university ought to be teaching this methodology and doing research on it. At this same time, the Department of Agriculture decided that they wanted us to limit our work to agriculture and do no work for other Federal departments. In addition there was a budget cut so that about three-quarters of our staff was excess. We left a quarter of our staff to do the work for the Department of Agriculture, and the rest of us decided to move as a group to a university and set up a Survey Research Center. I tried to get money from the Carnegie Foundation and other foundations and had no luck! Nobody was prepared to support such a center at the level of at least \$100,000 per year.

G&OS: *What criteria did you use in your search for an appropriate university?*

LIKERT: We had several guidelines. We wanted the university to be interested in social sciences, have strong social science departments, and be located in a spot where it was easy to commute to New York, Washington, or Chicago because we knew we had to obtain support from outside. We knew we had to get contracts or grants. So we went to the University of Michigan in Ann Arbor on that basis. I had been an undergraduate there and knew some of the people, which made contact easier. We were invited to go there as a *self-supporting* research organization. This meant that we were completely financially responsible for ourselves. The original action taken by the Regents wrote an excellent disclaimer in our regard! At any rate, we set up a Survey Research Center. There was an interest in sociology, psychology, economics, political science—particularly sociology and psychology—so we established working relationships with those departments. None of our staff had tenure, and we were invited by those departments to teach—usually one course per person. Most of our staff were senior people, and the departments reimbursed us for the time devoted to teaching. As a matter of policy, we established some principles that were crucial, I think, in the development of the Survey Research Center and, later on, the Institute.

G&OS: *Your group pioneered a movement, Ren. About the time that Kurt Lewin died in 1947, his group at MIT joined you in your efforts at Michigan. How did that happen?*

LIKERT: After Kurt died, MIT decided it wanted to curtail the amount of work being done in the social sciences, but the group Kurt had brought to MIT decided that they wanted to stay together. Doc Cartwright, Ron Lippitt, Leon Festinger, and Jack French wanted to move as a group to another institution, so we worked out a plan under which the university agreed to put up from general funds \$10,000 a year to help support their work, with the understanding that they would do teaching to offset this expense. They moved to Michigan, and we needed a name for the combination of the two groups. We called it the Institute for Social Research. One very important provision in the arrangements was that the Institute was permitted to keep—credited to our account—the *overhead* income on our contracts. That was extremely important because other than for space, heat, light, and custodial service, we picked up all the costs of our being there. We started off in dead storage space.

G&OS: *And that enabled the Institute to be autonomous.*

LIKERT: That did it. We paid for our own accounting; we bought our own furniture; we paid for our own equipment, telephone bills . . . everything was paid for out of that money, but we also were able to build some working reserve, which gave us stability. We could carry people between projects, which was crucial.

Another important decision we made was that personnel appointments within the Institute would be made by the Institute staff. If we wanted to promote a person, irrespective of whether the department wanted to, we did it, based on his work in the Institute and not necessarily his contribution to a particular discipline. However, if a department wanted a person to teach, the department decided what the topic would be, gave an appropriate title and salary and determined what the subject matter would be. This generally was related to the person's area of expertise and the research he was doing.

G&OS: *Do these policies still apply today at the Institute?*

LIKERT: Yes, those policies still stand. One other thing was that our basic approach was problem oriented and not discipline oriented. We tried to deal with important problems in their entirety, so we designed the research in such a way as to deal with each problem as a total entity—not to slice it up

and say, "This is for the sociologists, that's for the political scientists, and that's in the realm of psychology."

G&OS: *You seem to have made this approach work well.*

LIKERT: That's right. We try to deal with a problem in terms of its total character and maintain the integrity of the problem, so to speak, rather than slicing it into various parts. It is impossible to do adequate research by splitting a problem into unreal dimensions and tacking together a final research report based on those individual pieces. Our separate disciplines simply don't fit the nature of many of the problems we study. If one is to tackle the problems as they exist, we must be willing to study the relevant variables of each problem as a whole.

G&OS: *Has your theoretical approach to research yielded important findings?*

LIKERT: Well, we have caused fundamental changes in such disciplines as economics and political science. For example, historically the consumer had been ignored as a major variable affecting our economy. Capital investments by business and governmental expenditures were considered to be of key importance, but consumers were thought to spend whatever they received, and therefore they were ignored. We demonstrated that that was not true. Our studies at the Survey Research Center showed that knowing what consumers were going to spend or not spend and what they planned to save or not save was a very important factor affecting the general level of business for the entire economy. In political science, we made comparable contributions: we were able to demonstrate by quantitative analysis of motivational and other variables that we could get a clearer understanding of the political process. At the time we started—in the late Forties and early Fifties—there was practically no university requiring a person studying for a Ph.D. in political science to be trained in statistics. Now, it's not uncommon at all. Presently, one-quarter of all Ph.D. candidates in political science are being trained in the quantitative methods of studying political behavior during summer workshops at the Institute. This is part of the Inter-University Consortium on Political Behavior, staffed by Institute personnel. This gives you some idea of the kind of changes that came out of this commitment to study social concerns and problems in depth and with a problem orien-

tation. And, as that work has been done over the years, relevant knowledge has been discovered and integrated into the teaching of psychology, sociology, political science, and statistics—both at the Institute and at the University of Michigan.

G&OS: *One of the things you've talked and written about over the years is that when an organization becomes less productive as a result of the deterioration of the human component the time required to rebuild it is as long as the period during which the deterioration occurred. Why and how is this so?*

LIKERT: It would take at least that long—or longer! Because once you've developed a lot of resentful employees and hostilities, you've got a real problem to rebuild trust and confidence. I'm not so sure but what the rebuilding period may be longer than the period of disintegration.

G&OS: *What about people who are doing change work and who have a short allowance of time? Many organizations are not willing to commit the time, effort, and human and financial expense that's involved in long-term change projects. What about "one-shot" efforts?*

LIKERT: I have strong reservations about what the one-shot effort does. The change agent is usually in a hostile environment, and any new ideas are very likely to be smothered and obliterated. Now if a one-shot intervention is carefully planned as the first step of an in-depth change process, and if higher levels of management begin to open their eyes as you work with them, it's probably worth the effort.

G&OS: *Many people doing training and development are at a loss to come up with appropriate data to support the potency of their work. Management demands short-term payoff. What are your thoughts about this problem?*

LIKERT: As you know, there's a lag between improvement in the human organization and improvement in organizational performance, so we report to management both gains in the measurement of the human component—which occur fairly rapidly—and gains in performance. As a rule, things like changes in turnover and absence tend to show up a little faster than productivity changes or cost performances. I tend to be enthusiastic and I tend to get people very excited about what might happen if they change to a System 4 kind

of organization.¹ They become interested and they have expectations for very rapid improvement. My colleagues at the Institute and now at Rensis Likert Associates keep telling me, "Now, Ren, it's all right to get them interested in what can be done, but don't oversell it." One has to see that the expectations are realistic in relation to the initial improvement expected.

G&OS: *What about the role of competition and conflict in System 4? In my work of training trainers, I've found that people really feel confused about where competition stops and collaboration starts. Using conflict as a sign of health rather than a sign of illness in organizations is a new thought to many management people.*

LIKERT: Let's talk about conflict first. I think conflict—tension—or whatever you want to call it—is an essential part of any healthy, effective organization. Research in this area bears out this point. Don Pelz and Frank Andrews did some work that showed that if there is diversity among people engaged in research, there is greater creativity than if people have similar orientations. It's critical to have diversity. With diversity comes conflict, and you get creative solutions only if you have an effective system of problem solving that resolves conflict in constructive ways. Otherwise, organizations are split into warring camps and the organization often becomes immobilized. So conflict isn't something to be avoided, but it does need to be managed in productive ways.

Now competition . . . many people use competition to motivate. Some managers will pit one subordinate against another. That kind of competition is associated with poorer performance. If there are competitive relationships among people in organizations rather than cooperative relationships, performance is poorer. I think the reason is that if there is competition there's no motivation to help the other person. You're not going to share know-how, you're not going to tell a co-worker about a situation in which he's going to fall flat on his face if he doesn't know certain things—you'll just let him fall, because when he falls, you're relatively better off in the competition! Comparatively, it's a win-lose situation. That's what performance appraisal sometimes does and that's what management by objectives

¹ System 1 is punitive authoritarian; System 2 is benevolent authoritarian; System 3 is consultative; System 4 is participative-group.

sometimes does; so competition is sometimes associated with poorer organizational performance rather than with better. Competition is better than laissez-faire, but neither of them is as good as high levels of trust, confidence, and cooperation, where people all work together toward goals that they've set and are committed to.

G&OS: *Ren, your System 4 model suggests that if a manager focuses on teamwork, individual and group commitment to high task accomplishment, and better problem-solving processes, the end result is a more productive organization—one that utilizes human and organization resources optimally. How does all this fit into the popular theory of the contingency approach to leadership—that leadership behavior on the part of the manager needs to be highly specific to the situation?*

LIKERT: If the manager looks only at specific situations, he or she has so many different variables and so many different choices that it's difficult to make sound decisions. A manager is better off with some general principles or a general model, if you want to call it that, and I think that's what System 4 provides. It gives some basic principles that can be used to select what kind of behavior is appropriate in a particular situation—such as being supportive, developing and treating people in such a way as to develop confidence and trust, having high performance goals. These are the kinds of general principles I mean. Now, the thing that is relevant is that the principles must be applied in ways that fit the characteristics of the labor force in that particular situation. This is where the contingency concept should be used.² If people are accustomed to a System 1½ kind of organization, you don't suddenly involve them in group problem solving on a System 4 level.

You move toward using System 2 or 2½—and then gradually change toward a more participative model so that what you're doing is adapting the specific procedures you use to fit the particular situation you're in. But there are general principles to guide what you do and the direction of change. Moreover, the model tells you how to change leadership over time to continue to get better results.

² See R. Likert, *Past and Future Perspectives on System 4*. Paper presented at the August 1977 meetings of the Academy of Management. Available from Rensis Likert Associates, 630 City Center Building, Ann Arbor, MI 48108.

G&OS: *You continue to explore the notion of System 5. What does System 5 entail for you?*

LIKERT: It's impressive to me that autonomous groups or semi-autonomous groups—in industry, for example—are highly productive. That's been pretty well demonstrated. Usually, if you look at what's happening, they're not groups floating in space—they're people tied to an organization who have much more latitude on what they do and how they do it, but they still are integrated in terms of the total objectives of the organization. What I'm saying is that you don't have to have the authority of hierarchy in order to get effective results, if you have groups and activities that are coordinated and the workers know what the general objectives are and are working toward them. So I think System 5 will have a structure like System 4, and it will become increasingly complex as we move toward more complex technology—for example, we'll have more matrix organizations. There will be horizontal and vertical linkages, and sometimes the horizontal ones will be two or three dimensions rather than one dimension. At the present time in System 4, if a group that's problem solving can't reach a decision and that decision must be made because of time requirements, it's up to the manager to make the decision—he's got to see that it's done. If the group makes a decision that's contrary to what the manager knows will work, or one that violates company policy, he should overrule it. What System 5 would do would be to say to the *group*, "You solve the problems and take the action needed for you to do the job that is expected of you in terms of your responsibility to the total organization." When a group fails to make the decisions required for effective performance, the higher group would begin to ask what's wrong with the decision-making process of the lower group and begin to provide training or make other changes that are necessary in order to get the lower group to function effectively as a problem-solving group discharging its responsibility to the total organization. That's the way I think System 5 will function.

Now, the thing that became evident as we wrote *New Ways of Managing Conflict*³ was, first, that it's extremely important that the manager or supervisor—the linking pin in the problem-solving process—see that the problem as stated is the real problem and not a symptom and, second,

³ Rensis Likert and Jane Gibson Likert, *New Ways of Managing Conflict*. New York: McGraw-Hill, 1976.

to see that the problem statement is clear. After that, it's a necessity for that linking pin or supervisor to have the group adhere to the steps of problem solving. The first step, after stating the problem, is to list the essential conditions. These are the conditions that a solution must meet to be acceptable. If the group lists those essential conditions, and the linking pin has stated the essential conditions that are important to him and to the *total* organization, the group can't and won't come up with a solution that the supervisor or linking pin can't buy, because if it meets the essential conditions of the total organization—maybe budget constraints or time constraints—it will be an acceptable solution. The supervisor should never be faced with a situation in which a group makes a decision he can't accept because if he has given them his essential conditions, that won't occur.

G&OS: *Then the supervisor's problem-solving behavior is crucial.*

LIKERT: It's a very critical factor. Some managers feel that they cannot use System 4. These managers say, "I can't permit subordinates to be involved in decisions because I'll lose my authority." If a manager adheres to the step of stating his essential conditions, he will not lose his authority. Actually, what happens is that his capacity to exercise influence is greater because his personnel trust him more; they're more committed to the decision that's made, they understand it better, and they'll implement it better. So the manager who involves people in decisions hasn't *lost* but has *gained* influence, but it's absolutely necessary for him to adhere to the problem-sharing process and use fully the essential conditions step.

G&OS: *Ren, your "Principle of Supportive Relationships,"⁴ which basically centers on respect for individual differences among people and high task expectations, has always struck me as the core element of System 4. You are your theory, and each of these ingredients must apply to your own life and how you developed personally and professionally. I'd appreciate your speaking to that point.*

⁴ This principle states: "The leadership and other processes of the organization must be such as to ensure a maximum probability that in all interactions and in all relationships within the organization each member will, in the light of his background, values, and expectations, view the experience as supportive and one which builds and maintains his sense of personal worth and importance." R. Likert, *New Patterns of Management*. New York: McGraw-Hill, 1961, p. 103.

LIKERT: I have tried to apply the principle of supportive relationships. I did this long before I stated it. I tried to use this approach in the Institute for Social Research. I believe that it contributed to the Institute's success and to our capacity to attract and hold able persons. The Institute has lost practically none of its senior staff over the past thirty years except by retirement.

G&OS: *What new projects are you starting on?*

LIKERT: I'm working on another short book with my wife, Jane, that will pull together numerous research findings having to do with the capacity of System 4 to achieve superior performance.

G&OS: *So people who thought that your Conflict book was your last book will be pleasantly surprised.*

LIKERT: I hope so. We want to put the new book together fairly rapidly. We want to report on the sizeable improvement in productivity, labor relations, and employee satisfaction and health that happens to an organization—a company, a government agency, a hospital, a school system—when the top management moves the organization closer to a System 4 administration. We want to describe—in lay terms—what happens to that organization so far as performance, employee satisfaction, employee health, and the impact of the organization on its clients or customers are concerned.

G&OS: *Well, I'd say that you're planning a book that will be of widespread interest. Thanks very much for sharing your thoughts and ideas in this interview.*

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The Challenge of Career Adaptation and Renewal

Career adaptation and renewal is self-development to foster readiness, resilience, and adaptability for any contingency. Self-development begins with introspection to examine one's personal values, talents, and attitudes.

This article is adapted from a presentation by the author to the Institute on Obsolescence and Its Effect on the Management of Technological Innovation at The American University, Washington, D. C., on April 29, 1978.

The dynamics of societal change resemble a capricious tropical storm gathering momentum. Potential hurricane forces, to a large extent seeded by science and technology, are accelerating changes that increasingly affect careers of scientists, engineers, and research and development (R&D) managers. These changes also affect the careers of business people, educators, and people involved in public service in both governmental and private sectors. This article addresses the question: "What can each of us do to better prepare for job and career changes that may be induced by these rapidly changing circumstances?"

Some of these changes are:

- Increasing emergence of technologies, e.g., computers and data processing, electronic fund transfer, satellite sensing, and communication.
- Increasing world interdependence in energy, food, critical minerals, and the economy.
- Increasing influence of Government on research and development and technology innovation.
- Increasing foreign competition in technology-intensive products.

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- Slowing U.S. industrial growth in technological innovation and productivity.
- Changing societal values.
- Citizens' movement for more active involvement in decisions relating to research and development.
- Appropriate technology movement.
- Trend toward more interdisciplinary research and development.

