

Contents

A Message From the	Charles A. Bowsher	1
Comptroller General		
From the Editor	Harry S. Havens	2
In Recognition: Two Men Who Helped Shape the Review	Ellsworth H. Morse, Jr., and Frank H. Weitzel	3
From Our Briefcase	The Computer Revolution A History of Financial Management Improvement Changes in the Workforce Major Intergovernmental Events	4
On Location	Annual Awards for Best Article: A History All Their Own	6
Manager's Corner	Kerry St. Clair	13
Topics in Evaluation	Measurement Error and Program Impact Carl E. Wisler	15
GAO: Twenty Years of Change	Robert Sexton	17
From Commas to Consultations: The Writer-Editor's Expanding Role at GAO	Bonnie A. Beckett-Hoffmann and Molly W. MacLeod	

Contents

A Backward Glance at The GAO Review	Gerard S. Burke	26
The Superfund Videotape: Broadcasting to the Congress	Timothy P. Bowling and Jeffrey E. Heil	30
From Satellites to Space Shuttle and Beyond: GAO Evaluates the Military's Role in Space	Richard G. Herrera	32
GAO and Television News: An Alliance of Incentives	Anne Motley Hallum	36
Two Weeks' Worth: Then and Now	Robert W. Ford	40
Legislative Developments	Judith Hatter	44
GAO Senior Staff Changes		45

Contents

Other GAO Staff Changes

Additional Staff Changes

SES Promotions SES Reassignments New Staff Members

Staff Members Hired in 1966

Attritions Retirements Deaths

Professional Activities

59

51

and the second second
Miles Control
To be a second s
THE PROCESSION
Comprehensive Co
PROCESS CHECKER A SPONSOR
had the same of the
THE STORE TO SERVICE THE
Table Table
The same of the sa
e sues color france, ve modules
THE RELEASE THE SECOND
Co. Calendaria de Constitución
A. videote
MONTH I PROPERTY OF THE PARTY O
S Charles Li es
CHRONIN CHROCK PLANTS
* (***********************************
Sen o Com and Consolidate
Commodella State Commodella Commo
The second secon

A Message From the Comptroller General



In celebration of the 20th anniversary of *The GAO Review*, I would like to recognize the many readers, writers, and staff members whose interest and contributions have helped shape the *Review* over the years. The *Review* has served GAO as a creative communication tool and an archive for GAO history.

When the *Review* first appeared in the winter of 1966, Acting Comptroller General Frank H. Weitzel's introductory message noted that "... In these times of change in management techniques and of new ideas in communications, management controls, data processing, accounting, auditing, and the application of mathematical techniques to analysis and decisionmaking, we must strive to maintain and improve our position as leaders. Our responsibilities are such that our professional staffs must be among the best informed in the federal government. Individually and collectively, we must research new and old ideas, remain alert and receptive to new approaches, and consciously promote the concept of an informed, capable, dynamic, and progressive staff. Such a staff will continue to uphold the standards we have set in the past..."

In some respects, the topics of that first issue are timeless: management control, access to records, and even an article discussing the "formidable obstacles" to reaching agreement on accounting principles. While these subjects could be likely topics for articles in 1986, the *Review* also reflects the extent to which the scope of GAO's work has broadened since 1966. Subjects now cover the range of public policy and management issues, from hazardous waste to evaluating the military's role in space. The *Review* today serves the vital functions of addressing a broad range of management issues as well as reflecting the needs and interests of GAO's diverse staff.

The need to be receptive to new approaches and ideas is also timeless, and the *Review* has played an important role in meeting that need. As our work has evolved, so too has the content of the *Review*. I am confident that the next 20 years of the *Review* will be as productive as the first.

Charles A. Bowsher

Thatas A. Bowsker

Comptroller General of the United States

From the Editor



The winter 1986 issue of *The GAO Review* has a special subject—its 20th anniversary—and a special look to go with it. You'll notice that this *Review*'s typeface and general layout reflect some of the newer design elements of GAO's recent reports. Carmelo Ciancio, the *Review*'s designer with the Visual Communications Branch, has also created a cover montage to commemorate our first 20 years of publication.

How can the *Review* describe what has happened in the last 20 years? The editorial staff asked this question as they invited authors to write pieces about the anniversary theme. When the *Review* was first published in 1966, it looked quite a bit different, but a few of its topics were similar to current ones. Gerard Burke, of the Writing Resources Branch, researched the evolution of the *Review*'s look and contents, and Bob Sexton, of the Office of Policy, takes a parallel look at GAO itself. Their articles provide some perspectives on growth and change within GAO and the *Review* over the last 20 years.

Other writers share details of how GAO's products have been edited in-house or used by the media during the *Review*'s first two decades. Molly MacLeod and Bonnie Beckett-Hoffmann, both of the Resources, Community, and Economic Development Division (RCED), develop a history of the writer-editor role. Anne Hallum, a university professor who did her doctoral research on GAO, analyzes how the media has covered GAO's work.

While the past is the key focus of articles in this special issue, we did not want to neglect the future. Tim Bowling and Jeffrey Heil of RCED describe GAO's videotape message about the Environmental Protection Agency's Superfund. Rich Herrera, of the Los Angeles Regional Office, discusses another new area of audit work, the defense uses of space. In addition, to round out the anniversary theme, each regular feature—from "From Our Briefcase" to the staff data—is written with an eye to the last 20 years. For example, "On Location" highlights former winners' recollections of their awards for best article in the *Review*.

I hope you will enjoy reading about the history of GAO and the *Review*. Thanks to the many writers, editors, and staff members who have made important contributions throughout the last 20 years. Welcome to new contributors in our next 20 and beyond.

Harry S. Havens, Editor Assistant Comptroller General

In Recognition: Two Men Who Helped Shape the *Review*

Ellsworth H. Morse, Jr. Frank H. Weitzel





Two former Assistant Comptrollers General—Mr. Frank H. Weitzel and the late Mr. Ellsworth H. Morse, Jr.—played important roles in the history of *The GAO Review*. The *Review* was first published in 1966, when Mr. Weitzel was serving as Acting Comptroller General between the retirement of Comptroller General Joseph Campbell and the appointment of Comptroller General Elmer Staats. Mr. Weitzel wrote the *Review*'s inaugural message (see p. 1) and, in 1986, still reads the magazine avidly.

Reached at his home as this issue was being edited, Mr. Weitzel was pleased to be remembered on the *Review*'s 20th anniversary and asked us to share his greeting: "I am happy to send my congratulations and best wishes to Comptroller General Charles A. Bowsher, Editor Harry Havens, and the staff of *The GAO Review* on the occasion of the *Review*'s 20th anniversary. This fine staff publication has not only sufficiently fulfilled the objectives and expectations Ellsworth Morse and I had in mind

in launching it back in the 1960's, but it has also grown in scope with the growth in quality and diversity of GAO's work. I hope the next 20 years will be equally productive and rewarding."

Mr. Weitzel began his career in 1923 as a messenger in the Claims Division. He completed his college and law degrees at night and later became an attorney in the Office of the General Counsel and Assistant to the Comptroller General in charge of interagency and congressional relations. In October 1953 then-President Eisenhower gave Mr. Weitzel a recess appointment to the position of Assistant Comptroller General. In 1954 the President appointed him to a 15-year term as Assistant Comptroller General. Mr. Weitzel served the full 15 years and was the only Assistant Comptroller General to do so.

Although Mr. Weitzel was supportive of the early plans for the Review and helped launch the first issue, Ellsworth H. Morse, who shaped its policies and standards for over 12 years, was the Review's true founder. His editorial role is discussed in detail on pp. 26-27.

Born in 1913 in Ohio, Mr. Morse completed college and graduate business school before joining the staff of Arthur Andersen & Co. After serving in World War I as a Lieutenant Commander in the Navy, he joined GAO in 1946, beginning a 31-year career that included directorships of GAO's major auditing, accounting, and policy units. From 1972 until his death in 1977, Mr. Morse served as Assistant Comptroller General for Policy and Program Planning. The winter 1978 *Review* remembered Mr. Morse for his "valuable contribution in promulgating accounting and auditing prin-

See Two Men, p. 48

From Our Briefcase

This feature is coordinated by Don Drach, Office of International Audit Organization Liaison.

In this 20th anniversary issue, "Briefcase" draws on news items, journal articles, speeches, and government statistics from the last two decades to illustrate how our lives have changed since 1966 and how events have changed the way we work. To get a glimpse of some of these changes, "Briefcase" looks at computers, financial management, the workforce, and intergovernmental events.

The Computer Revolution

Computers have probably affected our lives more than any other development in the last 20 years. An editorial in the April 1965 Journal of Accountancy called on the profession to recognize the opportunities and potential of computers by stating that, "The fact is that the computer is such a radically new tool that its potentials are only beginning to be realized by many CPAs. At first, it was just a fantastic gadget used chiefly by the military and by farout mathematicians and theoretical scientists. Its initial uses in industry were mainly to handle relatively routine operations like preparation of payrolls and invoices, and inventory control. It had some advantages in these operations for very large companies, but many of the early installations were disappointing, when the total cost of the computer was measured against net savings.

"However, a few prophets were urging that the proper use of the computer was not just to take over routine tasks already being performed by people or other machines, but to speed the development of new techniques of cost-cutting, control of operations, and forward planning." Times have changed, and we have come a long way from thinking of computers as "new tools." Tremendous advances in computers, coupled with more recent advances in the study of the human brain, suggest that computers might emulate some of the brain's functions. The following excerpts, from an article in *The Economist* (June 29, 1985) entitled "If Computers Think," illustrate how far computers have come in the last 20 years and where they may be headed as we enter the 21st century.

"... While computers that automated (tasks) have wiped out the crafts of trade unionists who become less powerful when their skills no longer exist, computers that think will devalue the esteem of whole classes of people....

"If computers can progressively help explain how brainworkers think, they are bound to show that some of the most distinguished teachers and brainworkers (from consulting psychiatrists down to economists) have performed clumsily. For example, education will be much more productive when a computer can recognize the learning pattern in each individual pupil's mind, and fit its next question or instruction into that. The most dynamic countries in the near future may be ones whose learned professional monopolies are too weak to veto this sort of change.

"Other dynamizers may be looser laws about patents and less secrecy attached to intellectual property. These are important because 21st century countries may prosper most if they get computers to search through the widest possible data bases, and then suggest some innovations.

"Such computers may be rather good at

mundane professional tasks (various sorts of detective work including auditing and medical diagnosing, looking up legal precedents), and at one sort of engineering. They may respond to: can you suggest the best way of combining some things already existing, in order to perform some defined task better than it is done now?

"One danger is that thoughtful computers could teach people how to hypnotize themselves into happiness, and they will not be good at helping discussions on whether this is a bad thing. . . theology and moral philosophy will not be their strong points. They will be best at things farthest away from people's physical intuitions, but it is not always obvious what these are. Humans' advantage is that they are in bodies that feel romanticism, but unfortunately also crossness and a desire to prove right some wrong things one has previously said. Computers' advantage is that they don't experience the last two, and also never forget. Much in the world will change if, like a child starting to talk, computers can begin to analyze all those things they remember."

A History of Financial Management Improvement

In fall 1985 Comptroller General Bowsher used the 100th anniversary of the Chartered Institute of Public Finance and Accountancy in Great Britain to recount the history of government financial management in the United States and set the context for GAO's initiative to improve federal budgeting, accounting, and financial reporting systems. "Briefcase" has excerpted his remarks because they are especially suitable for this 20th anniversary feature.

"The authors of the United States Constitution modeled the new nation's financial management system on the principles of the English system. The system, featuring detailed controls by the Treasury and an elaborate system of checks and balances to ensure funds were used properly, made it difficult to operate efficiently.

"... Civil War-era fraud and corruption led to some reforms, notably vesting the Treasury Comptroller with the final authority over the legality of payments. In 1921, the structure of government's current system—an executive budget office and an independent audit office—was created. However, accounting and auditing remained centralized in the new GAO. It wasn't until the end of World War II—when GAO

found itself overwhelmed by the increased volume of government transactions—that the concept of decentralizing accounting gained favor.

"Then-Comptroller General Lindsay Warren, in cooperation with the Treasury and the Bureau of the Budget, developed the financial management structure which remains in place today. Operating agencies would build and maintain their own financial management systems; GAO would promulgate system standards and audit the systems, not the individual transactions.

"Decentralization of government financial management is essential today, but it is also the root of some of the system's problems. The agency-based systems, individually designed and poorly linked, provide a flood of financial data, but little of the timely, reliable, and consistent information needed for decisionmaking as we face unprecedented budget deficits and the pressure to manage programs more efficiently. Modifications and new requirements have been placed on the system with little consideration for the cumulative effects of incremental changes. As a result, we again have an unbelievably complex structure which simply does not meet our needs."

Against this historical background, Mr. Bowsher discussed the genesis and development of GAO's proposal to improve the government's financial management structure, as outlined in GAO's February 1985 report, "Managing the Cost of Government" (GAO/AFMD-85-35). Readers may request a copy of the report at (202) 275-6241.

Changes in the Workforce

One indicator of change everyone can understand is salary. To get an idea of how salaries have changed for auditors and accountants in the last 20 years, "Briefcase" reviewed a few advertisements from the January 1965 *Journal of Accountancy* classified section. These ads also indicate changes in the roles of men and women in the workplace.

- "Mature Management Minded CPA—With broad, big company national public accounting experience, seeks management position possessing rapid growth. Age 38. Current salary \$13,500.
- "Management Services Accountant— Medium size local accounting firm (25 employees) located in Memphis, Tennessee, needs accountant to head management ser-

vices department. Ideally, we would like a man who has a CPA certificate, actual experience in industrial accounting, and who has worked in the management services department of a national accounting firm. Salary commensurate with ability. Send complete resume. Replies will be kept in confidence.

- "Chicago woman CPA for tax returns, special assignments, etc. Dutton and Company, Florida.
- "Three Months in Glamorous Las Vegas, Nevada—4 ex-Internal Revenue agents to work for Nevada's largest tax firm in coming 1965 tax season. \$150 per week plus overtime. Possibility of permanent position.
- "Female CPA with good tax background needed by growing, medium-sized Long Beach CPA firm.
- "CPA-Age 37, 12 years local accounting experience, desires position in industry or public accounting. Will relocate. Present income \$13,000."

Twenty years later, the classified advertisements in the *Journal of Accountancy* reveal a different picture. References are made to "professionals" and "individuals," not to "men or women." Salaries are higher, with starting salaries in 1985 almost twice as high as what an accountant with 10 years' experience would have earned in 1965. The profession's increased internationalism is also reflected: one advertisement for a New Jersey firm cites as a job requirement "... fluency in Gujarati and Hindi."

These trends and changes in workforce composition and salaries are also reflected in GAO statistics. In fiscal year 1984, for example, 50.2 percent of all entry-level evaluators were women, and women currently compose 40 percent of GAO's total staff. Average starting salary for entry-level evaluators in 1985 was up, too, at approximately \$20,000.

Major Intergovernmental Events

The Advisory Commission on Intergovernmental Relations (ACIR) conducted a poll of ACIR professional staff members to identify and review the key intergovernmental events between 1959 and 1979. Listed below are the ten highest-ranking

See Briefcase, p. 48

On Location

Carol A. Codori



Ms. Codori, assistant editor of the Review, joined GAO in 1975 as an evaluator in the Human Resources Division. She also served as the division's training coordinator before joining the staff of the Office of International Audit Organization Liaison (OIAOL) in 1981. As director of the International Auditor Fellowship Program, she manages the activities of GAO's annual 32month training program for auditors from lessdeveloped countries. She also teaches communications skills at the U.S. Department of Agriculture Graduate School. She received a B.S. degree in psychology from the University of Pittsburgh as well as M.A. and Ph.D. degrees in educational psychology from Stanford University. Ms. Codori is a member of the Association of Government Accountants, the American Society for Public Administration, the District of Columbia Psychological Association, and the National Press Club. She has received an Outstanding Achievement Award and a Certificate of Merit since joining GAO.

Annual Awards for Best Article: A History All Their Own

Ed. note: In keeping with the anniversary theme, this edition of "On Location" features the recollections of authors who have won best *GAO Review* article awards during the last 20 years. A more typical "On Location" format highlighting current GAO events will resume in the spring 1986 issue. The author thanks Carolyn DeBruhl, Personnel, and Sandra McDonald, OIAOL, for their valuable assistance in developing this article.

"The Comptroller General has approved . . . two \$250.00 cash awards for each calendar year for the best articles written by GAO staff members and published in the *GAO Review* . . . The first awards will be for the calendar year 1967, to be presented at the GAO Awards program. . . . This award will be known as the GAO Award for Significant Contribution to Financial Management Literature."

With this announcement, adapted from the winter 1968 issue, the annual *GAO Review* awards emerged to provide an opportunity for staff recognition and to motivate potential authors to put pen to paper.

Since the awards were established, a "trend of twos" seems to have been at work: The eligibility criteria have been revised at least twice, the amount of award money has doubled, and the judges' panel has been redefined to include two permanent members. Trends aside, the awards continue to signify the publication's complementary goals of (1) highlighting the work of GAO through articles of interest to its readers and (2) providing a creative outlet for materials by GAO staff. Table 1

(at the end of the article) lists the awardees' names and winning articles over the last 20 years.

Current Awards Policy

In 1985, two cash awards of \$500.00 each were made on the basis of selecting the "two best articles" by staff through grade 15. A non-cash award for best article by a member of the Senior Executive Service was also available, although none was awarded. The "two best" categorization for awards was new in 1985. In former years, awards were made on the basis of two age groupings: Articles by authors under and over age 35 were rated using the same criteria. The criteria, which have been modified only slightly since 1968, include the following:

- Originality of concepts and ideas. (The authors demonstrated imagination and innovation in selecting and developing a topic.)
- Degree of interest to reader. (The article, by virtue of the topic and its treatment, or its relevance to GAO's mission, was of special interest to GAO staff.)
- Quality and effectiveness of written expression. (The article was well organized and written in polished prose.)
- Evidence of individual effort expended.

The Evolution of a New Policy

The current awards policy evolved from staff suggestions, memoranda, and numerical calculations. Since at least 1979, when the *Review*'s look changed to a magazine format, many staff members had expressed concern over the age-based system of awards. Some thought that it would be

fairer to group authors into GS grades 2 through 12 and 13 through 15. Others thought that coding articles as technical, managerial, or personal interest made sense, providing more than two awards. Discussions about changing the awards policy reached the action stage in 1984.

An employee suggestion and several communications to the editor prompted the staff to review the policy. Was there any obvious age or grade bias among awardees? Data up to 1983 showed that authors under 35 did not disproportionately represent lower-graded staff and that authors over 35 did not disproportionately represent higher-graded staff. Nonetheless, the perception persisted that eligible authors were grouped on a less-than-equal basis. After a series of additional analyses and discussions among senior editorial and policy staff, the editor prepared an options paper for the Comptroller General.

The policy options seemed to fall into two camps: Choose the "two best," without categorization, or select the best from several topic groupings and give several awards. "Two best" seemed the simplest policy because judges would not have to deliberate about an article that seemed to fit into two groups, and no age or grade group would feel left out or unduly focused upon. The rating criteria, with minimum adjustment, could apply to every eligible article.

To stay on the safe side, we reviewed the 1984 articles one last time. If an even number of articles fell into some sensible categories, we would seriously try giving several awards. However, the final count was overwhelmingly lopsided. Thirty-one articles were about GAO's work and only two were about personal experiences. With that finding, the "two best" policy was selected. The current policy, which also includes the addition of a non-cash award for Senior Executive Service members, appears on the back cover of this *GAO Review*.

The Winners Recollect

Presuming that GAO staff members might enjoy reading the recollections of former winners, we invited the award winners still working at GAO to recall what it was like to write an article for the *Review*. The respondents viewed writing an article as a rewarding experience and said the award was an important part of their career satisfaction. Many saw their ideas develop into standard GAO policy or methodology,

while others were able to meet notable people or international colleagues during the researching and writing process. One believed that another nonwinning piece he wrote was actually better than the one the judges chose! But all thought the *Review* provided a vehicle to say something important.

What follows are the recollections, including the title and year of the article as well as the name of the author's current division or office.

Ron Berger, assistant general counsel, Office of the General Counsel, "Labor Standards and Federal Procurement— The Comptroller General's Role"

(1974). "I was pleased to win, but I always liked another contribution better: It dealt with bid protests, the work I am now doing, and it was one of the few nonprose pieces to find its way into the *Review* (winter 1975, p. 66). I drafted a decision in the format of a poem. Interestingly, one of our 1985 summer staff members saw it and created her own version about some work in the Office of the General Counsel. It seems that the *Review* has an influence on creativity."

Marty Ferber, associate director, National Security and International Affairs Division, "Regulatory Agencies: New Challenges for Auditors" (1978). "I was managing the Interstate Commerce Commission (ICC) site in the mid-1970's and realized that our work with the regulatory agencies was getting into some new areas. Things in a regulatory agency were different from those in an executive agency, and I thought some comparisons would be interesting. For example, ICC was run by a board of commissioners. When we received comments on our reports, we would have to address both the majority and minority views if the board could not reach consensus. The impact of

"Writing the article also fit into my philosophy that self-enhancement is part of one's career responsibility. I think that finding ways to help staff stand out is important, and I stress this with my own staff today."

our recommendations on industry was

something to stay aware of.

Osmund Fundingsland, chief science advisor, Resources, Community, and Economic Development Division, "The Challenge of Career Adaptation and Renewal" (1979). "My article was prompted by some teaching I was doing. American University had asked me to run

a seminar with senior undergraduates and graduate students as part of an "Institute on Obsolescence and Its Effect on the Management of Technological Innovation." Not being too keen on the negative title, I preferred a more positive approach. I agreed to present a seminar on career challenges in a technological era.

"The manuscript for the seminar was circulating for comment and Frank Fee, now Assistant Comptroller General for Operations, and John Heller, then the Assistant Comptroller General for Policy and Planning and editor of the *Review*, suggested I might revise one aspect of it—the personal side of adapting to change—into an article.

"I later learned that, during the judging, the article was in close competition with several others. Apparently, some written requests for permission to reprint it cinched my award for that year. The Civil Service Commission (now Office of Personnel Management) and a Department of Transportation Regional Office in San Diego asked to use the article as training material. My duties now consider some of that work, as I advise staff on emerging technological and scientific issues."

Mark Gebicke, Senior Executive Service candidate, General Government Division, "Auditing by Wire: Shocking Results" (1982). "Tom Slomba and I were working on a job that required that a report be prepared in just ten weeks. Until that time, mailgrams had been used solely for follow-up. But, since we had 650 people to contact, we decided to use mailgrams to poll the group. Over half the replies came back within 3 days without a follow-up and, after a number of telephone calls to recipients, over 97 percent were returned. Compared with survey work using other tools, this return rate was fantastic.

"We wanted to alert staff that, in certain situations, mailgrams work best. They can often move through a secretary's screening process, so that high-level executives will see a mailgram, when a standard letter might never reach them. Mailgrams can enhance the chances of a quick turnaround time for replies.

"As we wrote the article, we got comments from people whose opinions we respected. We found it interesting that some considered the article too chatty or informal. But we wanted it to be read, and knew the *Review* offered an outlet for something less blue book-oriented. We were pleased,

therefore, that the judges agreed. As I look over some jobs in the General Government Division (GGD), I am also pleased to see that mailgrams are used often. In fact, the GGD budget contains a line item for mailgrams in 1985."

Burt Hall, recently retired group director, National Security and International Affairs Division, "The Armed Services Procurement Act of 1947 Should Be Reformed" (1969) and "A Framework for Acquiring Major National Systems" (1975). "The concept addressed in the first article-on reforming the Armed Services Procurement Act-was finally embodied in the 1983 Competition in Contracting Act after several legislative setbacks in the 1970's. Both statutes (defense and civilian) were updated and modernized. That article also won a national competition of the National Contract Management Association, Former Comptroller General Staats sent a personal note commending me on the article.

"The second article was based upon work of the Commission on Government Procurement in the area of major systems acquisition. An Office of Management and Budget circular (A109) was subsequently issued to establish government-wide policy in this area. Both articles, strangely enough, were opposed by the division director of the time, a fact that points to the need for GAO to have a truly open policy. Incidentally, I wrote or coauthored four other articles over the years; the last one (is scheduled for publication) in the fall 1985 issue."

Larry Hodges, operation research analyst, General Government Division, "Economics of Inventory Control" (1974) and "Energy Analysis: Accounting Without Dollars" (1976). "Arnett Burrow (now retired from the Kansas City Regional Office), a liaison for all 20 years the Review has been published, collaborated with me on the first article. Without knowing what the other was doing, we both had prepared background papers for audit staff. They were working on a job involving several agencies and a mathematical concept that, at that time, was not fully understood by most auditors. We wrote our respective papers hoping to clarify terminology. At a midpoint conference in St. Louis, we found that we had done the same thing but had incorporated some slightly different ideas. We decided that we had a potential article for the Review.

"However, the road to getting approval for the article was not smooth. The article contained mathematical formulas, and such things had never been printed in the Review, as far as I knew. Mr. (Ellsworth) Morse (editor of the Review) wanted us to put such complex information in footnotes and leave the text 'readable.' Fortunately, an editor-whose name I am embarrassed to admit I have since forgotten-talked Mr. Morse into letting the formulas stay. The editor clearly understood what we were saying and agreed that the formulas were important to our message. A good secretary and a good editor are a writer's best friends.

"The second article came about during the height of our mid-1970's energy crisis. Following the 1973 oil embargo, a littleunderstood law was passed that required 'net energy analysis' considerations when assigning priorities for encouraging commercial applications of new energy technologies. In 1976, Barry Anderson (my coauthor, now at the Office of Management and Budget) and I conducted a survey to assess the uses of net energy analysis techniques. In the end, we prepared a report that gave details on the applicability of energy analysis. Unfortunately, GAO management chose to issue a very short report about the extent to which the law had been followed.

"Barry and I were proud of our work, however, and did not want to waste it. We decided the *Review* was our answer. We predicted that we had an award winner, but we were only joking.

"I will always wonder how much influence a National Aeronautics and Space Administration official had in our selection. The official liked the article and its message so much that he personally called Mr. Morse to praise our article and the *Review*."

William Johnston, group director, General Government Division, "Computerizing the Pro Forma Workpaper" (1977) and "Governmental Audit Standards: Effect on Evidence Collection and Analysis" (1982). "In the mid-1970's GAO was experimenting with the use of specialists. I was fortunate to be working with four of them: John Ippolito (computer science), Brian Keenan (instrument design), Frank Gentile (sampling), and Al Rogers (statistics). I was learning a lot about how GAO's work could be improved. At the same time, Herb Martinson was using a pro forma workpaper approach on what was known as the Denver

model, and Karen Bracey (of the Resources, Community, and Economic Development Division) and I began using a similar approach on a review of the effectiveness of state and local probation programs. Also, I was taking a course in research methods at George Washington University. It suddenly dawned on me that what we were dealing with was a more systematic approach to our work that would allow us to tap the potential of all these techniques; I sat down and essentially wrote the paper in one evening.

"The most exciting and gratifying results of that publication were the half dozen letters I received from other GAO staff. Also, Mr. Morse talked to me at length about the article and eventually had it published in the International Journal of Government Auditing. A year or so after that, a visitor to GAO from Japan said that he had translated it into Japanese and distributed it to the staff of his audit institution. Finally, I can look around GAO today and see the approach described in that paper incorporated into the way GAO does its work.