These factors are affecting career opportunities for scientists, engineers, and R&D managers, both in suppressing some types of career opportunities and in creating new ones. It has been reported that, during the last decade, a 20-year-old scientist or engineer could expect to change jobs from three to seven times during his or her career. He or she probably also would experience a major career change at least once or twice; for example, changing from academic to government or industrial employment, or from performing research and development to management of R&D. I believe that, in the future, individuals changing jobs as much as 10 times and careers three or four times is not unlikely.

Personal Career Adaptation and Renewal

All of us have read and heard a great deal about career planning, continuing education, and combating obsolescence. Much of what I have to offer will not be new, but I shall try to emphasize a different

thrust and hope to introduce some useful, practical suggestions which, in my view, have not received adequate attention. I believe that career adaptation and renewal is more than combating obsolescence in technical knowledge or management skills. It is also more than career planning in the formal sense of identifying specific goals for advancement and determining sequential steps in development.

Simply stated, *career adaptation and renewal is self-development to foster readiness, resilience, and adaptability for any contingency*. Career choices may appear fortuitously from time to time as new opportunities arise, or they may be influenced strongly by unacceptable changes in organizational structure, mission, or management environment. They could be forced by job termination or affected by family stress.

Continued superior performance, keeping up with one's profession, career planning, continuing education, and broadening horizons to diversify knowledge and capability provide major strength to catalyze advancement opportunities and mitigate forced change. However, I would like to emphasize the importance of developing personal attributes or total fitness—intellectually, emotionally, and spiritually—the whole person, character, and personality. This applies to both managers and employees.

Managers must be concerned about the career development of their employees as well as their own personal growth and maturity. It is especially important for them to recognize and fulfill their role as

coaches and motivators who establish for their employees an environment conducive to career growth and development. This role is analogous to a gardener's responsibility in the cultivation, care, and feeding of plants and vegetables. They must provide opportunities and guidance for continuing education, participation in professional society activities, interpersonal behavior and communication skills development, appropriate rewards for achievement, and challenging growth assignments. Managers also need to be alert for further development of management skills and broadened perspectives to enhance their own career advancement.

There are many common elements to career development for both technical specialists and generalists or managers. These relate particularly to the basic aptitudes, knowledge, skills, and personal attributes that distinguish leaders from followers, and winners from losers. Whether a manager or an individual performer, I believe that the basic point of departure is to know one's self. This means knowing one's own value system, strengths and weaknesses in talents and personal attributes, and attitudes.

Personal Values

To examine one's own value system, i.e., to analyze and understand what values are most important in life, let's consider three pyramids of human achievement (see fig. 1) which have been var-

iously called "hierarchies of needs" or "ladders of advancement." The one on the left could be construed as characterizing a manager/executive or government leader/politician; the one on the right, the individual craftsman/specialist or performer/superstar.

I have proposed the one in the middle as a third alternative, which I believe is at least equal in importance to the other two, especially when one considers that most of the great historical changes in society have been stimulated by patriotic, moralistic, or religious causes.

We note that all three of the pyramids presume to reveal man's instinctive physiological needs and security as initial priorities but indicate different patterns above that level. These presumptions might be questioned in some cases and certainly, linear advancement beyond that level is rare. Each of us might do well to consider which of these pyramids most nearly characterizes our own attitudes, motivations, and goals, and to what extent our characters and life styles are motivated by a combination of these patterns.

My own view is that individuals most likely to succeed and be happy combine elements from all three pyramids in appropriate balance, with a much stronger proportion of social concern than is generally recognized. Of course, values may change during career development and it is of paramount importance that behavior orientation shift when moving from the individual performer or superstar role into management.

A variety of workshops and seminars conducted by behavioral scientists such as sensitivity training, self-revelation, interpersonal development, interpersonal group encounters, and group dynamics are available to help individuals better understand themselves and know how they are perceived by others. These group sessions usually are unstructured and designed to create situations that foster mental and emotional stress both in concern for others and in protecting one's own image. They are intended to penetrate any mask or facade in an effort to reveal the true person, and to generate feedback on how each participant is perceived by others in personal behavior and values. Most participants I know believe they have gained much from such experiences. However, some believe they are too risky and dangerous, especially for emotionally unstable persons or any who may have strong guilt feelings or be under severe mental or emotional tensions before participating.

As correlative reading, I would suggest the book, *Small Is Beautiful: Economics As If People Mattered*¹ by the late E. F. Schumacher, who discusses human values and technology and advocates reexamination of industrial society's value system. My review of this book is presented in Readers' Comments in this issue of *The GAO Review*.

¹ *Small Is Beautiful: Economics As If People Mattered*, E. F. Schumacher. Perennial Library, Harper & Row, New York (1975). Originally published by Blond & Briggs Ltd., London (1973).

Talent Appraisal

A second step in self-appraisal is to identify and evaluate one's own talents, skills, and knowledge and to compare those capabilities with some criterion or standard of measurement. This can be done on an individual basis or with management assistance.

Recently the General Accounting Office conducted an internal survey to ascertain the degree to which knowledge of computers and automatic data processing is involved in GAO work. Based on that survey, management determined that it was important for all professional staff to have a working knowledge of computers, automatic data processing concepts, terminology, and methods of application. Accordingly, a diagnostic test was designed covering six topics with approximately 100 questions. This test was circulated among all of the professional staff and all were asked to take the examination and decide for themselves whether they had enough basic knowledge in the field or would find it useful to take a primer course. The test was taken voluntarily, and self-administered and scored. This type of diagnostic test could be designed for any field.

Attitudinal Barriers

A third step in self-appraisal is to analyze one's own attitudinal barriers that may inhibit career development. For example, one might pose the following questions:

—Am I satisfied and comfort-

able only when working in a familiar area?

- Do I work best only in a structured environment or in an unstructured environment?
- Do I have to overcome the fear of risk in trying something new?
- Do I have the self-discipline required to study and assimilate new fields of knowledge or techniques?
- Am I too concerned about peer pressure to remain loyal to my own field of science or engineering?
- Am I too concerned about peer bias against “compromising” or “diluting” my profession by shifting into interdisciplinary research or management?
- Am I concerned about the difficulty of being accepted into professional circles other than the field in which I have already gained stature?

Self-Development

Having completed this introspection, consider if self-development is now appropriate. I like to think of self-development for career adaptation and renewal as analogous to training for physical fitness as described by Morehouse and Gross in their book, *Total Fitness In 30 Minutes A Week*.² They state that:

² *Total Fitness In 30 Minutes A Week*, Laurence E. Morehouse, Ph.D., and Leonard Gross. Pocket Books, New York (1976).

Organic fitness is basic to all activities. It's not training for an athletic event, but it must precede training for that event. Without organic fitness, you aren't ready for the training.

* * * *

Training for fitness falls exactly between physical therapy at one end of the scale and athletic performance at the other. The same basic principles apply—but in an entirely different way.

In therapy, the problem is deterioration of muscle. So the first objective is to get the muscle bigger, in order to have sufficient tissue.

* * * *

The point of therapy is to get them to use muscles that have been dormant.

* * * *

In athletics, the objective is to increase athletes' tolerance to that extra second or two of effort that can make them champions. It's that peak effort which adds the fraction they need for better performance.

Neither situation applies in physical-fitness training. Not only should you not feel pushed, you shouldn't even feel uncomfortable.

Fitness strictly relates to your ability to meet the demands of your environment.

Fitness means the development of components—muscular strength, muscular endurance, cardiovascular endurance and flexibility.

Guidelines for Developing Adaptability

Based on this analogy and the principle that the most important aspect of development for career adaptation and renewal is the total readiness, resilience, and adaptability for any contingency, I would

like to offer some suggestions for simple things to do on a daily or weekly basis to build character intellectually, emotionally, and spiritually. These might be termed stop, look, and listen exercises.

We should try to avoid succumbing to common temptations, such as:

- Dwelling on past achievements and resting on past laurels.
- Allowing time demands of job and administrative load to block creative thinking and career development activity.
- Locking in too tightly to career specialization even if one is potentially a superstar.
- Getting lazy.
- Allowing routine habits to dominate our life style.

Each of us might undertake constructive exercises like the following:

- Learn something new, e.g., increase our vocabularies.
- Break an old routine.
- Take a little risk or adventure, i.e., try something new.
- Test our intellectual muscles, e.g., try to solve a prob-

lem, or take a course for credit.

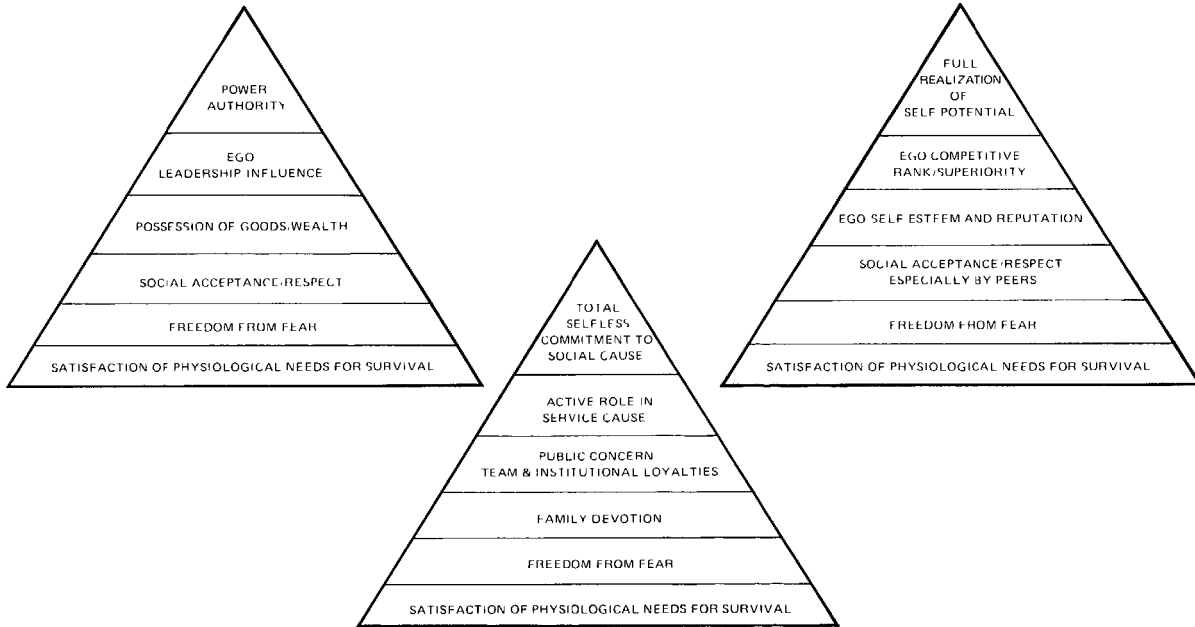
- Read a challenging article.
- Identify and assess opportunities for innovation.
- Emulate some outstanding person we admire.
- Change pace and relax.
- Pause and examine the big picture holistically.
- Stop, look, listen, and think.
- Take time to meditate and pray.

The other day Dennis the Menace pointed toward the sky and explained to little Joey, "The dark clouds are the full ones coming in and the white ones are the empties going out." Each of us must maintain full capacity so we don't find ourselves on the way out.

In traditional military parlance the command to riflemen is "ready—aim—fire." Ready means loaded and cocked. For career adaptability we must be ready, but like pheasant or duck hunters, prepared to aim at a moving target.

Finally, like professional athletes who must be capable of performing under adverse field and weather conditions, we must be able to adapt to less than optimum working conditions, including management environment. In other words, at all times be a "Pro."

PYRAMIDS OF HUMAN ACHIEVEMENT



The CPA and GAO Standards

This article presents some thoughts on how GAO standards affect the work of CPAs who audit federally assisted grantees.

The Federal Government provides nearly \$60 billion in grants to States, counties, localities, and non-Federal domestic organizations. Many of these recipients, or grantees, hire certified public accountants (CPAs) to audit their activities. The Federal audit policy¹ requires that these CPA audits be performed according to GAO standards² and be tested to assure these standards are met.

GAO recently examined CPA performance in some Federal agencies. Results of the examination were sent to the heads of the agencies with recommended improve-

ments.³ The results showed that the agencies and some CPAs neither fully understand GAO's standards nor know what is required to meet them. As a result, some accepted CPA audits did not conform to GAO's standards.

Three aspects of GAO's standards that were often misunderstood were

- the purpose of an audit,
- the identity of the priority report user, and
- the importance of working papers.

The Purpose of the Audit

Ordinarily CPAs examine financial statements for a commercial client to comment on the fairness

¹ Federal audit policy is set out in Federal Management Circular 73-2, "Audit of Federal Operations and Programs by Executive Branch Agencies," September 1973.

² GAO standards were published by the Comptroller General of the United States in 1972 as "Standards for Audit of Governmental Organizations, Programs, Activities, and Functions."

³ The referenced review was authorized by the Financial and General Management Studies Division, U.S. General Accounting Office, and the assignment code 91171.

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with which specific statements present a firm's financial picture.⁴ Financial statements represent a firm's management. CPAs merely express an independent opinion.⁵ In other words, a CPA commercial audit provides a measure of assurance but not an absolute guarantee that a specific set of management's representations may be relied upon.

Whether CPA *reports* on audits done for commercial clients satisfy users' needs is unknown. However, the GAO standards clearly state that the interest of users of audit reports on Government activities are broader than those that can be satisfied by such audits and reports.⁶ Therefore, an audit under GAO standards differs from an ordinary examination of financial statements.

The objective of an audit under GAO standards can be deduced from the first five of the seven basic premises of the GAO standards.⁷ The common thread in these premises is a need for the audit and the resulting report to *provide an independent judgment on the credibility of management representations implicit or explicit made concerning the object, manner, and effect of the grantee's application of public funds.*

Accepting this as the objective of an audit explains the need for the expanded definition of "audit" in

⁴ "Statement of Auditing Standards," American Institute of Certified Public Accountants, section 110.01.

⁵ *Ibid.*, section 110.02.

⁶ Comptroller General, *op. cit.*, p. 1.

⁷ *Ibid.*, p. 3.

the GAO standards, a definition which in turn explains why the standards dismiss the ordinary examination of financial statements as restricting the CPA's responsibility, and opinion about a specific set of management's representations.

Primary Report Users

Many federally assisted grantees hire CPAs directly. However, grantees should not be the primary beneficiary of an audit or the resulting report, the granting Federal agency should be, as it established the requirement for the audit and authorized the use of public funds to pay for it.

Many grantees are relatively unsophisticated concerning audits and audit standards. For this reason, when CPAs audit public accounts, they must be certain that the grantee has properly relayed the grantor's audit requirements. In contracts between grantees and CPAs, the audit scope should be clear.⁸ The granting Federal agency also needs this information, and GAO standards require a clear statement of audit scope and objectives in the auditor's report.⁹ Without such a statement, the granting Federal agency may not be able to properly view reported information.

The Importance of Working Papers

The CPA's standards for ordinary examination require that suf-

⁸ *Ibid.*, p. 3.

⁹ Comptroller General, *op. cit.*, p. 47.

ficient, competent, and relevant evidence be obtained as a basis for an opinion.¹⁰ However, these standards do not specify the form or content of working papers; in fact, they do not even explicitly require working papers.

Federal audit policy¹¹ requires that a CPA's work be tested for compliance with GAO's standards. Hence, Federal auditors evaluate CPA working papers against GAO's standards. The standards provide working paper guidelines much more specific than those provided for ordinary examinations of financial statements. Specifically, GAO standards require working papers to be

- complete and accurate,
- clear and understandable,
- legible and neat, and
- pertinent.¹²

In short, the GAO standards provide that working papers stand alone, without supplementary oral explanation. This enables them to

¹⁰ American Institute of CPAs, *op. cit.*, section 330.01 and 338.01.

¹¹ See footnote 1.

¹² Comptroller General, *op. cit.*, p. 37.

be viewed as a final audit product, equally as important as the audit report (and having required the same careful preparation).¹³

During their review of a CPA's working papers, Federal auditors often include copies of the CPA's work in their records. Because much of a Federal auditor's work is subject to the Freedom of Information Act, the CPA's working papers could become public record. And if it does not comply with GAO's standards, the final audit report itself could be discredited.

Conclusion

CPAs who audit public sector, federally assisted grantees are required to heed GAO standards. This requires fully understanding the purpose of such audits and knowing the primary user of the audit report. Also, CPAs who conform to GAO standards need to recognize the probability of review by Federal auditors and treat their work papers with the same care as the final audit report.

¹³ See also "Workpaper Preparation," by F. M. Doyal, *The GAO Review*, Summer 1977.

721756

An Emerging Tool: The Computer Model

On May 24, 1978, GAO's Program Planning Committee met to discuss the issue of models and their role in GAO. A pamphlet addressing this topic will be distributed to all GAO professional staff. This article contains excerpts from this pamphlet.

Have you ever come across a computer model during the course of a review? Chances are you will in the future. To deal with complex issues in such areas as social welfare, food, energy, the environment, transportation, and urban planning, government policy analysts and decisionmakers are increasingly turning to models to perform program and policy analyses. Some of the program data with which you are confronted during a review is likely to have been output from a model—particularly the projections of a program's future performance and the analyses of program alternatives.

What is a computer model, how has GAO dealt with models in the past, and what should you do when you come across a model during a review are some questions this article will address.

What Is A Computer Model?

A model is a simplified representation of the interrelationships among elements of some portion or aspect of reality. For simplicity, we will call this set of elements and their interrelationships a system. This definition of a model, then, is very general and can be applied to

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Ms. Rooney is an operations research analyst in the Program Analysis Division. She has a B.A. from Albertus Magnus College and an M.S.A. from George Washington University. She worked at the Veterans Administration for several years before joining GAO in 1975. She is a member of the American Association for Budget and Program Analysis.

many different things, from a toy car to a full-scale prototype of a supersonic aircraft; and from the game of Monopoly, which represents the real estate business in Atlantic City, to a set of mathematical equations that represents the behavior of the national economy.

When it is impractical to manipulate a system itself, a model may be used to capture the system's key features. However, if all of the system's details were included in the model, the model itself might become too complex to easily manipulate. Therefore, a model is an abstraction of reality which preserves only those features which are the most relevant to its purpose.

Models coded for use on a computer are referred to as computer models. These are "computerized" usually to facilitate their use. Even though only the most relevant features of a system are included, the model itself or the data necessary to use the model often may be too much to handle manually.

Models can be classified in a number of ways, but for our purposes they may be classified by their intended use. Models so classified can

- show how the elements (variables, usually) in a specific activity or process fit together (descriptive models),
- tell how these elements would fit together if some of the elements or interrelationships were changed (predictive models), or
- determine the best alternatives of combining or changing elements to achieve

some desired result (planning models).

How Has GAO Dealt With Models in the Past?

GAO first used models in the late 1960s when it contracted for the development of a mathematical model to predict the water quality of the Merrimack River Basin in New England under varying environmental conditions. In 1971, GAO issued a report which inquired into selected aspects of computer-oriented war gaming, simulations, and contract studies sponsored by the Department of Defense. GAO's use of models has since increased to include applications in problem solving and decisionmaking in nearly all major issue areas.

Forty ongoing assignments now involve models in some way, and since January 1976, approximately 70 modeling-related reports have been issued. Generally, these assignments have dealt with models in

- reviewing an agency's development and use of models (economy and efficiency-oriented),
- auditing and evaluating a model to determine the reliability of its results (effectiveness oriented), or
- using and developing models.

Economy and Efficiency-oriented Reviews of Modeling

Reviewing the development and

use of models by executive agencies from the standpoint of economy and efficiency clearly falls within the bounds of GAO's responsibility. GAO assignments in this area have ranged from reviews of the model development process in general to surveys to ascertain the extent of modeling activities and their use in an agency or functional area (e.g., energy, environment).

GAO reviews focusing on model development cited recurring problems including:

- Poor quality and/or lack of documentation made it difficult to understand the model's assumptions, uncertainties, and limitations, as well as its capabilities.
- Model development effort lacked sufficient coordination between the developer and the user. The user did not participate in the planning of the model or in problem definition; thus, the model did not clearly reflect user needs.

GAO, therefore, recommended a five-phase model development approach aimed at reducing wasted expenditures of unused models, reducing cost overruns, and initiating better model development efforts that will better satisfy demands placed on them.¹

GAO has completed or is completing surveys of the extent and use of models in the Federal Government. Topic areas range from

the 1971 DOD model survey identified earlier to a survey of models used for food and agriculture policy analysis² to an ongoing survey of water quality standards and mathematical models. These efforts and other reviews have pointed out that models are used in all facets of Government for descriptive, predictive, and planning purposes. Models may address general or very specific issues including, for example,

- the field of energy; to analyze the Nation's alternatives to achieve energy independence and to analyze the technical aspects of synthetic fuel development;
- health and welfare; to analyze alternative national welfare reform measures and to develop inventory control for a city's blood bank; and
- the food and agriculture area; to predict the level of world grain reserves, to make national and interregional agricultural projections, and even to predict the price of eggs.

Reviews of the Reliability of Model Results

Model evaluation essentially addresses the question "How much confidence can I (the decision-maker) place in the results provided by the model?" As more complex models are being developed

¹ "Ways to Improve Management of Federally Funded Computerized Models," (LCD-75-111, Aug. 23, 1976).

² "Food and Agriculture Models for Policy Analysis" (RED-77-87, July 13, 1977).

and used by many units of the Federal Government, there is a need to evaluate these models to objectively assess their capabilities and to help guard against inappropriate use (either intentional or unintentional).

Reviewing the effectiveness of a model used by an agency is part of GAO's responsibility. To date, three divisions have completed work in this area and several ongoing assignments have been identified. GAO's work in this area has ranged from auditing models which support tactical and strategic weapon systems development to evaluating models used for policy analysis in social programs.

One model, which was evaluated by GAO, is the transfer income model (TRIM) which is used widely in the Government for welfare policy analysis. Several executive agencies, the Congressional Budget Office, several congressional committees, and some States have used the model to analyze a number of ongoing programs such as Aid to Families with Dependent Children, Food Stamps, and Supplemental Security Income, as well as various welfare reform proposals. GAO's evaluation of TRIM identified how the model should and should not be used.³

Further, a need for a capability of audit models and agency activities in this area was recognized by the Energy Conservation Act. The act states that:

The procedures and methodology of the Office of Energy Information and Analysis (FEA office responsible for PIES) shall be subject to a thorough annual performance audit review. Such review shall be conducted by a Professional Audit Review Team which shall prepare a report describing its investigation and reporting its findings to the President and to the Congress. . . . the Chairman of the Professional Audit Review Team shall be designated by the Comptroller General. (P.L. 94-385 Part B, Sec. 55 (a))

The first report in fulfillment of this requirement was issued this past December and describes actions needed to improve the credibility of energy data.⁴

The task of auditing and evaluating models used by agencies is hampered by the lack of generally accepted guidelines for conducting such an evaluation. The Program Analysis Division has an ongoing effort to develop criteria for evaluating models used in decisionmaking. Additionally, the Financial and General Management Studies Division has developed guidelines to assess the reliability of computer output.⁵

In evaluating/auditing a model, it is very important to recognize that a model must not be judged only in the abstract against certain ideal goals. Consideration must be given also to its purpose and objec-

³ An Evaluation of the Use of the Transfer Income Model—TRIM—to Analyze Welfare Programs (PAD-78-14, November 25, 1977).

⁴ "Activities of the Office of Energy Information and Analysis," December 5, 1977

⁵ "Audit Guide for Assessing the Reliability of Computer Output," May 1978.

tives, the manner in which it is being used, and other feasible alternative approaches which might be used to solve the problem. Anyone evaluating a model should bear this in mind.

Developing or Using Models to Support Program Results, Reviews or Evaluations

Although GAO has developed and used models, this role concerns GAO. This is due to the fact that GAO's integrity and reputation for being accurate may be at stake if models are not used judiciously and carefully. However, because of increased demand by the Congress in this area and because of more complex audits there is no question that GAO is going to be asked to do more reviews using models.

Some examples of GAO's recent use of models for analysis are:

- To review proposed Veterans Administration and military hospital construction projects, a computerized hospital sizing model was developed.⁶
- To evaluate the illegal aliens amnesty proposal and to estimate its potential impact in terms of population growth, unemployment and social services, a computer model is being developed.

⁶ "Inappropriate Number of Acute Care Beds Planned by VA for New Hospitals" (HRD-78-102, May 17, 1978). See also HRD-78-51, Feb. 6, 1978; HRD-77-104, May 20, 1977; and MWD-76-117, Apr. 7, 1976.

In addition to developing models, GAO reviews have often used models developed by others, such as:

- To determine the potential impact on trade of increased taxation of U.S. citizens employed overseas, one of the large econometric models identified below was used.⁷
- To predict the probability that individuals will not file income tax returns, a model is being used.

Also, GAO uses commercially available econometric models developed by Data Resources, Inc.; Chase Econometrics Associates; and others.

However, GAO's use of large-scale policy models dealing with social issues, such as the TRIM model, has been minimal. These models, which are generally more complex and designated for longer-term planning, inherently have more uncertainty in the results which they produce. It is also generally agreed that models dealing with social issues entail more uncertainty and risk than models of physical or natural phenomena. It follows that greater caution should be exercised when using the results from models dealing with social issues, particularly in trying to judge as accurately as possible just how much confidence one can put in the results obtained from these models.

⁷ "Impact on Trade of Changes in Taxation of U.S. Citizens Employed Overseas" (ID-78-13, Feb. 21, 1978).

What Should You Do When You Come Across A Model During A Review?

Hopefully you do not immediately answer this question with "I will ignore it because it is too complicated and I do not have the time." In the future you may come across a model that should be audited or evaluated because it has had a particular impact on a program or issue; its results are used to argue a position; or it can be used for independent analysis.

Mr. Staats has issued a memorandum concerning sources of assistance in reviewing or using models, which establishes FGMSD as the primary source of modeling assistance in GAO. So if you need assistance FGMSD is prepared to help. Also PAD and FGMSD currently are working together to identify the training needs of GAO staff in the modeling area.

We also do not want to leave you with the impression that models are tools to use uncritically; they are not. For example, you can consider using a model akin to using

an expert. Consequently, you should keep in mind GAO's policy for using expert assistance (CAM I Chapter 8, pages 6-8) which has recently been revised and states (in part):

The complex and technical nature of some audits may make it necessary for us to use outside experts and consultants to assist our own specialists in reviewing specific problems. However, it is not enough simply to give a consultant a task to perform. We should monitor what is done and how it is done and do everything necessary to satisfy ourselves that we and the consultants fully understand and agree on the scope and objectives of the work.

* * * *

We should determine early how important the work of experts and consultants is in relation to the total assignment and how we intend to use the results of their work. If we decide to use information developed by them in our report, we should, to the extent practicable, require that they furnish us sufficient supporting documentation so that we can independently satisfy ourselves as to its accuracy and validity.

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Federal Pay Comparability

This is a concept intended to assure equity for the Federal employee with his equals in the national economy, enable the Government to compete fairly for qualified personnel, and provide a logical and factual standard for setting Federal standards. It needs constant reevaluation and improvement to meet changing conditions.

For some time, the General Accounting Office has studied the pay setting processes of Federal pay systems. This has been to determine whether objectives of the Government's pay policies under the general schedule pay system, the Federal wage system, and pay systems for nonappropriated fund personnel are being achieved.

Recent oversight hearings of the House Subcommittee on Compensation and Employee Benefits have offered an excellent opportunity for a comprehensive appraisal of GAO issues dealing with a series of significant reports that still require resolution.

One of GAO's first and most

important observations was that the Government's pay policies, structures, and practices require continual evaluation and research to keep up with the constantly changing labor markets, as well as the Government's needs.

Improvements were needed to achieve more reasonable comparability with the non-Federal sector. Therefore, GAO recommended that the Civil Service Commission emphasize compensation evaluation and research to effect timely changes.

The Commission has made or initiated studies and improvements that cover most of the issues concerning GAO; however, most addi-

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tional improvements will require legislative action.

Comparability Concept

Before discussing the results of GAO's studies, it should be stated that GAO believes comparability provides a sound conceptual basis for pay-setting in the Federal sector.

The logic and purposes of the comparability principle were succinctly enunciated by President Kennedy in a February 1962 message to the Congress on salary reform for Federal white-collar employees. He said:

Adoption of the principle of comparability will assure equity for the Federal employee with his equals throughout the national economy—enable the Government to compete fairly * * * for qualified personnel—and provide * * * a logical and factual standard for setting Federal salaries. Reflected in this single standard are such legitimate * * * pay considerations as cost of living, standard of living, and productivity, to the same extent that these factors are resolved into the going rate over bargaining tables and other salary determining processes * * * throughout the country.

Standards for pay should be in line with the pay of the non-Federal sector. The Government should be a good employer. It should not pay less than other employers, but it cannot afford to be more gener-

ous than the rest of the economy. The discipline of the market sets a limit on what industry can pay without going bankrupt. Non-Federal pay rates vary, often significantly, among geographic areas, type of industries, size of establishments, and occupations.

Today the Federal civilian work force numbers about 3 million with an annual payroll cost of about \$59 billion. These employees are in a broad spectrum of occupations and are widely located.

The Federal pay systems and pay setting processes should be designed to permit realistic pay alignment between comparable positions in the Federal and non-Federal sectors. They should provide the framework in which employees at many different skill levels and in a broad spectrum of occupations and geographic areas can be reasonably compensated. They must recognize that the labor market consists of distinctive major groupings with different pay treatments.

Unless the Federal pay practices sufficiently recognize the existence of the various labor markets, the Government has, in essence, different pay policies in these markets. That is, the Government would be paying, in varying degrees, more or less than the labor market rates for certain employees.

Such a situation could place the Government in a noncompetitive or overly competitive position with other employers for recruitment and retention of competent employees. In high-wage areas, the Government could be at a competitive disadvantage, and an undesirable side effect could be created by

overclassifying Federal jobs in order to pay higher salaries. In low-wage areas, high Government salaries could exert upward pressure on compensation in the non-Federal sector.

In addition, such situations could create gross inequities between the Federal employee and his non-Federal counterpart in the various labor markets.

Finally, the credibility of the comparability processes may become suspect since employers, employees, and taxpayers could cite many instances of inequities between Federal and non-Federal sector pay in individual labor markets.

GAO believes that a high degree of confidence in the pay determination processes is essential for any effective pay policy. The compensation policies and practices of the Government should be in harmony with those of other employers.

But, GAO found that the Federal sector needs improvement, and that the comparability processes are coming under increasing attack. Many study groups, over the years, have recognized that improvements are needed in Federal compensation policies and practices.

In June 1977, President Carter established the Personnel Management Project to review the Federal personnel system. Since the compensation system should be designed to support the personnel management systems, the study covered the Federal pay and benefit systems.

Total Compensation Comparability

Benefits are an increasingly important part of both Federal and non-Federal employees compensation. Major non-Federal employers view benefit programs generally as equally important as pay in determining compensation packages.

The Government, however, has no policy to guide the development of both pay and benefits in a coordinated and consistent movement toward a common goal. Federal benefits are established on a piecemeal basis by law without policy objectives and principles to guide benefits development and improvement.

In contrast, various laws establish the principle that Federal pay rates shall be comparable with their private sector counterpart rates, and processes have been established for annually reviewing and adjusting pay comparability by administrative action. Adopting an objective standard and providing for annual reviews and adjustments have generally advanced the evolution of Federal pay.

By focusing only on pay, however, the comparability processes do not meet their primary purposes—to provide equity for the Federal employee with his private sector counterparts, to enable the Government to be a fair competitor in the labor market, and to provide a logical and factual standard for setting Federal pay. Moreover, the credibility of the pay comparability processes becomes suspect if Federal benefits, and hence total com-

pensation, exceeds or lags behind private sector benefits.

General Schedule Pay System

The pay comparability principle, established for Federal white-collar employees by the Federal Salary Reform Act of 1962, declared that "Federal salary rates shall be comparable with private enterprise salary rates for the same levels of work." The act also restated the internal equity pay principles embodied in earlier legislation: equal pay for substantially equal work and that pay distinctions would be maintained in keeping with work and performance distinctions.