"While 6 years separated that publication and my other winner on computerized workpapers, they are kindred spirits. The use of computer sciences, sampling, instrument design, and various methods of quantitative analysis was expanding at GAO. However, technical resources remained in short supply and whether or not an assignment utilized these techniques was a decision, more often than not, left to GAO generalists with little knowledge of these newer methods.

"I was convinced that an article in the *Review* would call attention to the need to use new techniques. The slant of the article was that the new approaches were required to comply with the *Yellow Book* standards.

"It has been exciting to see what has happened and to feel that I played some role in the events. Design, methodology, and technical assistance groups in all GAO divisions now ensure that assignments are reviewed for opportunities for methodological improvements."

J. Thomas Luter, Accounting and Financial Management Division, "A Commonsense Approach to Questionnaires" (1972). "I wrote my article in response to a situation I was encountering in my audit work at the Los Angeles Regional Office (LARO). I had seen many questionnaires that needed improve-

ment, so I collected some ideas and suggested some ways to make them better. At the time, I didn't think my project was much appreciated, because then, as now, the pressure was clearly to work on the audit, rather than write for the *Review!* Nonetheless, Gene Cooper, then *Review* liaison from LARO, took a great interest in my draft, helped me edit it, and moved it through channels. We were both pleased that I won. It's ironic that I have not had an occasion since to design a questionnaire."

Bill Martin, director, Office of Internal **Evaluation, "The Role of Professional** Activities in Career Development" (1970). "The article that I coauthored with Dexter Peach, director of the Resources, Community, and Economic Development Division, originated when he and I were professional development counselors in the (former) Civil Division in the late 1960's. We also worked at the Department of Agriculture audit site and carpooled together. Both of us were very interested in professional development and were personally involved in many activities. In addition, we perceived the direct relationship between professional development, successful performance, and a rewarding career in GAO.

"The coursework we took in pursuit of master's degrees at George Washington University coupled with the strong interest in professional development shown by the then-director of the Civil Division, Mr. A. T. Samuelson, also helped motivate us to

write the article. John Gardner's book, *Self-Renewal*, was another influencing factor. Reflecting on our article, I believe that its message applies as much today as it did 15 years ago."

Lowell Mininger, group director, Resources, Community, and Economic Development Division, "A Commonsense Approach to Writing Reports" (1972).

"The article grew out of an age-old problem at GAO: how to best communicate the blood, sweat, and tears that go into an audit. I originally wrote the article while serving as a report reviewer in the Detroit Regional Office, but it was later republished in the spring 1978 *Review*. To my knowledge, it was the only article to be repeated in the *Review*. Its standing message probably influenced the decision to republish the article.

"In a way, the article apparently was ahead of its time because many of the ideas it contained were subsequently used in the report of the Reports Task Force, forerunner of the Office of Quality Assurance. My work in RCED over the last 7 years has involved over 100 reports, and my staff and I have been well served by the principles in the article during that time.

"I had a lot of fun selecting some Norman Rockwell illustrations to fit the subheadings. (The old *Saturday Evening Post* gave permission to reprint them.) In fact, Mr. Rockwell wrote to me and said he enjoyed how I used his work to enhance mine. I also received a nice letter from the head of

the American Institute of Certified Public Accountants that said how much the topic meant to him. This letter was published in a subsequent (*Review*) issue. The value of writing an article for the *Review* is the visibility one's ideas can receive from colleagues and outside readers."

Auditors Agree

Interestingly enough, former *Review* writers who have not won awards often have similar things to say about the writing experience. They value the experience of publishing their work, usually want to write another article for the *Review* "when they get some time," and appreciate the comments of their peers and supervisors.

We hope that managers will continue to make time available for GAO staff to continue writing for the Review. We also hope that managers will encourage their staff to write about the important career satisfactions that can grow out of many assignments. The hard work can reap unexpected and varied rewards. Recently, an instructor in an operational auditing class was overheard saying, "I'd rather try to make an auditor out of a writer than a writer out of an auditor. That's because I think teaching writing is more difficult than teaching auditing." Nonetheless, we think the winners of the annual awards for best articles in The GAO Review could conclude that learning to do both is possible.

Year	- Williners	of the 'Best <i>GAO Review</i> Ar Division		ticle Awards: 1967-1985	
	Awardee	Year of Award	Current	Title of Article	Issue
1967	Roy F. Hutchens	Int.	NSIAD	"Challenges of Auditing International Defense Activities"	Summer 1967
1967	Earl M. Wysong, Jr.	Def.	N/A	"How Can We Audit the Computer?"	Spring 1967
1968	Frederick R. Cross, Jr.	FOD (Bos.)	BOSRO	"Development of a Congressional Committee Assignment"	Winter 1968
1968	Lester Farrington, Jr.	FOD (Bos.)	N/A	"The Role of the Supervisor"	Winter 1968
1968	John M. Loxton	Trans.	N/A	"Computerized Audit of Transportation Bills"	Fall 1968

		Divis	ion		
Year	Awardee	Year of Award	Current	Title of Article	Issue
1968	Susumu Uyeda	OPSS	N/A	"Statistical Sampling Procedures in the Examination of Vouchers"	Winter 196
1969	Charles S. Mezger	Civ.	N/A	"The Fallibility of Interviewing"	Spring 1969
1969	Robert B. Hall	Def.	NSIAD	"The Armed Services Procurement Act of 1947 Should Be Reformed"	Spring 1969
1970	Warren G. Nogle	FOD (Wash.)	N/A	"The Versatility of a Computer in Auditing"	Fall 1970
1970	William D. Martin, Jr. and	Civ.	OIE	"The Role of Professional Activities in Career Development"	Fall 1970
	J. Dexter Peach (coauthors)	Civ.	RCED		
1971	(BASIS C	HANGED FROM	M CALENDA	AR YEAR TO FISCAL YEAR)	
1972	Thomas Luter	FOD (L.A.)	AFMD	"A Commonsense Approach to Questionnaires"	Spring 1972
1972	Lowell Mininger	PSAD	RCED	"A Commonsense Approach to Writing Reports"	Winter 1972
1972	John C. Fenton	MWD	N/A	"The Corporation Audits Division— Its Legacy to the Seventies"	Summer 1971
1972	Timothy D. Desmond	PSAD	NSIAD	"A Method and Format for Proposal Studies"	Winter 1972
1973	Patrick F. Gormley	FOD (L.A.)	LARO	"Why Management Development Efforts Are Disappointing"	Winter 1973
1973	Earl M. Wysong, Jr.	FGMSD	N/A	"Accounting Systems in the Civil Agencies—Could They Serve Management Better?"	Winter 1973
1974	Ronald Berger	OGC	OGC	"Labor Standards and Federal Procurement—the Comptroller General's Role"	Spring 1974
1974	Morey J. Chick	FOD (Phila.)	IMTEC	"The Cost of Information"	Summer 1973
1974	Bernard A. Brady	GGD	N/A	"In the Backyard of Congress"	Spring 1974
					<u></u> _

		Division			
Year	Awardee	Year of Award	Current	Title of Article	issue
1974	Arnett E. Burrow	FOD (K.C.)	N/A	"Economics of Inventory Control"	Fall 1973
	Larry E. Hodges (coauthors)	FGMSD	GGD		
1975	Peter J. McGough	OP	N/A	"The Time Value of Money and Investment Decisionmaking"	Spring 1975
1975	Robert B. Hall	PSAD	DETRO	"A Framework for Acquiring Major National Systems"	Spring 1975
1976	Harold R. Fine	FOD	N/A	"Removing the Gobbledygook From Government Prose"	Winter 1976
1977 Barry B. Anderson	Barry B. Anderson	FGMSD	N/A	"Energy Analysis: Accounting Without Dollars"	Spring 1977
	Larry E. Hodges (coauthors)	PAD	GGD		
1977	William P. Johnston, Jr.	FGMSD	GGD	"Computerizing the Pro Forma Workpaper"	Summer 1976
1978	Martin M. Ferber	CED	NSIAD	"Regulatory Agencies: New Challenges for Auditors"	Winter 1978
1978	Timothy D. Desmond	PSAD	NSIAD	"The Team Approach: Stirring the Pot"	Spring 1978
1979	Francis Langlinais and	FOD (Dat.)	N/A	"Risk and Computer Reliability— Can You Afford To Take the	Winter 1979
	James Musial (coauthors)	FOD (Chi.)	CHIRO	Chance?"	
1979	Osmund R. Fundingsland	PAD	RCED	"The Challenge of Career Adaptation and Renewal"	Fall 1978
1980	Judy G. Kopff	FGMSD	N/A	"The Inspectors General—On-the- Spot Watchdogs"	Spring 1980
1980	Francis M. Doyal	L. Amer.	OCR	"Cash-Flow Analysis: A Technique for Detecting Cash Generation"	Spring 1980
1981	William F. Laurie	FOD (Det.)	DETRO	"Alice Through the Looking Glass or Trying New Evaluation Techniques"	Summer 1980
1981	T. J. Sullivan	HRD	N/A	"Program Area Specialists—Key to the Future of GAO Evaluation"	Spring 1981

Year	Awardee	Divi	sion	Title of Article	
		Year of Award	Current		Issue
1982	Mark E. Gebicke and	GGD	GGD	"Auditing by Wire: Shocking Results"	Winter 1982
	Thomas E. Slomba (coauthors)	IPE	RCED		
1982	William P. Johnston, Jr.	IPE	GGD	"Governmental Audit Standards: Effect on Evidence Collection and Analysis"	Winter 1982
1983	Margie Armen	OGC	OGC	"Equal Pay—Fair Play"	Winter 1983
1983	Tom Pastore	DENRO	DENRO	"What 'Type' Auditor Are You?"	Winter 1983
1984	Paula DeRoy	WRO	N/A	"Computer-Assisted Research in GAO"	Summer 1983
1984	Arleen Alleman	DENRO	DENRO	"Frontier of Automated Analysis"	Spring 1984
1985	Eric Green	GS&C	N/A	"GAO Before GAO"	Fall 1984
1985	Tom Pastore	DENRO	DENRO	"Effective Communication and the Winning Team"	Fall 1984

Manager's Corner

This feature, coordinated by Kerry St. Clair, Office of Organization and Human Development, reviews management articles published near the time of the first GAO Review.

What if there had been a "Manager's Corner" in the first *GAO Review* 20 years ago? What theories would have been discussed? What articles would have been reviewed? Who would have written them?

When I began working for the federal government in 1966, I was promptly handed a packet of management articles; among them was an article describing the thenrecent research of Frederick Herzberg on motivation. Herzberg's ideas about what motivates employees and how jobs can be "enriched" to take advantage of motivating factors changed the way we think about work and motivation. In this issue, Bob Peterson, director designate, Dallas Regional Office, reviews "One More Time: How Do You Motivate Employees?" (Harvard Business Review, January-February 1968), in which Herzberg restates his own theories and compares them with other attempts at motivation.

Another topic being discussed 20 years ago was the effectiveness of T-groups (the T stood for "training"), or "sensitivity" training. Evaluating sensitivity training from a motivational point of view, Herzberg considered it a failure. However, in "T-Groups for Organizational Effectiveness," (Harvard Business Review, March-April 1964), Chris Argyris argued in favor of sensitivity training as a way of stimulating managers to innovate and behave in a "more open and trustful manner." Donna Heivilin of the National Security and International Affairs Division (NSIAD) reviews his article.

Finally, Joan McCabe, also of NSIAD, reviews Warren Bennis' article, "Organizational Revitalization" (*California Management Review*, fall 1966), which considers the impact of social changes on organizational life. Taking a broad view, this article discusses 20th-century solutions to the hu-

man problems confronting organizations.

"One More Time: How Do You Motivate Employees?" By Frederick Herzberg.

Reviewed by Bob Peterson.

After nearly three decades, this article continues to be well worth the short time it takes to read, not only to become reacquainted with Herzberg's motivator-hygiene theory but also to be reminded of the valuable (albeit painful) fact that the measures we adopt to motivate the workforce often are not really motivators at all. As Herzberg sees it, this confusion arises because we fail to distinguish between those aspects of a job that motivate and those that lead to job dissatisfaction. Let's try to understand Herzberg's reasoning.

To begin with, we can all agree that a kick in the pants is one way to force someone to do what we want them to do, without really motivating them. Labeling this approach as negative-KITA, Herzberg demonstrates that much of what has passed for motivation is really positive-KITA, a pull rather than a kick: reducing time at work, spiraling wages, fringe benefits, et al. All are costly programs providing short-term movement without motivating people. To sustain whatever movement occurs, the ante has to be regularly raised.

What does motivate people, then? Herzberg's motivator-hygiene theory holds that the factors involved in producing job satisfaction (and motivation) are separate and distinct from the factors that lead to job dissatisfaction. The motivator factors intrinsic to the job are achievement, recognition for achievement, the work itself, responsibility, and growth or advancement. The hygiene factors extrinsic to the job in-

clude company policy and administration, supervision, interpersonal relationships, working conditions, salary, status, and security.

While we usually think of satisfaction and dissatisfaction as opposites (i.e., what is not satisfying must be dissatisfying), Herzberg holds that satisfaction and dissatisfaction stem from entirely different sets of needs. Thus, the absence of job satisfaction is no job satisfaction, not job dissatisfaction. And the absence of job dissatisfaction is no job dissatisfaction, not job satisfaction.

Armed with this fascinating revelation, what should we do? Herzberg's answer is job enrichment, which, 27 years ago, was an embryonic concept for which principles and practical guides could only be inferred. Herzberg's suggestions include removing controls while retaining accountability, increasing authority and job freedom, informing workers directly rather than through the hierarchy, and providing new and more difficult tasks. In short, the aim is to raise a job's level of challenge until it is commensurate with the skill of the employee. It still sounds good to me.