In the last 4 years some major improvements in the pay setting process have narrowed the gap between Federal white-collar and private sector salaries. However, the Comptroller General, and others, have recommended further improvements in this area.

GAO believes that more rational white-collar pay systems are needed to achieve the purposes of the pay comparability principle. The principle was adopted

- to provide equity for the Federal employee with his private sector counterparts,
- to enable the Government to be a fair competitor in the labor market, and
- to provide an objective standard on which to assess and adjust pay rates, assuring that Government rates are neither more nor less than the going market rates.

But the fixed structure of the general schedule does not permit realistic pay alignment between comparable positions in the Federal and private sectors. The GS pay system, the major white-collar system, covers 1.3 million employees located throughout the United States, its possessions, and many foreign countries.

The many varied and nonhomogeneous occupations are grouped into 18 skill levels with uniform national pay rates. The GS structure is ill-equipped to serve the needs of the work force, which is shifting toward higher skilled occupations. It does not provide the framework in which employees at many different skill levels and in a broad spectrum of occupations and geographic areas can be reasonably compensated. In the private sector, economic and other considerations cause occupations at equivalent Federal work levels to receive different rates of pay, often substantial.

Among the many issues in the area of pay comparability that require attention and, in most cases, legislation are the 6-month lag between the date of the comparability and the Federal pay adjustment, the absence of State and local government salaries in the pay survey, and use of homogeneous occupational groupings in the medical and protective schedules.

Other deterrents to achieving comparability cited in GAO reports are the compression of salaries at senior levels, maintenance of the integrity of the job evaluation system, and problems in the blue-collar pay system and in that of the

nonappropriated fund employee, both blue- and white-collar.

GAO believes the comparability principle is workable and that the Federal sector should continue to pursue it while recognizing the different salary treatments accorded to the various segments of the work force in the non-Federal sector.

The concept of comparability involves two major considerations which may never be completely

reconciled to the satisfaction of all parties. First, comparability calls for external pay equity, that is with the non-Federal sector. Second, a reasonable measure of internal equity should exist among Federal employees. GAO believes that the changes recommended in its various reports offer an acceptable balance between the two and that there must be continued search for means of attaining closer comparability.

Legislative Developments



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BY JUDITH HATTER
Chief, Legislative Digest Section

GAO Legislation

Three legislative proposals of significance to GAO were first described in the Summer 1978 issue. Since that time the following developments have occurred:

On July 25, the House of Representatives passed under suspension of the rules, H.R. 12196, to provide for cost-of-living adjustments in the annuity of a retired Comptroller General and other changes to conform these benefits with those provided Federal judges.

On August 15, Senator John Glenn of Ohio introduced S. 3412, a companion bill, in the Senate.

At the same time, Senator Glenn submitted S. 3411, to exempt employees of the GAO from the civil service laws administered by the Civil Service Commission relating to appointment, position classification, and certain other personnel actions.

The bill is companion to H.R. 12845, which was submitted in the House on May 24. It is not anti-

pated that the employment bill will receive any action during the 95th Congress.

The Comptroller General appeared before the House Post Office and Civil Service Committee and the Senate Governmental Affairs Committee on August 15 and August 21, respectively, in support of this legislation.

The third measure, H.R. 12171, the Federal Accounting and Auditing Act of 1978, was ordered reported by the House Government Operations Committee on July 19, 1978. The measure should receive consideration when Congress reconvenes after the August recess.

GAO Services to Congress

On June 22, the House Select Committee on Congressional Operations submitted a report entitled, "General Accounting Office Services to Congress, An Assessment."

This is the final report in a series of reports on the legislative support

agencies mandated by the Committee Reform Amendments of 1974.

As a result of the study, the Committee made 10 recommendations. Two of the recommendations are reprinted here:

* * * * *

F. In order to meet more fully and more effectively the Congress' widely varying requirements for information and analysis, GAO should seek to improve its performance in the two following areas in which the Select Committee found it to be relatively weak:

1. GAO should make a firm commitment of the staff and resources required to provide Congress with comprehensive evaluations of (a) the effectiveness and efficiency with which major Federal programs are being administered, (b) policy implementation by the executive branch in issue areas which embrace more than one department or agency, and (c) the organization-wide activities of individual departments and agencies.
2. GAO should continue to develop the competence to meet congressional needs for quick-response kinds of assistance—for example, updates of previous reports, preliminary or tentative analyses of problem areas, short-term investigations, and the like—through earlier and less formal means of communi-

cation; including briefings, letter reports, informal questions and other information provided to committee staffs.¹

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J. In view of the great number and variety of statutory sources from which GAO draws its extensive authority, the appropriate House and Senate committees with oversight responsibility for GAO should undertake a comprehensive review of the agency's authority to determine, among other things—

1. whether GAO's statutory role and mission are sufficiently explicit and well defined to enable the agency to meet the diverse congressional requirements for informational and analytical services;
2. whether all the agency's functions are internally consistent and harmonious with its overriding responsibility to serve the Congress;
3. whether any GAO functions of a specifically executive or judicial character might more appropriately be exercised elsewhere in the Federal Government; and
4. whether it would be desirable to recodify all statutory provisions applicable to GAO.²

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¹ H. Rept. No. 95-1317, June 22, 1978, p. XII.

² *Ibid.*, p. XIII.

Federal Banking Agency Audit Act

The Federal Banking Agency Audit Act, providing for audit by the Comptroller General of the United States of the Federal Reserve System, the Federal Deposit Insurance Corporation, and the Office of the Comptroller of the Currency was signed by the President on July 21, 1978.

Public Law 95-320 amends the Accounting and Auditing Act of 1950 by adding a new subsection (e) to section 117. The subsection delineates those transactions and deliveries which GAO is precluded from auditing and restricts onsite examinations without written consent of the open insured bank or bank holding company concerned. Disclosure and nondisclosure conditions are described.

The Comptroller General is required, as frequently as may be practicable, to report to the Congress on the results of audit work performed.

GAO is provided access to necessary records under the conditions described and is required to maintain the confidentiality of the documents and material.

The provisions of 18 U.S.C. 1906 pertaining to disclosure of information from bank examination reports are extended to the General Accounting Office auditors.

New York City Loan Guarantee Act of 1978

Public Law 95-399, August 8, 1978, authorizes the Secretary of the Treasury to guarantee, within

prescribed limitations, the payment of the indebtedness of the city of New York if certain delineated conditions of eligibility are met.

The Comptroller General is required to report to Congress with respect to audits he may deem appropriate of the accounts, books, records and transactions of the city and any financing agent.

No guarantees may be made until the city and the financing agent agree, in writing, to allow the GAO audits.

Amtrak Improvement Act of 1978

The conference substitute on S. 3040, the Amtrak Improvement Act of 1978, (H. Rept. No. 95-1478, August 11, 1978) contains a requirement that the Comptroller General, in consultation with the Secretary of Transportation and the Interstate Commerce Commission, conduct a study of the economic relationship of the fare structure of the National Railroad Passenger Corporation to the intercity bus industry.

A report to the Congress on the results of the study is to be made no later than December 31, 1978.

The Senate bill did not contain a provision for such a study. The conference substitute is the same as the House amendment.

Federal Acquisition Act of 1977

The Senate Governmental Affairs Committee submitted its report on S. 1264, Federal Acquisi-

tion Act of 1977, to provide policies, procedures, and criteria for the acquisition of property and services by executive agencies.

The purpose of the legislation is explained by the Committee as follows:

This legislation repeals the two basic laws governing Federal purchasing and replaces them with a single, modern statute applicable to all executive agencies, which is designed to stimulate competition and encourage innovation. Past reforms in procurement have usually focused on a particular aspect of the process, or have attempted to redress a symptomatic abuse in the system. Thus, the current laws controlling Federal purchasing have become fragmented and outdated, and have led to the creation of a regulatory system whose restrictions and inconsistencies actually hamper rather than facilitate the efficient, economical purchase of products and services by the Government.³

³ S. Rept. No. 95-715, March 22, 1978, p. 1.

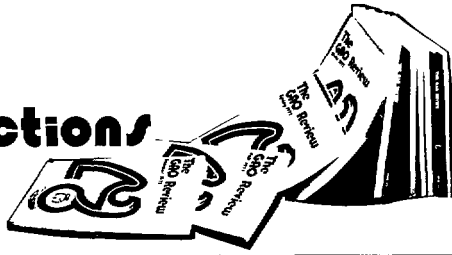
Title 3 of the measure, Acquisition by Competitive Negotiations, defines GAO access to records authority. Title 7, Protests, confers statutory recognition on the "bid protest" function that the Comptroller General has performed for over 50 years. It allows for judicial review of bid protest decisions as provided by the Administrative Procedures Act.

On July 13, the bill was referred to the Senate Armed Services Committee for further study.

Appearances Before Congressional Committees

From April through August, GAO officials appeared on 81 occasions to offer testimony before the various committees and subcommittees of the Congress.

Reflections



Twenty years ago in the *Staff Bulletin* (predecessor of *The GAO Review*) it was reported that:

- A new National Aeronautics and Space Administration was established to succeed the National Advisory Committee for Aeronautics. Also established was a National Aeronautics and Space Council, presided over by the President. *Paul G. Dembling*, our general counsel, was Assistant General Counsel of NACA at the time of the establishment and merger with NASA.
- *Robert F. Keller*, now Deputy Comptroller General, was designated as general counsel of GAO.
- Comptroller General *Joseph Campbell*, along with *Robert Keller*, testified before the Government Information Subcommittee of the House Committee on Government Operations on the problem of access to records, particularly with the Department of Defense.
- *Jerome H. Stolarow*, director, Procurement and Systems Acquisition Division, *Ray S.*

Hausler, supervisory auditor in Portland, and *Clarence O. Smith*, assistant director in the Logistics and Communications Division, joined GAO.

- *William R. Conrardy*, regional manager of the San Francisco office, was awarded a meritorious service emblem for superior performance in the European Branch.
- *Edward A. Densmore*, associate director in the Human Resources Division, and *Willis L. Elmore*, assistant director in the General Government Division, left GAO to enter military service.

And 10 years ago in the fall 1968 edition of *The GAO Review*, you'll find that:

- The first computer time-shared terminal was installed in GAO in the Office of Policy and Special Studies on an experimental basis.
- An important new responsibility was given to the Comptroller General in an amendment to the Defense Production Act of 1950—to study the feasibility of developing uniform cost accounting standards for use in

the negotiation and administration of defense contracts. (This later led to the formation of the Cost Accounting Standards Board, headed by the Comptroller General.)

- *Elmer B. Staats*, our Comptroller General, testified on Defense procurement before the Subcommittee on Anti-trust and Monopoly Legislation of the Senate Judiciary Committee.
- *Robert F. Keller*, then general counsel, testified at the request of the Special Subcommittee on the M-16 Rifle Program, House Armed Services Committee, on the legality of certain contracts.
- *J. Kenneth Fasick*, then associate director, Defense Division, testified on military supply systems before the Subcommittee on Military Operations of the House Government Operations Committee.
- *Richard W. Gutmann*, director, Logistics and Communications Division, was designated deputy director of the Defense Division.
- *Dean Crowther*, deputy director, Program Analysis Division, was appointed as an assistant director in the Civil Division.
- *Robert W. Hanlon*, Cincinnati regional manager, was designated as assistant manager of the Washington regional office.
- *Frank M. Mikus*, assistant director in the Human Resources Division, was designated as assistant director of the European Branch.
- *Joseph P. Normile*, associate director, Logistics and Communications Division, was designated director of the European Branch.
- *Donald L. Scantlebury*, director, Financial and General Management Studies Division, was elected as director of the Northern Virginia Chapter of the Federal Government Accountants Association.



Richard L. Brown

Richard L. Brown was designated director, General Services and Controller organization, effective July 2, 1978. The offices over which he has responsibility are the Office of Administrative Services, the Office of Budget and Financial Management, the Office of Information Management, the Office of the Librarian, and the Office of Publishing Services.

Mr. Brown joined the General Accounting Office in 1974 as the assistant budget officer. He later became the budget officer, and in 1977 was appointed controller. Prior to coming to GAO he worked for the Navy Department and the Internal Revenue Service. He taught English at the University of Maryland prior to beginning his career with the Government.

Mr. Brown received his B.A. degree from Weber State College, his Juris Doctorate from the National Law Center, George Washington University, and his M.P.A. degree from the American University. In 1977 he was awarded GAO's Meritorious Service Award.

Ralph V. Carlone



Ralph V. Carlone was designated regional manager of the Philadelphia regional office, effective September 18, 1978.

Since joining GAO in 1964, Mr. Carlone served in the Civil Division and later in the Resources and Economic Development Division. Since 1976 he served as the associate director in the Energy and Minerals Division and was responsible for audit and analysis of the Department of Energy programs aimed at increasing energy supplies, and over the activities of the Nuclear Regulatory Commission.

Mr. Carlone served in the U.S. Marine Corps from 1957 to 1960. He joined GAO after graduating from Bloomsburg State College in 1964 where he majored in accounting.

In 1975 Mr. Carlone attended the Fourth Dartmouth Institute at Dartmouth College. He also participated in an advance study program on energy policy in March 1975 at The Brookings Institution.

Mr. Carlone is a member of the National Association of Accountants. He received a number of Office-wide awards including a Meritorious Service Award in 1973. In 1977 Mr. Carlone was nominated for the William A. Jump Memorial Foundation Award for Exemplary Achievement in Public Administration, and was GAO's nominee for the Arthur S. Flemming Award for outstanding young men and women in the Federal Government.



Victor L. Lowe

Victor L. Lowe was designated director of the Far East branch, effective September 25, 1978.

Mr. Lowe joined GAO in 1949 following his graduation from the University of Georgia. He has served in positions of increasing responsibility with the Corporation Audits Division, the Division of Audits, the International Division, the Civil Division, and in 1972 as director, General Government Division.

Mr. Lowe completed the Program for Management Development of the Harvard University Graduate School of Business Administration in 1960 and the Residential Program in Executive Education at the Federal Executive Institute in 1970. He served with the Navy in 1945 and 1946.

Mr. Lowe is a certified public accountant (Georgia) and a member of the American Institute of Certified Public Accountants, the National Association of Accountants, the Association of Government Accountants, and the American Society of Public Administration. He received the GAO Distinguished Service Award in 1971.

Douglas L. McCullough



Douglas L. McCullough was designated deputy director in the Energy and Minerals Division, effective October 1, 1978. For the last year, he has served as a Comptroller General's consultant assigned to the Energy and Minerals Division.

Previously, Mr. McCullough was director, Office of Energy Production Policy, Federal Energy Office; and director, Office of Energy Policy, Treasury Department. He analyzed and helped coordinate energy legislation and energy issues which came before the President's Committee on Energy, the Energy Resources Council, and the Economic Policy Board. He also had responsibilities within the Treasury Department for International Energy Policy, which included being on the U.S. delegation to the Producer/Consumer Preparatory meetings in Paris, and leading oil price discussions with OPEC countries.

Prior to joining the Federal Energy Office and the Treasury Department, Mr. McCullough was a mining engineer with the Bureau of Land Management, Department of the Interior, for 8 years, where he had various responsibilities for administration of Federal mineral resources.

Mr. McCullough holds a B.S. degree in mining engineering from Missouri School of Mines and an M.S. degree in geology from Kansas University.



James Dexter Peach

J. Dexter Peach was designated director, Energy and Minerals Division, effective October 1, 1978. Mr. Peach has been serving as the principal deputy director of the division.

Since joining GAO in 1960, Mr. Peach has been involved in the audit and analysis of numerous Federal programs, with emphasis on agriculture and natural resource activities. Mr. Peach has been heavily involved in the planning and reporting of all GAO energy work following the substantial increase in 1973 of GAO's energy-related efforts.

Mr. Peach received GAO's Career Development Award in 1969 and in 1971 he received GAO's award for significant contribution to financial management in literature. In 1976, Mr. Peach received GAO's Distinguished Service Award for his pioneering accomplishments in the planning of GAO's energy work and his significant contribution to improving Federal energy programs.

Mr. Peach received a B.S. degree in business administration from the University of South Carolina in 1960 and an M.S. degree in administration from George Washington University in 1973. He completed the Program for Management Development at Harvard Business School in 1972. He is a CPA (Virginia) and a member of the American Institute of CPAs and the National Association of Accountants.

Paul Shnitzer



Paul Shnitzer, associate general counsel for procurement matters, retired on September 22, 1978, after nearly 24 years in GAO.

Mr. Shnitzer began his career as an attorney with the Office of the Comptroller General of the United States in 1954. Previous to that time he had served in a civilian capacity with the Department of the Air Force. Mr. Shnitzer was appointed deputy assistant general counsel in April 1967, assistant general counsel in February 1971, and associate general counsel in September 1972. He was a member of the House Office Building Commission Contract Appeals Board and of the Commission on Government Procurement's Legal Remedies Study Group.

Mr. Shnitzer is well known in the field of Government procurement. He has written and lectured extensively on the subject. A visiting lecturer at The George Washington University Law School, he is the author of *Government Contract Bidding*, published by Federal Publications, Inc. He has also been active in bar association activities. Currently, he serves as senior deputy chairman of the Government Contracts Council of the Federal Bar Association and as editor-in-chief of the *Public Contract Law Journal*, published by the Section on Public Contracts of the *American Bar Association*. He was previously editor of the *Public Contract Newsletter* and a member of the Council of the Section on Public Contracts. He has also been Chairman of the Government Contracts Committee of the Federal Bar Association.

Mr. Schnitzer was admitted to the District of Columbia Bar in 1954. He received an A.B. from Upsala College and his Juris Doctor degree from The George Washington University Law School. He also did graduate work in public administration at the Syracuse University Maxwell School of Citizenship and Public Affairs. He served in the Army Air Corps during World War II.

Mr. Shnitzer was awarded the GAO Meritorious Service Award in 1961 and 1963.



Allen R. Voss

Allen R. Voss was designated director of the General Government Division, effective September 18, 1978.

Since joining GAO in 1958, Mr. Voss has served as an assistant director in the Office of Policy and Special Studies, assistant and associate director in the Civil Division, and associate and deputy director in the Office of Policy and Program Planning. From 1972 to 1974, Mr. Voss served as director of the Office of Policy, and since 1974 as manager of the Philadelphia regional office.

Mr. Voss served in the Air Force from 1948 to 1952. He graduated with high honors from the University of Florida in 1956, with a B.S. degree in business administration. In 1966 he completed the Advanced Management Program at the Harvard University Graduate School of Business Administration.

Before joining GAO, Mr. Voss served as a staff member of a public accounting firm and as a cost accountant with a manufacturing company.

Mr. Voss is a member of the American Institute of CPAs, the Florida Institute of CPAs, the Association of Government Accountants, and was chairman of the Mid-Atlantic Intergovernmental Audit Forum from 1974 to 1976.

Mr. Voss received Meritorious Service Awards in 1961 and 1968, and the Distinguished Service Award in 1972.

Joseph W. Kegel

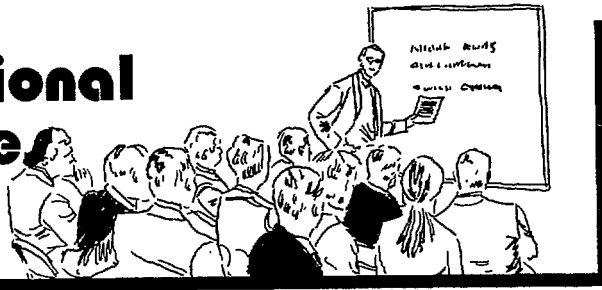


Joseph W. Kegel was designated manager of the Chicago regional office, effective September 24, 1978.

Mr. Kegel was appointed as assistant regional manager in Seattle in August 1973. Previously he was an assistant director in the Community and Economic Development Division. He attended the Executive Management Program at Pennsylvania State University in 1973.

Mr. Kegel served in the U.S. Navy from 1952 to 1956. He received a B.S. degree in accounting from King's College, Wilkes-Barre, Pa., in 1960. He received the GAO Meritorious Service Award in 1967.

Professional Activities



Office of the Comptroller General

The Comptroller General, *Elmer B. Staats*, addressed the following groups:

Nordic Council of Auditors General, "The Work of the Comptroller General and His Reporting to the Congress of the United States," Oslo, Norway, June 6.

Nordic Council of Auditors General, "Development of Auditing Standards in the United States," Oslo, Norway, June 7.

The Rigsrevisionen, "General Accounting Office Reviews of Department of Defense Procurement in the United States," Copenhagen, Denmark, June 12.

The Presidential Management Intern Program Orientation, "The Education of the New Public Executive," Washington, D.C., July 24.

Fifth Engineering Conference on National Materials Policy, sponsored by the Engineering Foundation and managed by the Federation of Materials Societies, "Building a Consensus on Legis-

lation for a National Materials Policy," Henniker, N.H., July 31.

Annual Meeting of the Academy of Management in its series, "Giants in Management," "Some Contributions of James E. Webb to the Theory and Practice of Management," San Francisco, Calif., Aug. 11.

Mr. Staats, along with *John Heller*, Editor of the *International Journal of Government Auditing*, participated in a meeting of the Governing Board of the International Organization of Supreme Audit Institutions in Vienna, Austria, June 18-21.

John D. Heller, Assistant to the Comptroller General, addressed the 24th annual Washington Seminar of the Maxwell Graduate School of Syracuse University on the role of the GAO in the Federal Government, May 25.

Mr. Heller gave the keynote address to a meeting of the 1978 Legislative Auditors conference in Edmonton, Canada, Sept. 25. His subject was: "Financial Auditing as a Prelude to Program Evaluation." Attendees at the conference were the auditors from each of the Canadian provinces.

Office of Congressional Relations

Martin J. Fitzgerald, director, met with A. S. Rikhy, a member of the Indian Parliament, on May 31, and with members of the Korean National Assembly on June 21, to discuss GAO's relationships with Congress.

On June 28, *Peter J. McGough*, legislative adviser, spoke before the Civil Service Commission's Institute in the Legislative Function on the role of the General Accounting Office.

T. Vincent Griffith, legislative attorney, spoke on GAO's role before the Civil Service Commission's Congressional Briefing Conference for EPA on July 11 and met with the Chief Auditor of Australia to discuss GAO's congressional relationships on July 25.

Office of the General Counsel

Paul G. Dembling, general counsel, addressed the following:

The American Institute of Industrial Engineers on "GAO and Federal Government ADP Procurement," June 26.

Collective Bargaining Symposium for Labor Relations Executives, sponsored by the Civil Service Commission, on "The Role of GAO in the Federal Government's Labor Relations Program," July 24, in Charlottesville.

The American Bar Association Annual Convention, Section of

Administrative Law, on "Social Regulation Through Government Contracts," Aug. 7, New York City.

The Government Contracts Claims Course, sponsored by The George Washington University and Federal Publications, Inc., on "Debarment, Suspension and Blacklisting," Aug. 17, in San Francisco.

The Golden Gate University School of Public Administration on "GAO and Its Place in Government and Society," Aug. 18, in San Francisco.

Paul Shnitzer, associate general counsel:

Participated in the American Bar Association Annual Convention, Aug. 4-9, in New York City.

Addressed the Government Contracts Claims Course, sponsored by The George Washington University and Federal Publications, Inc., on "Presenting the Claim to the Comptroller General," Aug. 16, in San Francisco.

Rollee Efros, assistant general counsel, spoke before the American Bar Association Annual Convention, Section of Public Contract Law, on "Statutory Restrictions on Funding of Government Contracts," Aug. 6, in New York City.

Howard Levy, deputy assistant general counsel, addressed the North American Gasoline Tax Conference on "Credit Card Purchases at Service Stations—Must the United States Pay the Gas Tax?" and "Federal Liability for the Ver-

mont Motor Fuel Tax," July 9-12, in Vergennes, Vt.

Ronald Wartow, senior attorney, spoke on "Problems in Formal Advertising," before the Defense Advanced Procurement Management Course, Hill Air Force Base, Utah, June 8.

Energy and Minerals Division

J. Dexter Peach, deputy director, spoke before the Southwestern Legal Foundation, 14th Annual Institute on Oil and Gas Accounting on "GAO's Role in Energy Policy," Dallas, Sept. 6.

James Duffus III, assistant director, participated in the 7th annual Dartmouth Institute Executive Training Program in Hanover, N.H., June 25—July 21.

Financial and General Management Studies Division

Donald L. Scantlebury, director, participated in a plenary session on "Developments and Trends in State and Local Government Accounting and Their Impact on the Intergovernmental Grant Process," at the Association of Government Accountants Annual Symposium, on June 28, in San Francisco.

Harold L. Stugart, deputy director, spoke on "Collection of Accounts Receivable—A Government Viewpoint," before the Legislative Council on Photogrammetry, June 30, Honolulu.

Walter L. Anderson, associate di-

rector, completed the Senior Executive Education Program of the Federal Executive Institute at Charlottesville, Va., on June 9.

Arthur L. Litke, assistant to the director, served as plenary session chairman and participated in a workshop on regulatory accounting, at the Association of Government Accountants' 1978 Annual Symposium, June 26 and 27, San Francisco.

Earl Wysong, assistant director, moderated a conference on "Computer Fraud, Security and Privacy," sponsored by the Association of Government Accountants in Arlington, Va., on Aug. 28 and 29. He also spoke at the conference on "The Audit of Computer Controls."

Robert J. Ryan, assistant director:

Was nominated to serve an additional year as a member of the State and Local Government Accounting Committee of the American Institute of Certified Public Accountants.

Served as moderator for two workshops at the Annual Symposium of the Association of Government Accountants in San Francisco, June 26-28.

W. A. Broadus, Jr., assistant director:

Was elected chairman-elect of the Public Sector Section, American Accounting Association. Under the by-laws of the Association he will automatically become chairman of the sector for 1979-80 association year.

Served as moderator for two

workshops at the annual symposium of the Association of Government Accountants in San Francisco, June 26-28.

Was appointed to the Association of Government Accountants Committee on Cooperation with Other Organizations and will serve as chairman of the subcommittee on relations with AICPA for the coming year.

Ken Pollock, assistant director:

Made two presentations at the National Computer Conference in Anaheim; one on the IIA Systems Auditability and Control Study, June 6, and the other a discussion of Professor Nolan's newly modified "stages hypothesis" on EDP systems development within an organization, June 7.

Participated in a panel discussion on the subject, "The President's Federal Data Processing Reorganization Project," at the 16th Annual Conference of the Uniform and Regional Information Systems Association, Aug. 8, Washington, D.C.

Spoke on computer-related crime at the first Seminar on Security in Public Gaming, sponsored by the Public Gaming Research Institute, in Alexandria, Va., Aug. 15.

Joe Boyd, assistant director, spoke on "Computer Auditing in the General Accounting Office," before the Federal Information Processing Council, Picatinny Arsenal, Dover, N. J., on June 20.

George L. Egan, assistant director:

Moderated a workshop entitled "Standardized Audit Guides for Federal Grant Programs," at the Association of Government Accountants 1978 Annual Symposium in San Francisco, June 27. *Robert F. Raspen*, supervisory auditor, was a panel member.

Spoke on "The View of the Federal Government and Relationship to the Single Audit Concept for Grants," at the Annual Financial Management Seminar Series sponsored by the Metropolitan Washington Council of Governments and the Association of Government Accountants, Aug. 4, Washington, D.C.

Robert F. Raspen, supervisory auditor, spoke on "Standardized Audit Guides for Federal Grant Programs," at the Financial Management and Audit Conference of the Federal Highway Administration on Aug. 30, at Canaan Valley, W. Va.

Karen E. Bracey, operations research analyst, participated in a panel on career criminal programs at the June 6 symposium/workshop on "The Institutionalization of Federal Programs at the Local Level . . . What Happens When Federal Funding Runs Out?" sponsored by the Mitre Corporation, the National Institute of Education, and the National Institute of Law Enforcement and Criminal Justice.

Ivan Trotsky, systems accountant, earned his Master of Public Administration degree from the University of Oklahoma on July 28, and his Doctor of Philosophy degree in business management from the California National Open

University, Sacramento, on June 30. His 118-page doctoral dissertation was on "The Design of a Doctorate in Business Administration Based on the Expressed Needs of Business Educators and Practitioners."

Paul S. Benoit, supervisory computer systems analyst, had his article, "Controlling Remote Computer Service Costs," digested in the July 1978 issue of *Data Processing Digest*. The article originally appeared in the April 1978 issue of the *Journal of Systems Management*.

John W. Lainhart, supervisory management auditor, and *Barry R. Snyder*, management auditor, gave a presentation on GAO's new auditing technique, "A Simultaneous-Paralled Approach to Testing Computerized Systems," at the IBM User's Conference, SHARE 51, on Aug. 23, Boston, Mass.

Theodore F. Gonter, computer systems analyst:

Has been appointed project manager of the Auditing Project of SHARE Inc., an IBM users group.

Was chairman for six sessions sponsored by the Auditing Project of SHARE Inc., at the SHARE 51.0 Conference in Boston, Aug. 20-25.

Charles M. Davidson, computer systems analyst, presented the results of GAO's study of five computer centers in a workshop sponsored by the Institute for Software Engineering in Washington, D.C., on Aug. 28-30.

Joint Financial Management Improvement Program

Susumu Uyeda, executive director:

Spoke on "Accounting for Federal Assistance Programs," at the Northeast Regional Meeting of the Association of Medical Colleges on June 1, at Martha's Vineyard, Ma.

Gave a presentation on the role of JFMIP and its future at the Financial Management Conference of the Department of Commerce on June 6, Lancaster, Pa.

Spoke on "Rebuilding Public Trust in Government and Business," at a plenary session of the National Symposium of the Association of Government Accountants on June 26, San Francisco.

Participated in two training sessions on grants management sponsored by the Interagency Auditor Training Center in Sacramento, July 24-25 and Seattle, July 27-28.

Gave a presentation on the role of JFMIP and its future undertakings at the HUD Regional Accounting Directors' Conference on Aug. 22, Columbia, Md. He was assisted by *Kenneth Winne*, project director.

General Government Division

Victor L. Lowe, director, spoke on GAO's role in Federal paperwork at the Information and Records

Administration Conference in Washington, D.C., Apr. 21.

William J. Anderson, deputy director, addressed the Oak Ridge Federal Executive Center on GAO's interest and involvement in public program management on Aug. 28.

Robert Hadley, supervisory auditor, spoke on GAO's findings in the area of seed money programs before the Conference of State Budget Officers Association in Mobile, June 23.

Richard Johnson, management analyst, participated in a panel discussion on "Alternative Sources of Revenue for Local Governments," sponsored by the University of California, Los Angeles, on Sept. 8.

Paul Posner, supervisory program analyst, participated on two panels on Federal matching and maintenance of effort requirements and State and local government productivity at the annual meeting of the American Society of Public Administration at Phoenix in April.

Bill Thurman, assistant director, was elected as a member of the board of directors of a recently formed National Assistance Management Association to provide a professional organization for persons who work with or are interested in the management of grants and other assistance programs.

Human Resources Division

Gregory J. Ahart, director:

Participated in a conference conducted by the National Academy

of Public Administration, Washington, D.C., on June 8 on the subject, "The Government's Use of Nonprofit Organizations For Social Demonstrations."

Participated in a conference conducted by the Boston University Health Policy Institute, Boston, Mass., on June 9-10 on the subject, "Insurance Options for the Employer Seeking Control of Employee Health Benefit Costs."

Addressed the seminar on Administration of Public Policy conducted by the U.S. Civil Service Commission Executive Seminar Center, Kings Point, N.Y., on June 14 on the subject, "Evaluating Policy Outcomes."

Participated in a seminar conducted by the British Embassy, Washington, D.C., on June 29, commemorating the 30th Anniversary of the British National Health Service.