"T-Groups for Organizational Effectiveness" By Chris Argyris.

How does one change an executive's val-

ues? This is the question Chris Argyris ad-

dressed in 1964 when he wrote about T-

groups-how they work and what they

Reviewed by Donna M. Heivilin.

can accomplish—and the question is still relevant. T-groups, the basic training approach used by the National Training Laboratory (NTL)¹, use three processes: (1) unfreezing old values, (2) developing new values, and (3) freezing new values. The first process, unfreezing old values, takes place in discussion groups and involves conflict, hostility, and frustration, which are used to motivate growth. Often, group members are assigned a task once issues of power, control, and organizational influence have been minimized. In this situation, the ineffectiveness of old values becomes apparent. In the commonly used lecture or seminar approach, the old controlling, directing values are reinforced. In the T-group setting, most of the learning derives from the interaction of the members.

The second process, developing new values, takes place in a safe climate where new values can be learned and practiced. Because this stage involves a great deal of uncertainty and risk-taking, it requires openness, trust, and commitment. Group members are given time to explore and abandon old values, investigate new behavior, and receive feedback on that behavior. Role-playing is an important part of this process.

The third process is that of freezing the new values. Argyris points out that although participants' values may have changed, participants know from experience that returning to the work environment with a new set of standards and values may cause friction with one's colleagues. Participants are encouraged to work with coworkers to develop different approaches for different situations.

Argyris points out that the kind of person who most benefits from this type of experience has

- a relatively strong ego that is not overwhelmed by internal conflicts,
- sufficiently low defenses to allow him or her to hear what others say,
- the ability to communicate thoughts and feelings clearly, and
- a lack of inclination to condemn self or others.

T-group training is still being conducted by NTL, and GAO sends many of its executives for training of this type. According to Argyris, this type of training helps executives maintain both organizational and interpersonal values. When there is more openness, he says, risk-taking and innovation are more likely to take place. I think this is as true today as it was in 1964. It certainly rings true for GAO.

"Organizational Revitalization" By Warren G. Bennis.

Reviewed by Joan M. McCabe.

Written about 20 years ago, "Organizational Revitalization" predicts the emergence of totally new management structures to replace the bureaucratic model. Warren Bennis' main thrust is that the characteristics of the bureaucracy—its penchant for specialization, hierarchy, rules and procedures, and impersonality—are poorly suited to the challenges confronting modern society. He believes that the bureau-

cratic structure is appropriate for stable, routine environments, but that turbulence and change in the latter half of the 20th century will relegate it to history.

This is a very optimistic, vintage mid-1960's piece. The notions of scarcity, retrenchment, and change for the worse are not present to darken the author's view. Bennis looks with great favor on what he sees as the increasing tendency of the organization to analyze itself, engage in selfinquiry, and welcome involvement from the outside. Bennis calls this openness and questioning posture "organizational revitalization." He is particularly heartened by the growing, close interaction between the manager and the academic: the knowledge user and the knowledge maker joining forces.

The organizational structure Bennis envisions entails new concepts of staff and power as well as different organizational values. Integrating individual and organizational needs will replace the bureaucratic approach, which ignores the former and recognizes only the latter needs. Power, according to Bennis, will become the province of those who can motivate, rather than those who coerce. And conflict-resolution skills will replace the rule book as the means of coordinating progress toward more complex and sometimes contradictory goals and standards.

In this environment, the executive is best viewed as the coordinator of temporarily arranged teams composed of specialists responding to a particular crisis. These adaptive, problem-solving, temporary systems would, in Bennis' view, contribute to individual motivation and satisfaction. At the same time, he recognizes that the temporary team structure will cause reduced commitment to the work group, a lack of organizational cohesiveness, and ambiguity of roles.

Bennis does not spend much time suggesting how these problems will be overcome, a deficiency anyone who participated in the "teams" approach in GAO during the late 1970's will find glaring. I am not sure how I would have reacted to the article had I read it in the mid-1960's. In 1985, I found it somewhat dated and naive.

¹ NTL, located in Bethel, Maine, was founded in 1947 as part of the National Education Association. In 1968 it became an independent, non-profit organization. NTL specializes in programs in human relations, management, organizational development, and consulting.

Topics in Evaluation

Carl E. Wisler



Mr. Wisler is an associate director in GAO's Program Evaluation and Methodology Division.

This issue's two topics, measurement error and program impact, illustrate methodological changes at GAO in recent years.

Concepts and tools play important roles in what an organization does and how it goes about its work. For example, how questions are framed and how answers are sought depend heavily upon the concepts and tools that are a part of an organization's tradition. Important cases in point for GAO are the concepts of criteria, condition, cause, and effect. Rooted in audit traditions, these ideas have provided a framework for planning and implementing GAO projects for many years. Other fundamental concepts have entered the GAO working culture over the last two decades and, in celebration of the Review's 20th anniversary, we will examine two of the most useful ones, measurement error and program impact, in this issue.

Measurement Error

Measurement is a fundamental concept in many of the sciences and practical arts. The assignment of numbers to objects or events according to rules, a common definition of measurement, is virtually indispensible in some fields. Physics has been called the science of measurement. Accounting rests upon the ability to describe assets and liabilities in numerical terms. The social sciences have often tried to emulate physics, devoting much attention to procedures for measuring abstract concepts in the hope of attaining the level of understanding about social affairs that has been achieved with respect to the physical world.

With the benefits of measurement, however, comes the possibility of measurement error, which may seriously affect the soundness of conclusions drawn from empirical data. In disciplines like the social sciences and program evaluation, in which measurement is especially problematic, ideas and procedures for understanding and coping with error have received much attention. We turn to a brief overview of these developments.

One way to think about measurement error is to imagine that the phenomenon or condition to be measured has a true value that we would like to determine but that we can never know with certainty. For example, suppose we are interested in the quality of water in a river. If we decide to think of water quality as being characterized by the "extent to which fish thrive in the water," we have what is known as a construct, a sometimes abstract concept of the phenomenon we're interested in. Because of limitations in the measurement process, what we actually determine, the number of fish in a volume of water, say, usually doesn't correspond exactly to our construct. The discrepancy between the true "extent to which fish thrive in the water" and our measure that we use to estimate that abstract concept is the measurement error.

Measurement error is typically separated into two types, but, unfortunately, no uniform terminology for labeling the categories exists. One type, which corresponds to a constant discrepancy between a true value and a measured value, is called a systematic error, bias, or inaccuracy. Using another water quality example, a miscalibrated instrument for measuring the amount of dissolved oxygen in water would always read too high or too low by a fixed amount (assuming the instrument is otherwise error-free).

The second type of measurement error is called random error, chance error, unsystematic error, noise, or imprecision. This type of error is the result of an unknown number of unaccountable factors that affect the measuring process but do not sys-

tematically push the measurement in one direction or the other. Random error can, for example, cause one reading to be a little higher than the true value and the next to be much lower than the true value. Small, local variations in turbulence could cause random errors in measurements of dissolved oxygen, and the only observable pattern would be that over many readings the mean random error would approach zero.

Within the limits of feasibility and reasonable cost, we would like to minimize both kinds of measurement error. However, as a practical matter, we will always have error. In the case of random error, we may be able to estimate the size of the error, in terms of the possible spread of measurements around a true value, with reasonable certainty. Systematic error is more intractable in that we can never be very certain about its magnitude, nor perhaps even its direction. In terms of coping procedures, random error is susceptible to statistical analysis, but systematic error must be dealt with by understanding the measurement process and the phenomenon being measured.

We face two problems. First, if the measurement error is big enough, we may draw the wrong conclusion about the phenomenon in question. For example, we may conclude that water quality is satisfactory and that no action is necessary to reduce pollution, when actually the water quality is unsatisfactory. Measurement error, if left unattended, can easily lead to inappropriate policy decisions.

Why not just determine how big the error is and adjust the conclusions accordingly? Because, compounding the first problem is a second one: While adjustments can sometimes be made, knowing for sure the size of the measurement error is impossible. Consequently, the possibility of making the wrong decisions because of measurement error always exists.

Measurement Error in the GAO Context

Every measurement we make is subject to error. The amount of money paid to procure a weapon system and the average time to process a tax return, examples of constructs important in GAO work, are relatively concrete concepts, yet their measurement is not error-free. To make matters more difficult, the trend at GAO is toward dealing more with abstract con-

cepts, which have greater potential for measurement error than factors such as cost and time. GAO began turning from the concrete to the abstract with the Prouty amendment to the Economic Opportunity Act of 1967, which required GAO to assess the effectiveness of poverty programs. Constructs important to such programs, such as poverty level, educational achievement, and well-being of the aged, are not easily measured.

Two main courses of action are possible for contending with error. The first is to carry out the audit or evaluation by procedures that keep the error within tolerable bounds. Long years of experience with data collection techniques, such as mail questionnaires and face-to-face interviews, have shown which practices tend to minimize error. Also, data analysis techniques are available for adjusting results to correct for certain kinds of errors.

Some years ago, GAO began hiring measurement specialists to help design studies and data collection instruments to minimize measurement error. Although originally concerned particularly with sample surveys, these specialists assist in reducing measurement error in all forms of empirical work. The point is that constructive steps can be taken to hold down error.

A second course of action is to estimate the size of the measurement error. While determining the exact degree of error is not possible, roughly gauging the amount of error or putting lower bounds on the error may be possible. Thus armed with an estimate of the size of the error, we may be warned that basing policy decisions upon the results is unwise; sharper measuring techniques must be used.

Here again, the techniques of the social sciences and program evaluation and the services of measurement specialists are available to help determine whether measurement error is large enough to be of concern.

Program Impact

To illustrate the idea of program impact, we need to distinguish between two quite different approaches to evaluating the performance of a government program or activity. One approach involves obtaining the answer to a normative question, and the other involves answering an impact (cause-and-effect) question.

Using the normative approach, we determine the extent to which goals are achieved. We compare a goal (criterion) and actual performance (condition) and draw conclusions about the program or activity based upon the size of the discrepancy, if any. (Sometimes the effect in GAO's criterion-condition-cause-effect model corresponds to the discrepancy.)

Consider the case of a wastewater treatment plant situated on a river, and think of the plant as the program in question. One criterion for the quality of the downstream river water is its drinkability, expressed in terms of chemical characteristics of the water. From the normative perspective, failure to achieve a criterion for drinkability is a conclusion about the program and is often taken as evidence that improvements should be made in controlling water pollutants.

An altogether different view of program performance may be taken. We may ask what impact the treatment plant has upon the chemical characteristics that define drinkability. In this case, the plant impact is the difference between the quality of water that has been treated by the plant and what the quality would have been in the absence of treatment. (In evaluation and statistical literature, what we have called "impact" is often called "effect," but to avoid confusion with the GAO use of "effect," we'll use "impact.")

Questions about program discrepancy and program impact are significantly different in terms of the kinds of inferences that can be drawn from the answers and the kinds of designs needed to estimate discrepancy and impact. Designs were discussed in "Topics in Evaluation," winter 1984, so we will focus on the inferential differences here.

Importance of Program Impact for GAO

Both the normative and impact perspectives are appropriate in certain circumstances, but they approach program performance from quite different points of view. Using the impact perspective, we take the cause (the wastewater treatment plant) as a given and determine the impact by comparing the actual water quality with what the water quality would have been in the absence of the treatment plant. The design

See Topics, p. 48

GAO: Twenty Years of Change

Robert Sexton



Mr. Sexton, a senior policy advisor in the Office of Policy (OP), is primarily responsible for overseeing GAO's Automated Report Recommendations Follow-up System and the Annual Report on Summaries of Conclusions and Recommendations on the Operation of Federal Agencies. Before joining OP, he worked in the Accounting and Financial Management Division, the Program Analysis Division, the Office of Federal Elections, and the Civil Division. Mr. Sexton received a B.B.A. degree in 1965 in accounting from Westminster College in Pennsylvania. He has received numerous awards, including the Comptroller General's Award presented in 1974 to the Office of Federal Elections.

Twenty years ago when *The GAO Review* was launched, the nation was a much different place and GAO was a different organization. Lyndon Johnson was President, the United States was involved in the Vietnam conflict, and the "Great Society" was emerging. In 1966, federal government outlays were \$134.5 billion, and that year's budget deficit was \$3.7 billion. Defense outlays exceeded those for human resources.

Twenty years later, Ronald Reagan is President. Arms limitations, budget deficits, trade deficits, and the role of government itself are being debated. The President's 1986 budget proposed outlays of over \$972 billion, with a deficit of \$178.5 billion to be added to the nearly \$2 trillion cumulative deficit. That proposed budget deficit exceeds the entire federal budget for 1966. In fact, the estimated 1986 outlay for interest on the national debt alone exceeds the budget for 1966. Outlays for human resources now exceed those for defense.

The past 20 years in America have seen the assassinations of national leaders, attempts on the lives of two presidents, and much opposition to the Vietnam conflict. Dissatisfaction with government and its leaders led to the resignations of both President Richard Nixon and Vice President Spiro Agnew, and Gerald Ford became the first president not to have been elected either president or vice president. The economy and oil embargoes became national issues. Basic industry, such as steel and auto production, declined in the face of imports, and inflation, unemployment, and budget deficits became national concerns. Women began to play more dominant roles in society; Geraldine Ferraro become the first female candidate for the office of vice president.

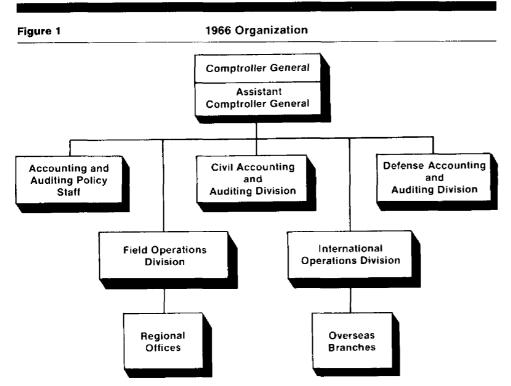
The role of government itself has recently come into question. Government regulation of business and industry is at issue, as is government imposition of moral and other standards relating to such issues as school prayer, gun control, and abortion rights.

GAO has changed during the past 20 years, just as the world around it has changed. In the past two decades GAO has issued over 19,000 reports to the Congress and agency officials, and the scope of GAO's work in producing these reports has become increasingly complex. The staff conducting these reviews and producing these reports has also changed. In 1966, GAO's professional staff consisted principally of accountants, auditors, and attorneys. Since then, GAO has added economists, mathematicians, computer specialists, program administrators, and social scientists to its workforce.

This article represents the author's views on how the agency's organizational structure and the roles of its principal officials have changed during the past 20 years. It does not attempt to discuss all changes nor discuss the underlying reasons, for that would require a book rather than an article.

GAO Before Comptroller General Staats

The GAO that Elmer Staats inherited in March 1966 (see Fig. 1) was a relatively simple organization. The principal accounting and auditing functions were carried out by five units. The chief headquarters operating divisions were the Civil Accounting and Auditing Division, headed by A.T. Samuelson, and the Defense Accounting and Auditing Division, headed by William A. Newman. The internal organization of



Organization chart does not include all units.

these two divisions paralleled that of the agencies they audited. Accounting systems work, policy matters, and report review were centered in the Accounting and Auditing Policy staff, headed by Ellsworth H. Morse, Jr. The Field Operations Division, headed by John Thornton, consisted of 16 regional offices that performed work at agencies in their geographical locations in accordance with headquarters' divisions' plans. Oye Stovall headed the International Division, which audited international programs and ran GAO's overseas offices. One Assistant Comptroller General, a statutory position, along with the divisions and offices, reported directly to the Comptroller General.

Early Staats Years

Comptroller General Staats made relatively few major organizational changes before 1972. The first change occurred in the Defense Accounting and Auditing Division in June 1966. Until that time, the division's structure paralleled the military organizations that it audited: the Army, Navy, Air Force, and the Department of Defense. In 1966, the organizational structure was revised along functional lines, and staff was organized for seven functional areas: (1) management control systems, (2) supply management, (3) procurement, (4) manpower, (5) support services, (6) re-

search and development, and (7) facilities and construction.

During 1967, the information officer position was established as a media contact. A Program Planning staff was also added to give the Comptroller General some centralized control over work to be undertaken. The names of the two principal headquarters audit divisions were simplified to the Civil Division and the Defense Division, and the Accounting and Auditing Policy staff was renamed the Office of Policy and Special Studies.

Assistant Comptroller General Frank Weitzel retired in January 1969, after 45 years of service. The position remained vacant until October 1969, when General Counsel Robert F. Keller was named to the post. Mr. Keller remained in this position (later designated by law as Deputy Comptroller General) until his retirement in February 1980, and the position has been vacant ever since.

In July 1971, Comptroller General Staats implemented the first steps of what would become a major reorganization of GAO. Based on the recommendations of the Organization Planning Committee, headed by Assistant Comptroller General Keller, the Office of Policy and Special Studies and the Program Planning staff were abolished as separate organizations. The policy for-

mulation, report review, and planning functions of the two organizations were combined with a new internal review function to form the Office of Policy and Program Planning. Ellsworth Morse, director of the former Office of Policy and Special Studies, was named to head the new office.

The audit-related functions of the Office of Policy and Special Studies formed the nucleus of a new organization, the Financial and General Management Studies Division (FGMSD), which was designed to handle financial management improvement, automatic data processing, systems analysis, actuarial and statistical sampling, and intergovernmental relations. Donald L. Scantlebury, manager of the Washington Regional Office, was named to head the new division.

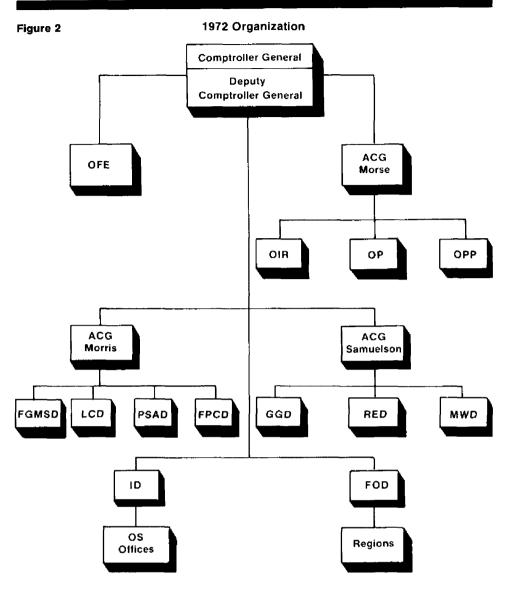
Major Reorganization in 1972

The year 1972 brought about the most sweeping organizational changes in GAO since 1956 (see Fig. 2). The operating divisions were completely reorganized and a new office, required by the Federal Election Campaign Act of 1971, was established to carry out additional responsibilities.

These organizational changes represented the culmination of an internal study that concluded that GAO work should be organized on a management function and program basis. The reorganization was seen as benefiting GAO by

- accelerating the growth of functional and program expertise among the senior staff, as begun in the Defense Division (when operating groups were established in functional areas);
- providing more opportunities for staff growth and advancement by establishing more positions at the associate director level and above;
- facilitating the timely completion of work by creating more divisions to plan and execute reviews; and
- assisting the Comptroller General in handling his expanded responsibilities.

With reorganization, the Civil and Defense Divisions were abolished and replaced by six new audit divisions with government-wide responsibility for assigned functions and programs: the Logistics and Communications Division (LCD), the Procurement and Systems Acquisition Division (PSAD),



the Federal Personnel and Compensation Division (FPCD), the Manpower and Welfare Division (MWD), the Resources and Economic Development Division (RED), and the General Government Division (GGD).

FGMSD, formed only 9 months earlier, remained essentially the same. However, responsibilities for the review of accounting systems in operation and the settlement of accounts of nonmilitary accountable officers were added. The Field Operations Division and the International Division remained relatively unchanged.

New Assistant Comptrollers General

Three new Assistant Comptroller General (ACG) positions were established, one of which superseded the position of director,

Office of Policy and Program Planning. The Office of Policy and Program Planning, which had been established only 9 months earlier, was split into three separate staff offices: the Office of Policy (OP), the Office of Program Planning (OPP), and the Office of Internal Review (OIR). Ellsworth Morse, director of the Office of Policy and Program Planning, was designated ACG to oversee the three offices.

Thomas D. Morris was named to another ACG slot, with the four divisions concerned with defense and management functions (LCD, PSAD, FPCD, and FGMSD) reporting to him. A.T. Samuelson, former director of the Civil Division, was named to the third position, with the three domestic program divisions (MWD, RED, and GGD) reporting to him. Mr. Morris and Mr. Samuelson were to be full-line representatives of the Comptroller General,

overseeing and assisting the newly created divisions under them. The division directors, however, were to have wide latitude in programming and carrying out their work. The remaining divisions—the International Division (ID) and the Field Operations Division (FOD)—reported directly to the Comptroller General.

Federal Election Duties

The Federal Election Campaign Act of 1971 assigned unique federal election responsibilities to the Comptroller General. The act required the Comptroller General to act as a supervisory officer for presidential and vice presidential candidates. Among the duties assigned to GAO were designing campaign reporting forms, receiving campaign financing reports from candidates, making campaign reports available for public inspection, and conducting audits and investigations of reports filed with the Comptroller General.

A special task force had been established in January 1972, under the direction of L. Fred Thompson, a legislative attorney in the Office of Legislative Liaison (now the Office of Congressional Relations), to prepare an operating plan for assuming the new responsibilities under the act. As a result, the Office of Federal Elections (OFE) was established, and Phillip S. (Sam) Hughes, a former Office of Management and Budget official, was named deputy director of the office, which reported directly to the Comptroller General. During the 2 years of its existence, OFE performed over 4,300 field audits of political committees. In October 1974, the Congress passed legislation transferring GAO's responsibility to an independent Federal Election Commission.

This major reorganization, with some later changes, formed the basic structure of GAO for the remainder of Elmer Staats' term as Comptroller General.

Post-1972 Changes

Growing concerns over the shortage of energy resources, along with the Trans-Alaska Pipeline legislation, which placed specific responsibilities upon GAO, led to the creation of the Office of Energy and Special Projects (OESP) in December 1973. Sam Hughes was elevated to Assistant Comptroller General and L. Fred Thompson replaced Mr. Hughes as OFE director. OESP, OFE, and FGMSD reported directly to ACG Hughes. In selecting an individual

to head OESP, Mr. Staats looked outside GAO. In July 1974, Monte Canfield, former deputy director of the Ford Foundation's Energy Policy Project, was named director of OESP.

In September 1974, the Comptroller General modified GAO's organization to respond more effectively to internal and external needs. OESP was redesignated the Office of Special Programs (OSP) and given responsibility for GAO-wide planning and coordination of energy and material activities and several other related functions.

To meet GAO's responsibility under the Congressional Budget and Impoundment Control Act of 1974, a new Office of Program and Budget Analysis (OPBA) was established. OPBA coordinated GAO-wide support of the congressional budget process, identified major budget issues, and reported on impoundments. The functions of the economics and budget staff of OESP (now OSP) were transferred to OPBA. As with OESP, Mr. Staats looked outside GAO for an individual to head the new unit and selected Harry Havens, formerly with the Office of Management and Budget, as the new director of OPBA. In June 1975, the Congressional Information Services Group, which had been formed in FGMSD to carry out GAO's responsibilities under the Legislative Reorganization Act of 1970, was transferred to OPBA, which had been redesignated the Office of Program Analysis (OPA).

By the end of 1975, two of the Assistant Comptroller General positions were vacant; ACGs Samuelson and Morris had retired in June and November, respectively, and only Mr. Hughes and Mr. Morse remained. Each of the operating divisions now reported directly to the Office of the Comptroller General. OPA and OSP, however, continued to report to Mr. Hughes.

In June 1976, OSP was abolished, and the Energy and Minerals Division (EMD) was formed with Monte Canfield as its director. EMD assumed the energy functions of OSP and the related energy and mineral functions from RED. In turn, RED was renamed the Community and Economic Development Division (CED) and assumed responsibility for food programs that were formerly a part of OSP and housing programs that were formerly the responsibility of MWD. Henry Eschwege continued as director of the renamed division. OPA was renamed the Program Analysis Division

(PAD), and MWD was renamed the Human Resources Division (HRD). Although the new organizational chart showed EMD and PAD reporting directly to the Office of the Comptroller General, Mr. Hughes retained general responsibility for the two divisions, along with coordination of energy and natural resources and program analysis.

By the end of 1977, GAO had no Assistant Comptrollers General. Mr. Hughes had left GAO in February to pursue other interests and Mr. Morse had died in November. Upon Mr. Morse's death, John Heller became Assistant to the Comptroller General, overseeing the Office of Policy and the Office of Program Planning. The Office of Internal Review was now a separate office reporting directly to the Comptroller General. Canfield left GAO and, in October 1978, J. Dexter Peach became EMD's director.

Into the 1980's

In April 1980, three new Assistant Comptrollers General were named: John Heller became Assistant Comptroller General for Policy and Program Planning; Clerio Pin became Assistant Comptroller General for Administration; and Harry Havens, director of PAD, became Assistant Comptroller General for Program Evaluation. Morton Myers, PAD's deputy director, succeeded Mr. Havens as director.

At the same time, the Institute for Program Evaluation (IPE) was established to provide technical capabilities, develop evaluation methodologies, and undertake program evaluations to demonstrate new or improved methodologies. Continuing his pattern, Mr. Staats selected the new unit's director from outside GAO. Eleanor Chelimsky, formerly with the Mitre Corporation, was chosen as IPE's director, and IPE's staff was drawn from the program evaluation staff of PAD and the technical assistance group of FGMSD. PAD and the newly created IPE, which reported to Mr. Havens, were the only operating units in GAO to report directly to an ACG.

Later in 1980, Staats reorganized the defense area. Thomas Morris, a former Assistant Comptroller General, returned to GAO to develop recommendations for the changes. As a result of Mr. Morris' work, LCD and PSAD were realigned into two new divisions—the Mission Analysis and Systems Acquisition Division (MASAD) and

the Procurement, Logistics, and Readiness Division (PLRD)—reporting to Mr. Morris, who was named special assistant for defense and material management issues.

Elmer Staats' tenure as Comptroller General ended in March 1981, and Milton Socolar, general counsel, assumed the position of Acting Comptroller General until a successor to Staats could be named. During his 15-year tenure as Comptroller General, Staats had "flattened" the organization considerably. The old Civil and Defense divisions had been broadened to nine divisions, and the number of positions at and above the associate director level had been greatly expanded.

Charles A. Bowsher Becomes CG

President Ronald Reagan nominated Charles A. Bowsher, a partner at Arthur Andersen & Co. and former Navy assistant secretary, as the next Comptroller General. He was the first Comptroller General selected under the method set forth in the GAO Act of 1980, which gave the Congress more input into the selection process. Mr. Bowsher assumed his duties on October 1, 1981. Milton Socolar, who had been Acting Comptroller General, was named Special Assistant to the Comptroller General.

The new Comptroller General moved more quickly in reorganizing GAO than did his predecessor. Mr. Bowsher made significant organizational changes in his first $2\frac{1}{2}$ years in office, whereas Mr. Staats made his major changes 6 years after taking office.