Addressed the seminar on Public Program Management conducted by the U.S. Civil Service Commission Executive Seminar Center, Kings Point, N.Y., July 27 on the subject, "Evaluating Public Program Outcomes."

Robert V. Farabaugh, assistant director, and *Joseph H. Hobbs*, supervisory auditor, spoke on "GAO's Reviews of the Implementation of the Indian Self-Determination Act and the Indian Health Service Hospital Construction Program," at the quarterly meeting of the National Indian Health Board, in Portland, Ore., Apr. 25.

Donald R. Baiardo, supervisory auditor, and *Douglas A. Maring*, supervisory auditor, spoke on "GAO's Review of the Professional Standards Review Organization Program," before the National Professional Standards Review Council, in Washington, D.C., May 8. *Mr. Baiardo* also spoke on the same topic before the American Medical Association's Ad Hoc Committee on Professional Standard Review Organizations, in Chicago, on Aug. 13.

William C. Milletary, supervisory auditor, discussed "GAO's Review of the Funding of State and Local Retirement Systems and Its Effect on Federal Grant Programs, State and Local Finances, and Participants," at the quarterly meeting of the National Coordinating Council on Public Employee Retirement Systems, in Washington, D.C., June 28. *Mr. Milletary* also spoke on the same topic at the annual meeting of the National Association of Counties, in Atlanta, July 12.

Dean T. Scott, supervisory auditor, discussed GAO's report on "Colleges and Universities Need Equipment Inventories and Screening Procedures to Justify Research Equipment Purchases," at the quarterly meeting of the Committee on Governmental Relations of the National Association of College and University Business Officers, in Washington, D.C., June 1. *Mr. Scott* also spoke on the same topic at the annual meeting of the National Association of College and University Business Officers, in Montreal, July 12.

Logistics and Communications Division

Donald Eirich, associate director, spoke at the American Institute of Industrial Engineers Government/Industry Conference in Washington, D.C., on "Possible Future Changes in Federal ADP Procurement," June 28.

Wilbur W. Bailey, assistant director, spoke at the 34th Annual Meeting of the Institute of Navigation at the Sheraton National Hotel on GAO's role in general and GAO's perceptions of navigation systems in particular, June 27.

John Harlan, audit manager, spoke at the 31st Annual Conference of the National Association of State Agencies for Surplus Property in Denver, Colo., July 11.

Program Analysis Division

Morton A. Myers, deputy director, gave a presentation on the GAO role in supporting legislative oversight to 30 senior government officials from Nigeria, June 23, in a program sponsored by Brookings Institution.

Kenneth Hunter, associate director, spoke on "Relationships Between Zero Base Budgeting and the Congressional Budgetary and Oversight Processes," at the Seminar on Public Budgeting, University of Tennessee at Nashville, May 16.

William Clevenger, financial analyst, spoke on "The Federal Response to the Urban Crisis," at the

North American Interdisciplinary Seminar, held June 29 through July 2 at St. Anthony's College, Oxford, England.

Franklin Frazier and *John Luke*, management analysts, spoke on "Information Needs of the Congress," at the 16th Annual Conference of the Urban and Regional Information Systems Association in Washington, D.C., Aug. 9.

Marti Dey, program analyst, spoke on the history and development of GAO's Congressional Sourcebooks project, before the Government Documents Roundtable, at the annual meeting of the American Library Association, Chicago, June 28.

Leslie Blair, auditor, gave briefings on "The GAO Congressional Sourcebooks and Their Uses through Access on the Scorpio System," for congressional and Library of Congress staff members, Aug. 7, 10, and 11.

Natwar Gandhi, staff accountant, spoke on:

"Accounting, Accountability, and the Social Program Evaluation," to the faculty of School of Management, University of Bath, England, June 5.

"Accounting For a Visible Hand: The Emergence of Nonmarket Economy and Its Implication for Accounting," to a plenary session of the European Accounting Association at the City of London Polytechnic, London, June 7.

"The Accounting Measurement in the Contemporary Context," to the faculty of the Oxford Cen-

ter for Management Studies, Oxford University, England, June 13.

Elaine Orr, management analyst, was elected treasurer of the National Capital Area Chapter of the American Society for Public Administration, 1978-1979. She is also serving as co-chair of the cluster on "Planning in the Public Sector," one of the twelve major groupings for the 1979 American Society for Public Administration National Conference.

Procurement and Systems Acquisition Division

Donald E. Day, associate director, spoke on "The Role of GAO in Major Acquisitions," at the Navy Systems Acquisition Management School, Washington, D.C., Aug. 11.

John G. Barmby, assistant director, conducted a seminar for research and development managers at the Civil Service Commission, Washington, D.C., June 29.

Hyman S. Baras, assistant director, chaired a panel on "NATO Industrial Collaboration," at the Military Operations Research Symposium, Washington, D.C., July 13. Mr. Baras was assisted by *John G. Barmby*, assistant director, *Hugh R. Strain*, supervisory management analyst, *Elias M. Kallis*, supervisory management analyst, and *Frederick Resnick*, international relations specialist.

Hugh R. Strain, supervisory management analyst, organized a GAO-sponsored seminar on "Anal-

PROFESSIONAL ACTIVITIES

ysis for Weapons Decisions in Relation to NATO Standardization, Budgeting, and Management," at Fort Lesley J. McNair, Washington, D.C., July 14. *John G. Barmby* and *Hyman S. Baras*, assistant directors, served as panel chairmen.

Field Operations Division

Chicago

Dale Wolden, audit manager, spoke to students at the Hubert H. Humphrey Institute of Public Affairs, University of Minnesota, on "The Benefits of the Student Intern Program," July 25.

Dallas

Francis Langlinsais, supervisory auditor, spoke at a meeting of the Dallas Chapter, EDP Auditors Association, July 13. His topic was "Assessing Reliability of Computer Output When Used During an Audit." He also instructed a course entitled "Auditing Systems Supported by ADP-II," sponsored by the Interagency Auditor Training Center, in San Francisco, Aug. 14-18.

Denver

Duane A. Duffy, management auditor, discussed GAO's "National Study of Early Childhood and Development Programs," during a policy seminar conducted by the Minnesota Council on Quality Education, Minneapolis, July 12.

Randy M. Bauer, auditor and Denver Regional Office training co-

ordinator, conducted a 1-day workshop on "Human Relations Is a Two-Way Street," at the Association of Government Accountants 1978 National Symposium in San Francisco, June 27.

Detroit

Al Simonic, supervisory auditor, was elected treasurer of the Cleveland Chapter of the Association of Government Accountants.

Kansas City

David A. Hanna, regional manager, addressed the Springfield, Mo., chapter of the Institute of Internal Auditors, June 27. Mr. Hanna's speech on operational auditing contrasted the evaluation responsibilities of program managers and auditors. Mr. Hanna was also elected to membership in the Greater Kansas City Federal Executive Board's Policy Committee, July 21.

Los Angeles

Fred Gallegos, management analyst, served as leader at a seminar on auditing and the computer, sponsored jointly by the International Association for Systems Management and California State University at Fullerton, July 20.

New York

George J. Anthony, assistant regional manager, received special recognition from the New York chapter of the Association of Gov-

THE GAO REVIEW

FALL 1978

VOLUME 13 ISSUE 4



Contents

News and Notes

Auditors Behind Bars	1
Headline-Makers: Proposition 13, ZBB, What Next?	1
Hoisted by Its Own Petard	2
Presidential Management Improvement Awards	2
GAO Employees' Suggestions	3
Posthumous Award to Mr. Morse, Founding Editor of GAO Review	3
Thanks and a Tip of the Hat	4
The Future of	5
Zappacosta Named OAS Auditor	5
Joseph P. Rother, Jr	6
The Los Angeles Connection—Evolution in Operational Au.	
L. A. Roe	7
GAO Helps State Department Improve Services to U.S. Travelers Detained Abroad	
William B. Ludwick and David R. Warren <i>721747</i>	15
All We Want Is a Room with an Ocean View	
Jerry C. Skelly and Phillip D. Sykora	18
GAO, Evaluation, and the Legislative Process	
Elmer B. Staats <i>721748</i>	24
The Changing Face of the Panama Canal Enterprise	
Wayne I. Tucker <i>721749</i>	30
Planning for Staff in the Federal Government: Congressional Interests and Agency Practices	
Donald G. Boegehold <i>721750</i>	37
Mission Budgeting: The Need, How It Works	
Robert B. Hall <i>721751</i>	42
Zero-Base Budgeting in the Federal Govern- ment: A Historical Perspective	
Lawrence A. Gordon and Donna M. Hevlin <i>721752</i>	57

The Team Approach Works:	
The Team Approach and Indian Affairs	
Roy J. Kirk	66
Toxicity and Teams	
Eric Marts	72
✓ Team Management in Literature	721753
John Merryman and Bonnie Trivizas	74
Interview: Rensis Likert	
Anthony J. Reilly	79
✓ The Challenge of Career Adaptation and Renewal	
Osmund T. Fundingsland	721754 91
The CPA and GAO Standards	
Francis M. Doyal	721755 98
✓ An Emerging Tool: The Computer Model	
Frank Capece and Annette Rooney	721756 101
Federal Pay Comparability	
Gerald Miller and Leonard Hoglan	721757 107
✓ Legislative Developments	721758
	112
Reflections	116
GAO Staff Changes	118
Professional Activities	126
New Staff Members	138
Readings of Interest	
Small is Beautiful	143



The following new professional staff members reported for work during the period May 16, 1978, through August 15, 1978.

Financial and General Management Studies Division	Polashuk, Donald	Department of Justice
Federal Personnel Compensation Division	Riche, John	Federal Bureau of Investigation
General Government Division	Stowe, Alexis	State University of New York
Human Resources Division	Flemming, William Fitzgerald, Catherine St. Armand, Carol Zeffert, Steven	Department of Commerce State University of New York at Buffalo University of Maryland University of Baltimore
International Division	Lippman, Harold	American University
Logistics and Communications Division	Aldeman, Cheryl Brennan, John Rolfe, Carol	Iowa State University Department of the Treasury University of Tennessee
Management Services	Hiland, Janice McAleer, I. Marlene Perhonis, John Stone, Cheryl	Gettysburg College University of Florida University of Montana University of Massachusetts

supervisory auditors, were elected president and newsletter editor, respectively, in the Northern Virginia Chapter of the Association of Government Accountants for the 1978-79 year.

and *Jack Birholz* were faculty members in an Operational Auditing Seminar in San Francisco, May 18. Mr. Vincent put on a general seminar on the subject, Mr. D'Ambrogia discussed "Development of An Audit Finding," and Mr. Birholz discussed the "Essence of Evidence." This seminar was cosponsored by the San Francisco Chapter of AGA and the Western Intergovernmental Audit Forum.

Mr. Birholz and Mr. D'Ambrogia put on a similar seminar in Phoenix cosponsored by the Western Audit Forum and the Phoenix Chapters of AGA, May 23.

Mr. D'Ambrogia, alternate member, Dave Peltier, committee leader, and Jack Birholz, executive director, participated in the regular quarterly meeting of the Western Intergovernmental Audit Forum, Phoenix, May 24-25. The theme of the meeting was staff management with emphasis on staff professional development, planning, and program conduct.

Mr. Vincent spoke to the Civil Service Executive Center, Berkeley, on the role of GAO as a "control" agency, Apr. 13 and May 3.

Seattle

James L. McMillin, supervisory auditor, participated in a panel discussion on pretrial services at the National Symposium on Pretrial Services, San Diego, Apr. 3.

Mr. McMillin and *Joseph R. Gibbons*, management auditor, discussed the results of their review of Federal bail practices and pretrial service activities, and how these activities fit in with overall court

administration, at an Advanced Seminar for Chief and Supervising Pretrial Service Officers.

Donald R. Jones, management auditor, attended a seminar on Federal Criteria and Trends in Accounting and Reporting for Non-profit Organizations in Seattle, Apr. 21.

David K. Lawson, supervisory auditor, spoke to the Labor-Management Relations Committee of the Seattle Federal Executive Board on GAO's audit activities in labor-management relations, June 1.

Marvin F. Case, supervisory management auditor, and *Steven J. Jue*, management auditor, presented a workshop on teambuilding for higher productivity at the first annual symposium of the Seattle Chapter, Association of Government Accountants, Oct. 27. The workshop described how small groups are the basic work units which carry out the missions of the organizations, and how teambuilding techniques can strengthen the effectiveness of small groups and improve organizational productivity. This workshop, and others recently presented on the same subject, resulted from an article on teambuilding written by Mr. Case and published in the Fall 1977 issue of *The GAO Review*.

Roger D. Hayman, supervisory auditor, instructed a CSC course, "Practice Problems in Government Accounting," Aug. 21-25.

Washington

Barbara Schmitt and *Bob Eurich*,

ernment Accountants for his work as one of its directors.

Edward F. Hefferon, supervisory auditor, has been selected to work on the Subcommittee of Governmental Accounting Practices for the New York State Society of CPAs.

Austin J. Acocello, management auditor, spoke to the following groups:

Baruch College Career Day for Undergraduate Majors, on "An Education and Career in Public Administration," Apr. 20.

Seminar in public policy analysis and evaluation, State University of New York at Stony Brook, graduate public affairs program, on "GAO and Its Role in Public Policy Analysis and Evaluation," May 9.

Along with *Rudolph Plessing*, supervisory auditor, Mr. Acocello spoke on the GAO, purposes, functions, and service to the Congress to the undergraduate seminar sponsored by Baruch College Public Administration Program, July 26.

Robert J. Gentile, auditor:

Has been elected Northeastern Regional Vice President of the Association of Government Accountants for 1980.

Has been selected as a member of the Governmental Accounting and Auditing Task Force of the American Institute of Certified Public Accountants.

Participated in the Intergovernmental Audit Forum Joint National Conference in Carson City, Nev., Apr. 19-21. He presented a

paper on the Joint Financial Management Improvement Program.

Norfolk

Alfonso J. Strazzullo, regional manager, addressed a meeting of the North Suffolk Rotary Club on "Roles of the General Accounting Office," Suffolk, Aug. 11.

Otto Williams, supervisory auditor, was appointed president-elect of the Peninsula Chapter of the Association of Government Accountants for 1978-79.

Philadelphia

Morey J. Chick, supervisory auditor, spoke on computer security in the Federal Government at a symposium on "Privacy and Security," sponsored by the Social Security Administration, Baltimore, Apr. 10. He gave a similar presentation to the Interagency Committee on ADP, Washington, D.C., last Feb.

San Francisco

The Association of Government Accountants held its 27th National Symposium in San Francisco, June 26-28. It was the largest ever held outside of Washington, D.C. Several SFRO staff were responsible for planning the symposium: *Jeff Eichner*, co-chairman; *Bob Brown*, treasurer; *Jake Karmendy*, workshops; *Henry Zollner*, arrangements; and *Jack Birholz*, publicity. *Bill Conrardy*, *Dave Peltier*, *Hal Thilmony*, and *Ken Howard* were workshop panelists.

Charlie Vincent, *Hal D'Ambrogia*,

that the make-up of a staff can have on the way we approach our work.

"LARO's technical staff at one time consisted entirely of accounting majors. The trend throughout GAO over the past 10 years or so has been to more broadly diversify the academic disciplines of the staff. Today, accounting majors still make up about two-thirds of the staff, but LARO has also added staff with majors in economics, business and public administration, personnel management, data processing, mathematics, engineering, operations research, social science, industrial relations, finance, English, computer science, advertising and public relations, psychology, anthropology, and history. More than a third of our people have advanced degrees, including two Juris Doctors. Adding further breadth to the staff composition is their varied backgrounds. Not all LARO staff are Angelenos, nor are they all Californians. Our more recent hires have come from Pennsylvania, New York, Colorado,

Washington, Washington, D.C., and Egypt, to name a few.

"This has brought about self-generating growth. As our work has expanded, requiring us to bring on staff from different disciplines, those staff have in turn caused the work to become even more varied by broadening our perspective of issues and viable solutions. The future will bring increasing diversity and more hiring of specialists, particularly in the computer science, operations research, and quantitative methods fields. Operational auditing is definitely here to stay."