Reorganizing the Office of the CG

When Clerio Pin, Assistant Comptroller General for Administration, left GAO in February 1982 and moved to a similar position at the Synthetic Fuels Corporation, his former position was abolished. In October 1982, Mr. Bowsher restructured the Office of the Comptroller General, establishing what became known as "the box" in GAO's organizational chart. In the process, three new ACG positions were established.

Joining the Comptroller General and the Special Assistant to the Comptroller General at the top of the organizational chart were the newly created positions of Assistant Comptroller General for Planning and Reporting and Assistant Comptroller General for Operations. Henry Eschwege, director of CED, was named to the former position, and Frank Fee, director of the Field Operations Division, was named to the latter.

Mr. Eschwege was given the responsibility for determining the overall direction of GAO's work and for the quality of the products on specific assignments. Mr. Fee was given responsibility for the day-to-day management of technical and administrative activities. In announcing these changes, the Comptroller General stated that the two new offices, in conjunction with the Special Assistant to the Comptroller General and himself, would provide a single focus for coordinating and directing the entire GAO organization. Divisions, regions, and staff offices would all report to the Office of the Comptroller General, with specific reporting lines varying by the nature of the activities.

Concurrently, Gregory J. Ahart, director of HRD, assumed the duties of the new position of Assistant Comptroller General for Human Resources. The need for this position had become apparent as GAO began to implement its independent personnel system, as provided for in the GAO Personnel Act of 1980 (P.L. 96-191). In this position, Mr. Ahart assumed leadership of GAO efforts to develop human resources and assumed management responsibility for Personnel, the Office of Organization and Human Development, and the Personnel Systems Development Project, Harry Havens' role as Assistant Comptroller General evolved into a flexible one dealing with a variety of special assignments, particularly in the areas of budgeting and financial management. Assistant Comptroller General Heller retained his responsibility for policy.

The office of the Field Operations Divisions was abolished when Mr. Fee became ACG, leaving the regions to report directly to the Office of the Comptroller General. With Mr. Eschwege moving from CED to the Office of the Comptroller General, EMD and CED were merged to create the Resources, Community, and Economic Development Division (RCED). Dexter Peach, EMD director, was chosen to head the new division. This reorganization returned the energy issue to the division (then RED) from which it was transferred in 1973 to form the nucleus of OESP.

Shortly thereafter, Mr. Bowsher established the Office of Quality Assurance (OQA) to

support the Assistant Comptroller General for Planning and Reporting by reviewing products to ensure that they were ready for release to the Congress and the public. OQA would also implement the work of the Reports Task Force, a group that had been formed earlier to assess report timeliness, quality, and content. Ira Goldstein, who came to GAO in January 1982 from the Social Security Administration and who had chaired the Reports Task Force, was named to head OQA. OQA assumed the report review function of the Office of Policy early in 1983.

Assistant Comptroller General John Heller retired from GAO in March 1983 and accepted a position with the Washington Metropolitan Area Transit Authority. With Mr. Heller's departure, the Office of Policy began to report directly to the Office of the Comptroller General.

Defense Reorganization

In January of 1983, Mr. Bowsher named Frank Conahan, director of the International Division, to chair a task force designed to develop recommendations for organizing GAO reviews of national and international security issues. On May 11, 1983, after accepting the recommendations of the Task Force on National and International Security, the Comptroller General announced his most sweeping organizational change to date: He established a single division, the National Security and International Affairs Division (NSIAD), to plan and execute all GAO work related to defense and international affairs. NSIAD was formed by abolishing ID, MASAD, PLRD, and FPCD and merging their functions. The civil functions of these divisions were transferred to GGD. The change of operations in these areas was from an exclusively functional approach to one that melded agency-based and functional approaches. Mr. Conahan was named director of the new division.

Creating a Technical Division and Other Changes

In July 1983, Bowsher formally announced the establishment of the Information Management and Technology Division (IMTEC). Its formation was based upon the recommendations of a task force formed in July 1982 to report on what needed to be done to enhance GAO's work in the ADP area. Warren Reed, who had come to MASAD in May 1981 from the Defense Communications Agency and had

chaired the task force, was named director. The new division was responsible for GAO's work related to policy and management issues in information management and technology on a government-wide and an agency-specific basis. The initial staff of IMTEC was formed by consolidating ADP, information systems, and communications staff from AFMD, GGD, HRD, NSIAD, and RCED.

The Office of the Chief Economist was established in August 1983. Lawrence H. Thompson, director of research and statistics at the Social Security Administration, was appointed GAO chief economist, a position that had been established in PAD in September 1978. Part of PAD's economic analysis staff was reassigned to the new office, which was to oversee the quality of economic analysis throughout GAO and resolve technical issues that arise in the course of GAO's work.

Dissolving the Program Analysis Division was a slow process begun in May, when the issue-area and audit responsibility for the National Science Foundation and the Office of Science and Technology Policy were transferred to RCED, and completed by October 1, 1983. Part of the economic analysis staff had been transferred in August to the newly created Office of the Chief Economist, and the remainder was reassigned to GGD and RCED. The last vestiges of PAD, the Program and Budget Information Group, were temporarily assigned to Assistant Comptroller General Havens on October 1, 1983.

On January 27, 1984, Bowsher announced the restructuring of AFMD, whose redefined mission was to spearhead GAO's efforts to improve financial management throughout the federal government and to serve the Congress by conducting reviews in the financial auditing, accounting, and budgetary disciplines. The Program and Budget Information Group that had been temporarily reporting to ACG Havens was assigned to AFMD, and AFMD's Claims Group and the National Productivity Group were transferred to GGD.

Fred Wolf, a former partner with Arthur Andersen & Co. who had joined GAO in August 1983 as a special assistant to the acting director of AFMD, was selected as the new director. Wolf replaced Wilbur Campbell, who had been acting director of

See Change, p. 49



Ms. Beckett-Hoffmann joined the Resources, Community, and Economic Development Division in 1984. In addition to performing her regular duties as a writer-editor, she has helped coordinate workshops on the new executive summary format for all RCED professional staff. She teaches writing for the Office of Organization and Human Development and serves as a sponsor for GAO's International Auditor Fellows. Ms. Beckett-Hoffmann graduated from Occidental College in California in 1971 with a combined undergraduate degree in comparative literature and the humanities. She also received master's degrees in comparative literature (1971) and German (1979) and a Ph.D. in comparative literature (1977) from Indiana University. Before coming to GAO, she taught at the college level.



Mrs. MacLeod, a writer-editor in the Resources, Community, and Economic Development Division (RCED), joined GAO in 1979. Previously, she taught high school English for many years in the Fairfax County, Virginia, school system. She has a B.A. degree in English and secondary education from Longwood College in Virginia and an M.A. degree in English from Duke University. Mrs. MacLeod received an Outstanding Achievement Award from her division in 1984 and a Special Commendation Award in 1985.

From Commas to Consultations: The Writer-Editor's Expanding Role at GAO

Bonnie A. Beckett-Hoffmann Molly W. MacLeod

The GAO writer-editor's role has expanded dramatically over the last 30 years. Although writer-editors still edit, proofread, and process reports for printing, many writer-editors now contribute their communications expertise to quality assurance efforts. Aided by the improved communication between writer-editors and evaluators made possible by the 1978 decentralization of GAO editorial services, writer-editors now help strengthen report quality at every job phase, including planning, message design, drafting, revision, and final processing. Along with specialists in design methodology, economic analysis, and program and report review, they join evaluators in striving toward the common goal expressed by the Comptroller General's Task Force on GAO Reports and the Writing Improvement Advisory Group: excellence in communication as evidenced by the timely production of high-quality products with a significant and convincing message, sound methodology, and effective writing.1 The specific contributions that today's writer-editors make toward achieving effective communication are summarized below.

Message Design

Performed on request of audit team or managers before the report is drafted, message design consists of the following duties:

- Attending report conferences, reading background materials, and discussing findings with the team.
- Helping identify and clarify the report's message.
- Helping select the most effective format/presentation.

Early Writing Assistance

Performed on request of the audit team or managers who perceive the initial draft as troubled, early writing assistance consists of the following duties:

- Analyzing the report as a communication.
- Identifying gaps in logic or information.
- Suggesting reorganization and/or revisions to focus and clarify message.
- Rewriting report sections, as necessary.

Initial Edit

Performed before reports are sent to an agency for comments, the initial edit includes the following duties:

- Line editing to improve clarity and readability.
- Correcting report language to conform to GAO style and format.
- Suggesting reorganization and revisions, if necessary.

Final Edit

The final edit is performed after agency comments have been added; if no comments were obtained, this edit may be the only thorough one the document receives. The final edit includes the following duties:

Clarifying and polishing writing.

¹Excellence Through the '80's, Report of the Comptroller General's Task Force on GAO Reports (November 1982), p. iv, and Writing Improvement at GAO, a report of the Writing Improvement Advisory Group (February 1985), p. 1.

• Correcting grammar, style, and format.

Final Processing

Performed for all reports, final processing includes the following duties:

- Proofreading (quality checking) final, typed copy and transmittal letters for errors in spelling, style, and format.
- Verifying completeness of forms and supporting documents that accompany camera-ready copy.
- Coordinating preparation of cameraready graphics.
- Making and circulating advance copies for signature by division or the Comptroller General.
- Making last-minute changes, as necessary.
- Obtaining coverplate and delivering report to printing.
- Checking printed copies for correctness before they are distributed.

Twenty Years Ago

The writer-editor's role has not always been so varied, as this partial history of GAO's writer-editor community shows. Traveling back two decades, the picture was a very different one.

As one might expect, none of the editors who were at GAO 20 years ago are here today. Thus, our information on the early period came from current employees' recollections and from interviews with a few retirees.

In 1966 a small, centralized editing staff had been in place for about 15 years. One retiree recalled that she replaced a departing report editor in 1953 as one of only two editors. Another retiree, who edited for 7 years before retiring in 1966, said that there were just four editors when she began and only seven or eight when she left. Their efforts were supported by proofreaders and typists who helped to prepare reports for printing.

Throughout the 1950's and 1960's, reports were edited at a late stage, after agency comments on the draft had been incorporated and the report had been reviewed and approved. The editors handled copy editing, that is, seeing that reports con-

formed to Government Printing Office (GPO) style (for spelling, capitalization, punctuation, number usage, etc.) and were grammatically correct. They could suggest sentence-level and word-usage revisions and improvements (line editing), but auditors had to approve all changes. After the edit, editor and auditor went over the changes in minute detail.

During this period, the agency considered GAO editors support, not professional, staff. All were women, and their grade levels were comparable to those of senior secretaries. Perhaps in compensation for their relatively low status, as well as from a desire to produce "correct" reports, they attempted to strictly enforce rules of style and format. Retirees, as well as staff still here, told us that some younger auditors were intimidated by some editors' firm insistance on adherence to the "rules."

It was not until a few years into Comptroller General Staats' term that significant changes began to occur in the role and status of editors. Between 1966 and 1981, GAO's primary work expanded to include program results reviews, evaluations, and analyses. As the role of the Office and the kinds of reports it published changed, so did its emphasis on the quality and effectiveness of its written products. The GAO Report Manual lists the standards for report quality that the Office strove to achieve: significance, usefulness and timeliness, accuracy and adequacy of support, convincingness, objectivity and perspective, clarity and simplicity, conciseness, completeness, and constructiveness of tone.

Moving Into the 1970's

In 1969 GAO launched an extensive writing improvement program for auditors and began to hire more editors who had broader training and education. (Most of the people we interviewed from this period were hired between 1970 and 1975.)

To accommodate the changes that were occurring under Mr. Staats, GAO underwent a major reorganization in 1972.² Editing services benefited from the new hires, the expanded writing improvement program, and the renewed emphasis on the quality of written products. In addition, management made a decision that is a benchmark in the evolution of editing at GAO: Editors were given the latitude and encouragement to make more substantive changes in reports that needed improve-

ment. These changes included extensive line editing; reorganizing, revising, and rewriting reports (substantive editing); and suggesting changes for the auditors themselves to make. Auditors continued to have the authority to accept or reject such changes, which were usually made while the report was being reviewed by an agency for comments. We were told that the auditors generally accepted substantive changes, in the interest of more effective reports, even though some changes required re-referencing.³

In 1974 central editing services moved through another reorganization that divided editors and typists into two or three teams, each of which handled specific divisions' work. This action was intended to help editors and writers better coordinate and expedite editing and final processing. The proofreader position was abolished, and this function was assumed by the editors. At about this time, the addition of word-processing equipment made draft copy and camera-ready copy production quicker and easier. The new technology also facilitated more substantial and frequent changes to reports, so that "cutting and pasting" and tedious retyping became a thing of the past.

Also during this period, editors undertook duties in addition to editing and report processing. As a result, their position title was changed to "writer-editor." Some writer-editors went to GAO field offices to help with special reports or projects. Others were drawn into the expanded writer training program as instructors. One writer-editor, as an experiment, wrote an entire report from workpapers and followed its progress through referencing and final processing. Within central editing, a small group of editors produced special publications, such as the *Annual Report*, *The GAO Review*, and others.

We talked to many people still at GAO who were writer-editors, supervisory writer-editors, and section chiefs between 1972 and 1978. Many of them described central editing as a "high-pressure" environment. Although the editing staff contin-

Page 23 Writer-Editor's Role

²Roger L. Sperry, Timothy D. Desmond, Kathi F. McGraw, and Barbara Schmitt, *GAO* 1966-1981: An Administrative History, U.S. General Accounting Office (1981), pp. 120-133.
³Referencing is the process whereby all facts in GAO reports are attributed to a supporting document or interview. When substantive changes are made to an already-referenced report, staff must also show that new facts are supportable.

ued to expand to meet the demand for services, the addition of substantive editing to writer-editors' duties created more work. Divisions were always anxious to move reports through editing and final processing as quickly as possible. Although writer-editors and auditors continued to have conferences to discuss suggested editing changes, other contact between them was minimal, mostly because time was limited and because they were physically and organizationally separated. Top management, as well as those directly involved, saw that the situation was not an ideal one.

Editing Services Become Decentralized

In 1978 GAO dispersed its 24 writer-editors and 9 editorial assistants throughout the operating divisions as part of its "team approach" to auditing.⁴ As the then-Assistant to the Comptroller General for Administration explained in the GAO Management News, "It is now appropriate to begin the integrating of editorial services into the divisions to allow team leaders and divisions to have complete control over the report process from inception of jobs to submission of reports to printing."5 The integration of editorial services into the divisions was intended to (1) provide divisions with the capability to produce camera-ready copy so that reports might be issued on a more timely basis, (2) make writer-editors more accessible to evaluators, and (3) permit writer-editors to become involved in jobs earlier, particularly in the planning phase.

The writer-editors' role did not change suddenly or dramatically after the decentralization in 1978. Instead, expansion of writer-editors' duties resulted from individual initiative and experiments in the three new realms they served: the operating divisions; the central core of editorial services, which later evolved into the Writing Resources Branch; and the regional offices.

The Operating Divisions

At GAO "editing" is a very inclusive term indeed. Senior writer-editors are expected to be able to perform a broad range of services, from helping plan the initial report draft to extensively revising and rewriting to proofreading camera-ready copy. Less experienced writer-editors must be proficient in the final phases of the report process, particularly final processing, which is among the most time-consuming tasks.

Message design and early writing assis-

tance, on the other hand, are done only on request, but often help to present the message so that it is not overwhelmed by detailed audit findings or obscured by inappropriate organization. Also, the amount of time that writer-editors spend on earlier and more substantial report writing assistance varies among the divisions.

Writing Resources Branch

While most writer-editors were assigned to operating divisions following the 1972 decentralization, a few joined a central core group that evolved into the Writing Resources Branch (WRB) under the Office of Publishing Services (now called the Office of Publishing and Product Communications). This core group offered a focal point for maintaining consistency in writing style, format, and policy across GAO's divisions and regions. In 1979 the newly established WRB assumed these responsibilities: setting writing and editorial policy; training new editors; providing services for the Annual Report, The GAO Review, and other special publications; serving as a clearinghouse to help divisions obtain outside or part-time writer-editors to deal with peak workloads; evaluating the writing quality of reports; and designing and conducting writing courses for evaluators.

Although WRB's activities even today remain directed toward providing writing training, editing GAO's special publications, and assisting the Office of Policy in developing agency policy on writing, the emphases placed on these different dimensions and the special projects undertaken to fulfill WRB's mission have varied. During its first few years, WRB heavily emphasized refining and teaching "Producing Organized Writing and Effective Reviewing" (POWER), then already in its fourth edition, and other writing courses. Today WRB continues to provide most of the staff resources and consultants for developing and teaching GAO writing courses, but the coordination of these courses has shifted to the Office of Organization and Human Development (OOHD), which manages all GAO training programs.

The gradual shift of teaching responsibilities from WRB to OOHD opened more opportunities for WRB's small staff to assist with revising problem reports, participate earlier in the report process, and complete a number of special projects. One of these special projects was the publication of *The GAO Network*, a human-interest, agencyfunded tabloid newspaper. Successor to

The Watchdog, The Network suspended publication in 1985 but could resume publishing some time in 1986. A few of WRB's past and ongoing projects that evaluate and address GAO's writing and editing needs include

- analyzing where word processing was being used and how it could be used in the report generation cycle and selecting new equipment to meet these needs,
- helping OOHD define and meet training needs of evaluators and writer-editors,
- drafting writing and format guidelines for reports and special publications, and
- investigating possibilities for computerassisted writing instruction at GAO.

Regional Writer-Editors

Writer-editors now serve in the regions as well as in the operating divisions and WRB. Before 1978, some GAO regional offices used consultants and headquarters writer-editors to help process certain reports or special projects and to teach training classes. When central editing was dissolved, the then-Field Operations Division gave regional managers the authority to hire writer-editors. A few headquarters writer-editors transferred to the regions, where they could apply their knowledge of GAO writing style to regional products. Although some regions did not acquire writer-editors at once, all eventually did.

A survey that we sent to all regional writer-editors indicated that regional writer-editors and the regional offices themselves were initially very uncertain about the writer-editor's role. The position was a new one, some new hires were relatively inexperienced, and even the experienced writer-editors, including those who had transferred from headquarters, found themsleves in a very new and different job working with reports much earlier in the writing process.

Several survey respondents told us that finding their niche in the regional milieu was sometimes an uphill struggle. Most told us that their first duties were to line edit and copy edit regional products, such as workpaper summaries, office correspondence, and report drafts or sections of

⁵"Editors Join the Team," *GAO Management* News (Oct. 23, 1978), pp. 1-2.

⁴Printing and other publishing functions remained centralized under the Office of Publishing Services.

drafts. But many of the early regional writer-editors were eager to use the whole range of their skills, not just line editing. Taking the initiative, they actively sought out opportunities to contribute to the quality of written products. They asked evalutors and team leaders about their newest projects and offered to help. But regional evaluators were not accustomed to these services and, perhaps, were not aware of their value. The process of winning the trust and confidence of evaluators and management was usually a gradual one. Happily, nearly all survey respondents told us that, over time, demand for their services increased as they established credibility through performance. Several respondents told us that they are now routinely assigned part-time or full-time to audit teams at, and sometimes before, reporting time. Several of the 15 regional writer-editors have written parts of initial drafts, and many have worked with evaluators to plan the most effective presentation before drafting begins. Others told us that they work closely with the regional report reviewer who, in some cases, is their supervisor.

Since regional writer-editors do not process reports (all reports are processed at headquarters), they have more time for other projects; chief among these is writing instruction. Since the mid-1970's, when headquarters writer-editors first went into the field to teach writing courses to evaluators and other staffers, writer-editors have helped create and teach standard GAO courses.

Regional writer-editors have also developed newsletters, helped write handbooks, and contributed to *The GAO Review* and other periodicals. Several have been extensively involved in establishing and using electronic workstations.

New Initiatives Affect the Role of Writer-Editors

Since his arrival in October 1981, Comptroller General Bowsher has initiated a number of major projects and changes to improve the communication and writing quality of GAO reports. Many of these initiatives affected or involved writer-editors, especially headquarters writer-editors.

The Comptroller General's Task Force on Reports, which included four writereditors, examined the quality, communication, and timeliness of GAO products. The Task Force's Report, *Excellence Through* the '80's, concentrated on GAO's need to strengthen quality assurance, improve productivity and report timeliness, and communicate report messages more effectively. In addition to recommending specific improvement in these areas, the report formalized the expanded and potential role of writer-editors within the Office. The report recognized writer-editors as "a valuable and integral part of our quality assurance process at the division level," advocated their use at least as early as the predrafting story conference, and stressed their usefulness as rewriters.

To clarify and expand upon GAO's reporting standards, Comptroller General Bowsher established the Office of Quality Assurance (OQA) in 1982. Initially, OQA reviewed reports for adherence to policy standards, served as a training ground for divisional report reviewers, and drafted detailed guidance on various report aspects, to cite only a few of its responsibilities and projects. Fifteen writer-editors were detailed to OQA to learn report review techniques by "shadowing" OQA staff members.

In response to Task Force suggestions, report review authority was transferred from OQA to the operating divisions. In 1982 the Resources, Community, and Economic Development Division (RCED) became the first GAO unit to have a Deputy Director for Planning and Reporting as well as a Deputy Director for Operations. The establishment of RCED's report review staff followed, and RCED became the first division to assume review authority in June 1985. The divisional level also became the focal point for conveying information about report quality standards through both division-level versions of OQA's report quality workshop and the effort of reviewers and writer-editors to coordinate suggested report changes.

A New Look for GAO Reports

These organizational changes responded, on one level, to the Task Force's suggestions for improved report communication, and they complemented simultaneous efforts to examine and improve the design, appearance, and consistency of GAO products in order to communicate more effectively. To develop more readable and professional-looking reports, GAO contracted with the New York-based firm of Robert P. Gersin and Associates to design a new, consistent look for all GAO products, from reports to briefing documents,

including special publications, stationery, and even slides for oral presentations. Reports in the new format are being typeset, and their design emphasizes a new interest in communicating effectively with the report readers as well as offering objective and well-supported content. A key feature of the new design is the executive summary, which replaces the digest in chapter reports. The shorter, modular executive summary presents the report's message in four pages or less for the "busy reader."

Writer-editors have joined designated colleagues across the agency to ensure a smooth transition to the new design format. They have helped draft design implementation guidelines, answer constant queries about format, evaluate the first prototype reports in the new format, and review executive summaries. In several divisions writer-editors have served as the focal point for instructing the professional staff in executive summary preparation.

Writing Training

New GAO writer-editors receive on-the-job training. Once past their "apprenticeship," many enroll in GAO writing courses originally designed for evaluators. Before 1977 these courses usually dealt with writing at the sentence level in terms of grammar, syntax, and style or with general skills, such as outlining. Most writer-editors eventually take more specialized external training courses.

GAO's writing curriculum changed substantially in 1977 with the introduction of POWER, which was based on the fundamental premise that expository prose should assist the reader by moving from the general to the specific using a deductive structure. POWER attempted to teach evaluators to move from a mass of undifferentiated data to a hierarchy of ideas that presented the report's message more effectively and convincingly. Revised versions of entry-level, intermediate, and advanced GAO writing courses now feature this so-called POWER writing principle. Writer-editors also serve as instructors, curriculum designers, or coordinators for many GAO writing courses.

The variety of internal and external courses selected by writer-editors has increased as their role has expanded. Many

⁶Excellence Through the '80's, p. 29.

See Role, p. 49

A Backward Glance at The GAO Review

Gerard S. Burke



Mr. Burke is a writer-editor in the Writing Resources Branch (WRB). Since coming to GAO in November 1982, he has served as a technical editor for The GAO Review and also has worked on the Annual Report, The GAO Network newspaper, and other nonaudit publications. He came to the agency from the University of Maryland, where he had worked first as an associate editor in the Maryland Agricultural Experiment Station and then as senior writer in the Office of University Relations. Before coming to Maryland, Mr. Burke worked 9 years for The Afro-American newspaper as a general assignment reporter and national editor. He earned a B.A. degree in English, with a minor in journalism, from Howard University in Washington, D.C. In 1976, he won a cash award for column-writing from the National Newspaper Publishers' Association.

Ed. note: Nancy Crothers of the Writing Resources Branch helped research this article.

". . . I am hopeful that our staff members will find this publication helpful as a source of information and ideas. . . . I want to encourage our staffs at all levels to participate in this venture by writing articles for publication which may be of interest to other staff members. Aside from the information and assistance such articles can offer, other benefits result. One of these is to the author. The research required to develop viewpoints, the requirements to reconsider and modify eartier views, and the need to systematically reduce . . . ideas to written form so as to influence others—all these help to develop the qualities and the perspective that identify the professional."

—Frank H. Weitzel, Acting Comptroller General of the United States, writing in the winter 1966 GAO Review.

The quote above, adapted from "A Message from the Acting Comptroller General," launched the inaugural issue of *The GAO* Review, a quarterly magazine composed of articles and features centered largely on the agency's audit activities. Like the world around it, The GAO Review has changed since its inception, largely to mirror changes in the agency itself. While the magazine looks different than it did 20 years ago when then-President Johnson's Great Society programs were still young and current President Ronald Reagan was still a California politician, many of the same topics discussed in early issues of the *Review* are still being written about today, but in different ways and in vastly different contexts. The Review is more polished and contemporary than it was at its creation. However, clear vestiges of the original publication remain. At least, that

was the consensus of the magazine's editorial staff, who pored over some 80 issues of the *Review* and interviewed several key figures for this article.

Whether these changes have contributed to a more readable, useful, and attractive magazine is for the readers to decide. In any event, the editorial staff thought that *Review* readers might appreciate a backward glance at how the magazine has changed—and how much it has remained fundamentally the same—over the first 20 years of its life.

In the Beginning

The GAO Review was pragmatically created as a publication inspired by and interested in drawing from and improving on existing resources. Preceded and influenced by other publications—the Staff Bulletin and The Watchdog—with somewhat different purposes and audiences, the Review was created as an information source for a particular audience: GAO's staff of auditors, accountants, managers, and, now, evaluators.

The acknowledged founder of the *Review* was the late Ellsworth H. Morse, Jr., then-Assistant Comptroller General for Planning and Program Policy, who played the major role in shaping the content and style of the magazine. Mr. Morse, who was working under former Comptroller General Joseph Campbell when the magazine was first published in 1966, served as its editor until his death in November 1977. He reviewed and edited manuscripts, wrote and solicited articles, and otherwise planned and coordinated production with the enthusiastic help of his long-time secretary, Mrs. Josephine Clark.

Mr. Morse was "a prolific writer and many of his articles on financial management were published in professional journals," according to an article in the winter 1978 *GAO Review.* The article cited Mr. Morse's impact on the magazine and described the magazine's warm initial reception:

"... in 1954 he directed the preparation of an internal quarterly journal devoted to accounting, auditing, and financial management—*The GAO Review.* The *Review* has had such high praise that it is now made available to a large number of colleges and universities as well as to public accounting firms and Government agencies in the United States, as well as in other countries."