Thursday, June 22

Four p.m. It was finished. I went back to the regional manager's office.

"Yes, that's got it," he said, "and there will be some good things coming your way."

"Shall we say, 'sometime soon?'" I asked.

"Let's just say 'sometime,'" he replied.

"Fred Gallegos and Al Roberts have also developed a computerized model for internal use by regional management to forecast grade structure and EEO profile (race/sex) in future periods. The model uses historic hiring, promotion and attrition rates, along with a predicted staff-growth rate to forecast the impact of these variables in subsequent years. Management is then able to consider alternative strategies for reaching staffing goals.

"Now we have expanded the use of this model to evaluate EEO programs of other Federal agencies. It gives us the ability to forecast the future status of minorities in an organization and thereby measure the potential for EEO programs to accomplish their stated goals."

As we stood talking, Joe Dion, one of our supervisory auditors, came up. "One of the most successful approaches I've found," Joe said, "is to involve professionals from outside the government in helping us shape our reviews, particularly as we do more and more work in 'soft' areas like social sciences. On our review of Federal efforts to prevent mental retardation, we got several nationally renowned doctors to help us identify the issues, as they saw them, and then we shaped our review to come up with a report which would address national needs, rather than just evaluate Federal programs. With the needs identified, our next step was to recommend how Federal programs could be better used to meet those needs.

"As a result of their early participation with us on the job, these

doctors took a very active role in promoting and publicizing the report when it was issued. The next thing we knew, the report was being referred to as an 'authority treatise' by professionals working in mental retardation and had received international attention. In fact, I have since been invited to lecture at three national conventions and an international summit conference and to do a radio broadcast as a result of this report. Why, I got so enthused about the work I even went to U.C.L.A. and was certified in mental retardation; now I am fully equipped to understand the Federal budgetary process."

Four p.m. Enough for one day. I strolled out to my car (now a pleasant 140 degrees inside) and began the homeward commute. Forty-three miles and 2 delightful hours later I pulled into my driveway. That might seem like an extraordinary commute, but LAROOers live as far away from the office as 45 miles to the north, 50 miles to the south, 70 miles to the east and 20 miles to the west. I don't know whether they're trying to get away from each other or just trying to find a place to live out from under the ozone cloud.

Monday, June 12

Seven a.m. Gene Cooper, the staff manager, called me into his office. As I entered he was pouring himself his first cup of coffee and then pouring himself behind his desk. "I think one thing you've overlooked," he said, "is the impact

erational audits. For example, we did a job several years ago on bilingual education and, in what the Washington Star called 'an uncharacteristic burst of imagination,' wrote the first-ever GAO report in a language other than English. This single added dimension brought international attention. The Instituto Latinamerica De Ciencias Fiscalizadoras, composed of the Supreme Audit Institutions of 21 Latin American countries, uses the Spanish version of the report as a model in its basic operational auditing course. The report also served as the focal point in recent briefings with representatives from Mexico and Ecuador, and has been distributed throughout Mexico, Central America, and South America.

"By the way, you might want to look at the work we're doing on junk food," he said. "I hear the staff wants to conduct research on the impact of a diet of Twinkies and Hershey bars on the intellectual functioning of the GAO auditor."

I tried to wipe the tell-tale chocolate stains from the corner of my mouth.

Friday, June 9

Seven-thirty a.m. From my desk I gazed out the window. Some days I gaze out the window a lot. It was one of those beautiful days when the sky is mushy brown—air you can really get your teeth into. I decided to drop in on George Grant, assistant regional manager.

"My group is responsible for tax matters, justice, transportation and

defense procurement," he said. "We've seen a great shift from compliance-type reviews to those focusing on stimulating legislative change.

"We've also used systems analysis techniques in new ways. For example, in our drug enforcement work we've found that each of the various agencies that get involved in drug enforcement activities maintain their own information systems. Using systems analysis techniques we are attempting to determine how all of the data banks can be integrated into a single comprehensive system. And if you want to talk about *diversity*, there is our work in defense procurement. We've done contract pricing at Litton, contract pricing at Rockwell, contract pricing at Douglas, contract pricing at . . ."

"Uh, excuse me George, I think my phone is ringing."

Two-thirty p.m. As I left George's office, I bumped into Tony Cicco of our Management Sciences group.

"Say, Tony, George has just been telling me about some of the new things you're doing with systems analysis."

"Yes, and we're also doing some very interesting things with modeling. For example, using information both from government and private sources, we developed a unique computer planning model for determining the appropriate sizes for Veterans Administration hospitals. The model has potential for use in determining the appropriate size of other publicly financed hospitals and can save millions of dollars in construction and operating costs.

omy of Federal agency activities. Since most compliance audits were directed at defense activities, a shift to results evaluation brought about a rebalancing of staff resources between civil and defense activities of the Federal Government. Further, the staff learned to look to State and local government and private activities to provide new perspectives in assessing Federal programs.

"During Jerry Stolarow's reign (1971 to 1973), the staff was given a new perspective concerning needs of GAO's Washington divisions and emphasis was placed on responding to them. This helped the staff to recognize the need for a sense of 'oneness' between Washington and the field in accomplishing the work of GAO."

I found myself staring out the window of the regional manager's office taking in the beautiful view of the Harbor (Freeway, that is).

"Boy, it sounds like you had a tough act to follow, what with your two predecessors now being division directors and all."

"Yes, Los Angeles has had its distinguished graduates. My style has been to provide continuity of principal staff to issue areas, thereby increasing the level of technological competence and credibility in dealing with high-level issues. Accordingly, we have divided the office into four groups, each headed by an assistant regional manager. Each group is responsible for designated audit issue areas and each of the audit managers assigned to the groups have their own areas of specialization.

"We have emphasized the need

for balancing our efforts between identifying problems and developing solution options. The use of management sciences to scope work and model solutions has come into prominence. Also, the role that field organizations should play in developing institutional policies and practices has become an important theme in the region."

I knew I was on the verge of busting this case wide open. As I left the building, I flashed the identification badge pinned to the inside of my trench coat at the security guard.

"Stop," he shouted. "You're under arrest for indecent exposure."

Wednesday, June 7

Two-fifteen p.m. Out on bail.

I stepped onto the overhanging ledge which was added after the building was built. This is where the desks are positioned for the junior staff members. I examined the stress lines we'd drawn on the wall where the ledge is glued to the rest of the building. It looked like a good day, the ledge had only dropped a quarter of an inch. I thought to myself: "In a good earthquake, everything's going to come down . . . except the elevators."

I stopped Richard Herrera, audit manager for energy work, to find out how operational auditing is being handled in that group. "Most of our current efforts are in conservation," he said. "We've adopted a slogan—'Conserve energy, Kill-a-watt!'"

"We've taken tremendous strides in broadening our approach to op-

now. Most of our audits were defense, interior, civilian payroll or settlement of accounts. The jobs were usually narrow in scope and we were judged by how many 'blue covers' we published. As a result, timeliness was not a problem, as it sometimes is with today's broader scope jobs in highly complex issue areas.

"One thing that definitely was the same in the 'good ole days' was the frequent trips to Washington. I recall once when two of us went to Washington in 1964. Originally, our stay was to be 3 days, but this was extended to 3-1/2 weeks. We found it necessary to accumulate a certain amount of additional clothing during this period: socks, underwear, shirts, handkerchiefs, etc. When it came time to go home, the weight of our baggage was still within the acceptable limits, but we also had to bring back about 6 bundles of working papers and we ended up overweight. It cost us \$11 for excess baggage charges which we, of course, claimed on our vouchers. The regional office sent us a memorandum disallowing the charges and informing us that others had traveled as many as 35 years without being overweight. I wrote back and asked for a copy of this remarkable diet that kept them from being overweight. Instead of sending me a copy, they sent me to the Mojave Desert in the middle of summer.

"We have come a long way since those days: Hal Ryder, Hy Krieger, Jerry Stolarow, and Jim Hall. Each has made his name mark on the office. Changes in the make-up of the staff have also had an impact

as we've moved from the 'quick and dirty' audits into the realm of constructive operational auditing. I'm sure Jim Hall could give you a lot more along these lines."

Eleven-thirty a.m. I headed for the regional manager's office. "Yes," he said, "there have been a number of changes over the years in the objectives and purposes of GAO's work which have occurred as a result of legislation or reprioritizing the use of available staff resources. Each of the four regional management regimes which have existed since the opening of the office has also left its indelible print on what the Los Angeles staff is today and how it works.

"Mr. Ryder's tenure (1952 to 1966) was marked by an emphasis on accountability for performance of high quality audits. He also instilled in the staff the need for timeliness. Staff were automatically reassigned to new jobs on the target completion date, which was only extended for something like the death of a senior or mistake by the regional manager.

"When Hy Krieger came to Los Angeles as regional manager in 1966, he brought with him the concept that the staff is *not* finished with the job when the report leaves the regional office. He emphasized continuing involvement of the staff in following up on what is *done* with our reports.

"The Krieger era (1966 to 1971) also saw changes leading to evaluation of program *results*. Up to this time, it had been usual practice of GAO to examine Federal agency *compliance* with laws and regulations as well as efficiency and econ-

You can't talk about L.A. and cars without mentioning air pollution. The so-called "smog" was originally no more than natural morning mist—a result of Los Angeles County being bordered by a coastal mountain range on one side and the ocean on the other. The sun alone used to dissolve it. Today, the mist provides a perfect trap for the debris rising from the county's smokestacks and exhaust pipes of its 4 million autos. Some days, the wind and sun just aren't strong enough to dissolve the stuff, rendering the air thicker than the cheap notepad paper we get from GSA.

But despite this minor drawback, Los Angeles does have its virtues; the list of things to do and places to see is endless. If you could possibly do it all, you'd find that by the time you reached the end of the list the beginning had changed. There's day-life, night-life, outdoors-life, indoors-life, and underground-life; in short, something for everyone.

And don't forget the weather. While we do not have four distinct seasons like many other parts of the country, adverse weather conditions (snow, rain, humidity, etc.) seldom interfere with planned activities. Shirt-sleeve temperatures on New Years day are the rule rather than the exception. Where else could you watch the dawning of the day on the desert, drive into the mountains for a full day of skiing, and still make it back to the beach in time for a dip before the sun sinks into the Pacific?

Four p.m. It was time to brief the regional manager on what I

had. "Well, this is a nice travelog," he said, "but I want something on the *office* and where *it* came from. I want you to take this place apart and examine every piece of it. You've got to get to the bottom of it!"

Since I always seem to be at the bottom of things, that didn't seem so difficult.

Tuesday, June 6

Seven a.m. I entered the elevator and punched the button for the tenth floor. As usual, that was a mental overload for the elevator and it went through its morning routine, shuddering in place while the doors spastically snapped open and closed. I mounted the stairs. Thirty minutes and 227 steps (not counting the stoop) later, I stepped out onto the tenth floor, gasping for breath. I went through the reception area into the staff working space. I stepped into Dick Gannon's office. Dick is an audit manager who has been with LARO almost since the beginning.

"Tell me, Dick, what was it like in the old days?"

"If I recall correctly," Dick began, "the Los Angeles regional office was set up in May of 1952, with Mr. H. L. Ryder as the first regional manager. I transferred to Los Angeles in October 1953. In those days, the regional manager was a GS-14, with three GS-13 audit managers and a staff of about 40. Site supervisors were GS-11s or 9s.

"The character of the work we did then was different than it is



Jim Hall and his ARMs.

thorities. The completion of the Santa Fe railway into L.A. in 1885 sparked the phenomenal land boom that marked the transition of Los Angeles from a sleepy Spanish pueblo to an enterprising American city.

Today, Los Angeles is the economic and industrial center of a great, dynamic metropolitan complex that extends over 200 miles along the Southern California coast from Santa Barbara to San Diego. Business and industry are highly diversified and include, among many others, aerospace, electronics, oil refining, plastics, motion pictures, and agriculture. Los Angeles is also the home of many endangered species, including the Light-footed clapper rail (*Rallus Longirostris Levipes*); Blunt-nosed leopard lizard (*Crotaphytus Silus*); New GAO hires (*Auditoris Nonex-*

istens); and Promotions (*Careerus Interruptus*).

Most of all, Los Angeles is cars, cars, and more cars. It's been said that the laws of evolution cause the human body to adapt to its environment and do away with parts that are no longer needed. If this is true, Angelenos will eventually see their feet replaced by wheels. For all intents and purposes, a car is a necessity in Los Angeles. The county and city are so spread out that any other form of transportation is downright impractical. While families in the rest of the country strive to put two cars in their garage, Angelenos think nothing of having three or even four cars in the family. For example, one of our staff pays annual vehicle registration fees on three cars, five motorcycles, and two trailers.

The Los Angeles Connection— Evolution in Operational Audits

*THE STORY YOU ARE ABOUT TO READ IS
TRUE. THE NAMES HAVE REMAINED THE SAME
BECAUSE THERE ARE NO INNOCENT.*

This is the city, Los Angeles, California; 464 square miles with over 3 million people. There are hundreds of Federal programs throughout the city, but some of them are operating without efficiency, economy, or effectiveness. That's where I come in. I carry credentials. I'm an auditor.

It was Friday; a day like any other. I was working the day shift out of the World Trade Center when the regional manager called me into his office. "We were asked to write an article for *The GAO Review* about Los Angeles and I'm assigning this mission to you. I know you're the one who can handle it."

I saluted and left.

Monday, June 5

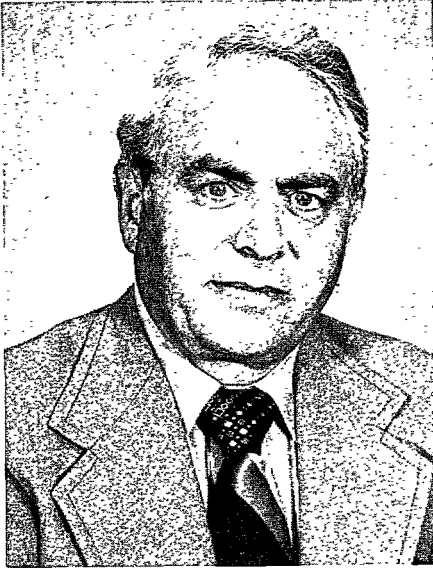
Eight-thirty a.m. I filled my coffee cup and sat down at my desk. Where would I start? I stared out

the window. My eye was caught by the pyramid top of City Hall looming on the horizon. I wondered where it had all come from, this sprawling oasis of concrete and steel in the midst of the Southern California desert.

In pre-Spanish days, Los Angeles had been inhabited by about 4,000 primitive Indians. In 1542, Cabrillo, a Portuguese navigator in the employ of Spain, became the first European to set foot in L.A. County. It is rumored that Isabella had sent him out to find a good burrito.

The original pueblo of Los Angeles was founded in 1871 by the Spanish governor as part of the plan for colonization of California. In 1822, after Spain had relinquished her possession in Western America, Californians pledged allegiance to the Mexican empire and, for the next quarter of a century, were ruled by Mexican au-

L.A. Roe is the nom de plume adopted by the group of members of the Los Angeles Regional Office who participated in the preparation of this article. The principal contributors were: Tony Cicco, Gene Cooper, Joe Dion, Dick Gannon, Richard Griswold, Jim Hall, Carolyn Kelly, Ed Nash, Mike Stenger, and Greg Vigen.



Frank M. Zappacosta

auditing and program evaluation in this hemisphere, Mr. Zappacosta

will be expected to play a leadership role in OAS auditing activities during his tenure.

Joseph P. Rother, Jr.

It is with profound regret and sadness that we note the death of Joseph P. Rother, Jr., assistant director, Community and Economic Development Division, on August 30, 1978.

Joseph Rother was born on March 19, 1928, in Shavertown, Pennsylvania. He graduated from King's College in Wilkes-Barre, Pennsylvania, in 1952, and joined the General Accounting Office the same year. During the last years, he was in charge of the HUD audit site; most recently he served as the coordinator for the land use issue area.

The Future of . . .

Just when we thought Congress was finally mastering the concept of oversight, someone had to come along and invent foresight. That hypothetical comment, circa 1974, would have shown a lack of insight about the legislative branch's embrace of the study of the future. Today, the journalistic observer, *The National Journal* states: "While other parts of the federal government are dabbling in the future, Congress seems to be leading the way."

How did all this begin? In 1974, Congress added a foresight provision to its rules, requiring committees "on a continuing basis to undertake futures research and forecasting" on matters within their jurisdictions. By 1976, with the encouragement of Rep. Charles Rose of North Carolina, the Congressional Clearinghouse on the Future was formed, with participation from all four congressional support agencies.

The Clearinghouse has taken on a variety of activities to stimulate futures research within the legislative process. One activity on trend identification, TEAM (Trend Evaluation and Monitoring), involves voluntary participation of staff from congressional support agencies, committees, and member offices. Participants study over 70 publications and abstract any insights they may receive about future trends. Naturally, these abstracts are collected and distributed to Clearinghouse members in the hope that it will improve their legislative performance.

Interestingly, we have spotted a trend of our own. This legislative vehicle was pioneered by Congress and then transferred to various State legislatures. But we recently received news that an evaluation of the role of State legislatures as advance indicators of emerging issues at the national level is being conducted. Based on our evidence to the contrary, I hope that *The GAO Review* is one of the 70 publications currently being monitored by the Congressional Clearinghouse on the Future.

Zappacosta Named OAS Auditor

We will conclude with some good news which concerns the multiple roles of auditing. Frank M. Zappacosta, assistant director of the International Division, has been elected to serve a 3-1/2 year term on the Board of External Auditors of the Organization of American States. Elected at the General Assembly meeting of July 1, Mr. Zappacosta replaces his boss, Ken Fasick, on the Board, and joins auditors from the Comptroller General's offices in Panama and Ecuador in OAS service.

Mr. Zappacosta will have his work cut out for him, though. OAS recently agreed to allow the Board of External Auditors to go beyond the review of the financial audit submitted by a public accounting firm, and to conduct limited audits of the effectiveness of the organization on their own. Since GAO has led the way in operational

worth H. Morse, Jr. The award is the latest tribute paid to the founding editor of this magazine for his years of devoted service and outstanding contributions. Mrs. Morse accepted the award from the chairman of the AGA's National Awards Committee, Fred Layton.

In the award, Morse was cited "for his outstanding contributions and dedicated service to the Association and to the profession, of such significance as to have brought national and international prestige and stature to the Association of Government Accountants."

Mr. Morse, who passed away last November, was the national president of the AGA in 1971 as well as the Assistant Comptroller General of the United States.



Mrs. Ellsworth H. Morse, Jr., accepts the Robert W. King Memorial Award of the Association of Government Accountants in honor of the late Mr. Morse. Presentation is made by Fred Layton, Chairman of the National Awards Committee and GAO regional manager in Boston.

Thanks and a Tip of the Hat

As you have seen in the preceding news notes, it is important for everyone to realize the significance of their own work, but it is just as important to have that contribution recognized by others. With the number of reports and suggestions issued by GAO each quarter, it should not surprise the reader that we always have success stories to include in this column.

This quarter's success story originates in the State of Colorado with their State Division of Criminal Justice. Faced with a series of baffling requests from the Joint Budget Committee of the Colorado Legislature, the State's crime-fighters turned to the U.S. Law Enforcement Assistance Administration (LEAA). To clarify the purpose of evaluation for the State legislators and to establish a dialogue between the legislative unit and the crime-fighters, LEAA recommended that the State Division of Criminal Justice implement the six-step process for evaluation and oversight that was developed by GAO.

Although the GAO report was originally targeted for congressional committees, LEAA correctly realized that the process would also help involve State legislatures in the evaluation process. Sources within GAO are closely monitoring the distribution of the report ("Finding Out How Programs Are Working: Suggestions for Congressional Oversight") to see which additional States might implement our suggestions.

proved, and then saluted 11 executive branch employees whose work and suggestions represented considerable achievements and dollar savings in their own agencies.

The President noted that:

One of the consistent efforts of my own administration since I've been in office has been to improve the quality of service that our Federal Government provides to the American people. Every one of us . . . throughout the Government has the job we have because the American people want and expect us to serve their needs and to serve them well. We are here for that purpose and for that purpose only, from the President of the United States on down.

While proud of the more than \$13,500,000 in estimated savings which resulted from the work and suggestions of the 11 employees, the President expressed his continued appreciation for the dedication and ability displayed by career government employees during his term. It is hoped that the honor accorded to these employees "will encourage others to achieve just as high a service to the American people."

GAO Employees' Suggestions

With all this talk about suggestions in the executive branch and rewards for employees, we decided to investigate the well-being of GAO's own employee suggestion program. Not surprisingly, an agency whose employees are accustomed to making suggestions about

the operations of others also is an agency where its own employees do not hesitate to make suggestions.

All statistics indicate that the program is well received and effective. In the most recent 6 months, as many suggestions have been received through the Employee Suggestion Program as were received throughout the entire previous year. At the same time, 15 GAO employees received a total of \$1525 in awards as well as the satisfaction of seeing their suggestions adopted by our agency. The highest award ever, \$250, was given to an employee who displayed remarkable patience during the 1½ years it took to evaluate and implement the suggestion.

One thing did occur to us: what gets suggested the most often? The most popular suggestion is that hotels should provide tax-free lodging to Federal employees on travel status. Of course, there is a reason why GSA, OMB, and Civil Service have never been able to implement the suggestion. Taxation on lodging is a State prerogative, and Federal officials are unable to preempt the tax.

Posthumous Award to Mr. Morse, Founding Editor of *The GAO Review*

The Association of Government Accountants concluded their 27th National Symposium on June 28, 1978, by presenting their highest honor, the Robert W. King Memorial Award, posthumously to Ells-

offerings by expert consultants; and it must be the object of an entire GAO Report to the Congress.

Based on these criteria, we were pleased to note that the taxpayers initiative in California, Proposition 13, has become an official national concern. An August 10 GAO report explored the effect that Proposition 13 is likely to have on the amount of Federal funds received by the State of California. The report, which explained the dependence of Federal actions on independent decisionmaking by State and local officials, bestowed national significance on the issue which has already inspired *Time* and *Newsweek* cover designers as well as consultant-led symposia on "the age of retrenchment."

Meanwhile, we were cheered by the news that GAO plans to do its own assessment of the zero-base budgeting experience in the executive branch. Since President Carter's inauguration, we felt that this issue had the potential to become a national concern: extensive press coverage and consultative activity. The GAO report will examine the utilization of ZBB in other governmental and private budgeting systems as well as our Federal experience. Two of the staff members for the study provide a preview of their research elsewhere in this issue.

Hoisted by Its Own Petard

Two efforts that this journal wholeheartedly endorses are simplified prose by bureaucrats and simplified tax forms by IRS. How-

ever, as difficult as it is to accomplish either of these tasks singly, to accomplish both in one report is almost impossible.

This was the experience of GAO recently in its issuance of a report on the ways that IRS could simplify the forms that Americans dread each spring. The main advice of the report: "Sentences should be shorter and clearer and common words should be substituted for legalistic ones." So far, so good. Instead of documenting the recommendation with 118 pages of suggestions, perhaps GAO should have stuck with that one recommendation.

It took only a few days for the press to examine the GAO report closely. *Congressional Insight* found the following passage of interest to their readers: "To the extent that sentences are short, it tends to lessen probability that there will be inadvertently incorporated ambiguity in the within-sentence syntax of the sentences." The moral of the story: people who live in glass houses shouldn't . . .

Presidential Management Improvement Awards

Often we hear that GAO auditors feel as if they are alone in their efforts to improve government operations and that individual efforts make very little difference in overall government economy and effectiveness. In a recent White House presentation, President Carter repeated his own resolution that government performance can and should be im-



Auditors Behind Bars

For several post-Watergate years, it was not uncommon for high-ranking officials of the executive branch to conclude their terms of public service with terms of imprisonment. However, we were somewhat surprised to learn that GAO staff members are also spending an increasing amount of their time "behind bars."

We did not realize that a number of GAO auditors were spending their days in jail until we saw the recent report examining the circumstances surrounding a fire at the Federal prison in Danbury, Connecticut. To determine whether the Bureau of Prisons had taken adequate steps to prevent and investigate the fire, GAO officials reconstructed the events which occurred on the morning of the fire and interviewed on-site witnesses—inmates, correctional staff, etc. The resulting report, which was issued on August 4, 1978, was based on a request from the two U.S. Senators representing Connecticut.

Subsequent investigation turned up a number of auditors who were spending considerable time in correctional institutions, a most unlikely audit site. Reporting on var-

ious aspects of the Federal role in corrections, the auditors from seven regions have studied the employment and training opportunities, the medical and dental care, and the Federal strategy in correctional institutions. While none of the auditors could be termed a seasoned jailbird, through their follow-on reviews they have received considerable schooling in the art of prison management.

Readers who are interested in the comings-and-goings of GAO staff behind bars will look forward to an article on that subject in a forthcoming issue of the *Review*.

Headline-Makers: Proposition 13, ZBB, What Next?

Summertime in the Nation's capital always produces its fair share of "hot" items and genuine topics of interest. But we have always wondered how it is that some issues transcend the media hoopla and become true national concerns. It appears that any news item must meet three prerequisites before it can be considered to be significant: it must be featured on the cover of *Time Magazine*; it must be the subject of seminars and training

READINGS OF INTEREST

which if productive at all is so only in an indirect or roundabout way, and much of which would not be necessary at all if technology were rather less modern.”

In drawing such a conclusion based on this extremely narrow definition of productive work, I believe the author loses some credibility. Even primitive tribes practice division of labor and usually have leaders who manage or direct agricultural producers, hunters,

warriors, a spiritual leader or medicine man, etc. In modern society, many find opportunity to perform enjoyable and creative work in intellectual and artistic pursuits that contribute to society and the quality of life of other people, even though they are not directly involved in producing physical goods.

Osmund T. Fundingsland
Assistant Director
Science Policy Staff
Program Analysis Division

economic decisionmaking as decentralized as possible. He believes that "pump-priming" through public works programs to create jobs and increase the purchasing power in rural communities can have a desirable, lasting effect, provided it is backed by indigenous production of additional goods so that the additional purchasing power will have a multiplying effect on the local economy and not flow into imports.

Schumacher proposes a reorientation of science and technology toward "the organic, the gentle, the non-violent, the elegant and beautiful." He urges a revolution in technology to provide methods, inventions, and machines which are

- cheap enough to be accessible to virtually everyone,
- suitable for small-scale application, and
- compatible with man's need for creativity.

One might say that "small is beautiful" is the antithesis of "bigger is always better." In the words of Theodore Roszak, who wrote the introduction, Schumacher might just as well have said "small is free, efficient, creative, enjoyable, enduring." Two statements from the epilogue, in the author's own words, summarize the essential message: "In the excitement over the unfolding of his scientific and technical powers, modern man has built a system of production that ravishes nature and a type of society that mutilates man. * * * Above all else, civilization needs the development of a life-style which accords to material things the proper

legitimate place which is secondary not primary."

The book is a little ponderous to read, partly because it contains a number of pithy statements, but more so because thoughts are redundant throughout the chapters. This is largely due to the fact that the book is based on a collection of lectures and other papers prepared over an extended time period and they have not been fully edited to form an integrated theme. Nevertheless, I found the essential message of the book to be refreshing and stimulating. Although I agree to a large extent with the author's convictions, I question his credibility in some instances. For example, in the line of reasoning and conclusions developed in chapter 5 where the author states that less than one-half of the total population is gainfully occupied and only one-sixth are actual producers. Not included in the category of actual producers are people who manage, plan for the future, or distribute what other people have produced or those engaged in other services or overhead functions. He reasons that, since a fully employed person actually spends only about one-fifth of his total time on his job, it follows that only about 3½ percent of man's "total social time" is directly productive. He concludes from this that "modern technology has deprived man of the kind of work he enjoys most, creative, useful work with hands and brains, and instead, has given him work of a fragmented kind, most of which he does not enjoy at all. It has multiplied the number of people who are busy doing kinds of work,

questionable or false assumptions and a narrow, unbalanced philosophical and metaphysical foundation.

One of the fallacies underlying conventional economics, according to Schumacher, is the theory that all goods are treated the same according to market value, whether derived from nature or manufactured by man, whether renewable or not; everything that has a price is economic and money has the highest value; that whatever is priceless is noneconomic. This point of view is essentially that of private profitmaking, and this means that it is inherent in the methodology of economics to ignore aesthetic qualities of life and man's dependence on the natural resources of the material world.

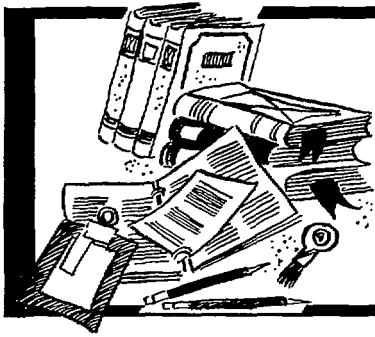
According to Schumacher another economic fallacy is the popular view that a nation's standard of living is measured by the per capita rate of growth of its gross national product. Furthermore, he says, "the modern industrial system, with all its intellectual sophistication, consumes the very bases on which it has been erected. To use the language of the economist, it lives on irreplaceable capital which it cheerfully treats as income." He mentions three categories of such capital—fossil fuels, the tolerance margins of nature, and the human substance or quality of life.

Schumacher warns that the present materialistic economic value system is intrinsically bound with greed and envy, attachment to wealth, and idolatry of giantism and boundless growth. It ignores

the need to conserve natural capital which is being rapidly depleted, placing mankind on a collision course with self-destruction. The rich will become richer and the poor, poorer. Throughout the world unemployment will grow, and living conditions will continue to deteriorate as populations migrate from rural areas and small villages to the metropolitan centers. As the nonrenewable natural resources become depleted, tensions will mount and peace will be ever more threatened.

In this context, he points out that the most vital of all resources is wisdom derived from man's intelligence and education, and he defines education as a transmission of values which enable man to relate to his environment through appropriate dominion and stewardship. This implies acceptance of new moral values and a commitment to live by them. He stated that education can only help us if it produces "whole men" capable of reconciling the demands of freedom and discipline. These ideas are developed by frequent references to various religious beliefs and philosophical teachings.

Schumacher urges a Third World economic policy that rejects imitation of Western models: capital-intensive industry, automated mass production, centralized development planning, and advanced technology. In contrast, he endorses Mahatma Gandhi's scheme to begin with the people of the villages, to stabilize and enrich their traditional way of life by use of labor-intensive manufacture and handicrafts, and to keep the nation's



Readings of Interest

Small is Beautiful: Economics As if People Mattered

By E. F. Schumacher; Perennial Library, Harper & Row, Publishers, Inc., New York, 1975; 305 pp., paperback, \$2.95.

The late E. F. Schumacher was a Rhodes Scholar in economics and spent a number of years as a high-level economic advisor to the British government. From this orthodox beginning in economics, he became involved in associations dealing with organic farming, small-scale machines, and methods of production to assist developing countries.

From this background, Schumacher has developed the message contained in the series of lectures and other papers comprising the chapters of the book *Small is Beautiful: Economics As if People Mattered*. He is credited with having coined the phrase "intermediate technology" and sparking a worldwide movement to foster indigenous development of appropriate technology for developing nations,

as well as encouraging decentralized intermediate technology in industrialized nations.

Intermediate technology is defined as technology that increases the productivity of small business and underdeveloped nations by filling the gap between capital-intensive, highly industrialized technology and primitive, manual technology. Appropriate technology for a given nation or culture provides incremental steps in efficient production of goods to meet essential needs of the people commensurate with the costs that can be afforded in that society. Usually, such technology is labor intensive.

Schumacher questions the fundamental validity of traditional economics and the modern world value system that previously has been almost unchallenged, especially in industrialized nations. He calls for a new value system which emphasizes the relationship of man to his environment and life style, i.e., the dignity of man, in contrast to material possessions and wealth. He points out that economics' only scientific basis stems from its quantitative and statistical nature, that it is largely based on

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