Although she no longer remembers many of the details of the Review's early years, Mrs. Clark retains some salient general impressions. When the Review was started, Mr. Morse "saw it all," said Mrs. Clark, who retired in 1980 after 25 years as secretary to Mr. Morse and, later, John Heller. Together, the secretary and Assistant Comptroller General collated, reviewed, edited, and, sometimes, wrote articles before turning over the manuscript to a designer. (Mrs. Clark wrote the "Reflections" and "Alumni Notes" features.) "The Review then was a more professional type of journal, but it was also more humorous," Mrs. Clark said. "Mr. Morse had quite a sense of humor." Not that the magazine was meant to "amuse" everyone. The original GAO Review was not intended for all agency employees. "Originally, it was for the professional staff," Mrs. Clark said. "Secretaries didn't get a copy unless they asked for it." Currently, the Review has a "press run" of about 7,300 copies per issue, and every employee gets one.

Mr. Morse especially loved to write. "Whenever you see articles in the early Reviews without names (bylines), those were Mr. Morse's," said Mrs. Clark, citing "An Awakened Watchdog," an article Mr. Morse wrote for the fall 1977 issue, as one example. When he was not writing articles or dictating numerous daily memos for his "little black book," Mr. Morse was writing to the Review's liaisons, urging them to submit articles, Mrs. Clark said. Mr. Morse's "little black book"—actually a set of binders containing his numerous daily memos-also contains his idea that eventually resulted in the creation of GAO Clippings, a compilation of daily GAO related newspaper articles.

Under Mr. Morse's editorship, the *Review*'s content and style did not change significantly. Neither the issues addressed nor the format used strayed very far from the practical, informational, job-oriented standard originally established for the magazine. Although more photographs, tables, charts, and graphs were included in later years and some different cover designs were tried, the *Review* remained largely unchanged until after his death.

Many of the changes that constitute the *Review*'s current "look" occurred during the editorship of Mr. Morse's successor, John Heller, who retired from GAO on March 31, 1983, as Assistant Comptroller General for Policy. Mr. Heller, who had also served as editor of the *International Journal of Government Auditing* and the *Annual Report of the Comptroller General*, now works in private industry.

Recalling how he assumed the editor's role on the magazine, Mr. Heller said, "I was thrust into the role (as editor) when Mr. Morse died. (Former Comptroller General Elmer) Staats appointed me to take over (Mr. Morse's) responsibilities, including (those he had as) editor of *The GAO Review*. Outside of having worked on GAO reports, I had had no prior experience in working on a publication.

"I saw *The GAO Review* as being principally a house organ that provided technical information, worked to create an esprit decorps, and gave a total picture of the organization vis-à-vis headquarters and the regional offices.

"It was a considerable challenge to attempt to get good, readable material that would be of general interest to a lot of people. (Doing this) required attention; it could not be left to happenstance. There was a GAO Order spelling out the procedures (used to produce the magazine), but I think we revised that after I'd been on the job a while. We got people to contribute articles through the liaisons. You were constantly researching material and ideas.

"For example, if I saw a good GAO report, I'd call an assistant director or an associate director and talk to them about writing an article. That's the way you did it; it usually flowed out of the work.

"Some people jumped at the chance to write an article; others viewed it as a pain. (But the articles then were written so that) others could gain from the experience. Sure, some people volunteered to write articles, but most of the time, we were looking around for material.

"We did a readership survey to find out the articles (readers) liked most and what ideas they had (for future articles or general improvements). By taking that survey and (using) those ideas, we made a lot of changes."

Using the results of the survey, Mr. Heller and the *Review* staff broadened the readership, developed some new features, and reoriented the slant of the articles toward issues and away from audit methodology.

"A lot of people in GAO were not exposed to the *Review*, because it was not sent to all employees," Mr. Heller said. "We changed that policy so that every employee could get it."

Perhaps the biggest change in the Review was the addition of the assistant editor position, beginning in 1978. By adding the position, GAO management was recognizing that a quality publication needed more daily attention than an Assistant Comptroller General could provide, yet it still warranted the overall policy guidance of someone at that level. The various assistant editors (Jeff Jacobs, for two issues in 1978; Elaine Orr, from 1979 to 1981; Hannah Fein, from 1981 to 1982; and Carol Codori, from 1982 to 1986) were able to develop Review contents by requesting more articles rather than reacting to those that were submitted. In addition, they provided more precise editorial guidance by developing the GAO Review GAO Order into a clear statement of editorial policy and processes and worked more with individual authors to develop article proposals into finished products. After the assistant editor position was created, changes in Review format and content were more a matter of conscious choice than a result of events dictating contents or presentation.

Mr. Heller noted that one of those changes was adding "features to get the human interest portraits. For example, we had a series describing the work of the regional offices because we found that people came to GAO without a sense of (its) history. I think the series was successful in that it gave people a feel for the organization. We started 'A Week's Worth' to describe what evaluators, deputy directors, or secretaries did in a typical week. People tend to be very myopic and are often unaware of what others do. (The 'Week's Worth' features) were very good for human interest.

Also, we reformatted the *Review* to make it a classier, more appealing document by designing a good cover page and using a lot more white space (on individual pages)."

"At the same time we added human interest to some of the features, we attempted to take the 'human element' out of some of the articles," said then-Assistant Editor Elaine Orr, who served in this post for 2 years under John Heller.

"We thought there was too much similarity in articles, what we called the 'how I did my audit' syndrome. The authors would concentrate on some of the logistical aspects (such as travel or more-than-usual interaction with Hill staff) and less on some of the issues they were evaluating which, by that time in GAO's work history, were significant matters of public policy. It took a while to strike a balance. In fact, we had some criticism that articles concentrated too much on a subject, such as hazardous waste, and too little on GAO's role in assessing the program. Now, we make sure that the focus combines these two elements.

"A final effort to keep the issue-oriented articles separate from the human interest aspects, which are an important part of a 'house organ,' was the creation of the 'From Our Briefcase' and 'On Location' features. The 'Briefcase' segment was created to deal with information from the professional stream, so to speak, with an effort to cover topics related to financial management as well as general public administration subjects. We would occasionally throw in references to articles or books that pertained to writing well or planning one's career path. In contrast, 'On Location' was to deal with goings-on in GAO. What we did was try to capture, for each quarter, major events taking place in GAO or involving GAO staff. The Review has served as a tool for those researching GAO's history, and 'On Location' institutionalizes this function."

Looking Backward: Format Changed the Most

In the late 1970's *The GAO Review* underwent design changes that, in retrospect, seem more radical than they actually were because they altered the serviceable but undramatic face the magazine had worn since its beginning. Early on, the publication was smaller (9×5 inches as opposed to the current 10×7 -inch size), printed in

nica type (the style and size used in most typewriters), and largely devoid of artwork. The cover of the inaugural 1966 issue, for example, was an unselfconscious, functional black-on-white affair that was used for each of the next 13 issues. It included a black-and-white drawing of the GAO headquarters building; the title, written in cursive letters; a small GAO seal positioned in the upper left-hand corner; and the issue citation, "winter 1966," placed diagonally across from the seal. The design format inside the cover reflected the functional, no-nonsense tone of the cover and, in turn, the content. The only artwork in this first magazine consisted of a mere four photos: one of an author, another of an award winner, and two of retiring employees.

In 1969, the two-color cover was used for the first time. The cover was redesigned in 1972 and again in 1974 to give it a more "contemporary" look.

With 1976 came America's bicentennial, and *The GAO Review* jumped on the patriotic bandwagon. However, the *Review*'s contribution to bicentennial art broke no new ground: The bicentennial cover showed two Revolutionary War-era drummers and a fife player. For additional effect, two narrow, vertical stripes divided the cover, and six stars bordered the spine of the magazine, creating a flag-like effect. All four 1976 issues carried this familiar threesome set against the flag-like background.

Although the bicentennial lasted only 1 year, the *Review* continued to draw on a familiar American patriotic symbol for its 1977 covers, which featured a stylized American eagle wrapped around the GAO seal. In 1978, however, the *Review*'s cover art broke from the patriotic motif to highlight the striking bas-relief New Deal-type sandstone carvings that flank the doors to the main entrance of GAO headquarters in downtown Washington, D.C.

In 1978 came one major design change: The type style changed from the familiar typewriter-style pica type to the serif lettering (i.e., with short lines at the top or bottom of the strokes of letters, such as those printed here) used most often in typesetting. That change foreshadowed the wider-ranging design alterations that occurred in 1979, when the magazine's size increased to 10×7 inches, the pages were reconfigured into three columns of type (instead of two), the present cover design

was instituted, and new features (e.g., "From Our Briefcase" and "On Location") were added. The increase in size did more than simply make the *Review* similar in size to newsstand magazines; it also allowed designers the latitude of using larger photos, charts, graphs, and tables to complement the text and enliven the interior design. The format adopted in 1979 was still being used in 1985, although the magazine will probably undergo large-scale design alterations later this year.

Content Reflects Nature of GAO Work

In some respects, *The GAO Review* is an accurate reflection of the expression, "The more things change, the more they stay the same." Most of the early issues had articles on automated data processing, while each of the 1985 issues had at least one, albeit from vastly different perspectives. The feature on "Hearings and Legislation" has been renamed "Legislative Developments," and long-time writer Judith Hatter covers a broader range of issues than her predecessors.

Although the subjects of GAO's work have broadened, the agency's basic mission is the same: to assist the Congress with oversight of federal activities. Thus, as a combined house organ and professional practices publication, the *Review's* evolution has followed a similar path. No reader can pick up a recent issue and think that this agency's name accurately reflects all its work; staff members work on much more than accounting issues. Yet, it is still clear that the Review is a publication whose authors and editors are concerned with efficient management and enhanced effectiveness of federal programs. That, surely, is appropriate.

Quickly highlighting 20 years of articles shows their similarities and differences. The winter 1966 GAO Review's table of contents, for example, contained a mix of articles and features more formal but less human interest-oriented than the kind of material that appeared in later Reviews, particularly those of the mid-to-late 1970's. In that sense, the content was as "no-nonsense" as the cover and design.

The GAO Review (with a few exceptions) has always been written in a serious tone, but the early treatment of the magazine's core issues seemed especially straightforward in its aims: to describe how other auditors did particular jobs, to inform read-

ers of different ways to do their jobs, and to keep readers abreast of auditor-related news and developments. Thus, early Reviews included such articles as "A Timesaving Technique for Report Review" (fall 1967), "Perspective on Planning-Programming-Budgeting" (summer 1968), and "The Versatility of a Computer in Auditing" (fall 1970), one of many Review articles that have described how computers can benefit auditors. Articles that appeared in the later 1970's were cast largely from the same mold. "Computerizing the Pro Forma Workpaper" (summer 1976), "How GAO's Audit Standards Evolved" (summer 1977), and "Planning Audit Time" (winter 1978) are characteristic of the practical kind of article that has constituted the magazine's bread-and-butter copy since its beginning.



Graphic artists used this colonial threesome to give the *Review's* 1976 covers a truly bicentennial look.

As time passed, the *Review* seemed to add more topical, issue-oriented, human interest articles to its traditionally pragmatic menu. Such articles as "Investigating the Condominium Industry in South Florida," "The Well-Being of Older People," and "How the General Accounting Office Investigates Urban Housing Policies" (all in spring 1975) are good examples. With this change came a more spritely headline style that used light melodrama, plays on words, and topical labels to spark reader interest. Examples include "The Case of Ft. Lee Airfield" (summer 1976) and "The One That Got Away" (winter 1978), a sobering account of the writer's reaction to a series of events that culminated in GAO's losing a

major accomplishment in 1977.

Other wry headlines include "How To Kill a Consultant" (spring 1979), a tongue-incheek primer on jettisoning consultants, and "Ode to Administrative Services" and "Sesquipedalian Verbosity Returned" (both from summer 1979). Actually, the last was a serious article that discussed whether GAO's report writing had improved.

As time passed, the Review has begun to fulfill an archival function by publishing historical information about key GAO figures, landmark events, and other GAO memorabilia that readers might be interested in. Several historical Review articles have explored the origins not only of the agency (e.g., "GAO Before GAO," fall 1984) but of the neighborhood surrounding the headquarters building (e.g., "The Old Red Barn and Other Local Landmarks: A Brief History of GAO's Changing Neighborhood," winter 1984). Sometimes the articles described sights GAO employees might see daily but take for granted. One such article, published in the spring 1978 issue, described the bas-relief sculptures flanking the main entrance to GAO.

Beginning with the spring 1978 issue, the *Review* began to feature GAO history on a more regular basis using reprinted excerpts from one of the *Review*'s predecessors, *Staff Bulletin*, and publishing them under a new feature heading, "Reflections." Cast in the "what-we-were-writing-about-back-then" genre, "Reflections" ran for 6 years until it was dropped in 1984.

Another original feature that appeared as a stand-alone item in the first Review --"Retirements"—now appears within a broader staff information section that also includes "SES Appointments," "SES Reassignments," "Additional Staff Changes," "New Staff Members," "Attritions," "Retirements," and "Deaths." Other original features ran for several years before disappearing altogether. These "extinct" features include "Recommended Reading," "New Accounting and Auditing Professional Staff Members." "Successful Candidates—CPA Examination," and "Automated Data Processing." The only surviving feature from the first issue is "Professional Activities."

On the other hand, the magazine also has attempted to spot trends and project what GAO might be doing in coming decades. One such early article was "The Government Manager in 2000 A.D." (fall 1967), an address by then-Comptroller General

Staats at the American Foundation for Management Research in upstate New York. In the spring 1978 issue, the *Review* used "The Role of GAO in the 1980's" to discuss the agency's role and identify emerging forces that could affect that role. Several years later, "A Week's Worth" (spring 1984) departed from its normal present-oriented point of view to speculate on what a GAO evaluator's job would be like in 1990.

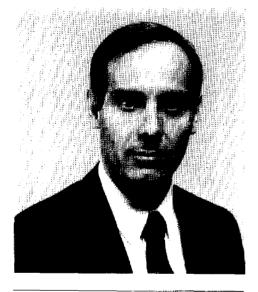
In the Future

And what of the *Review*'s future? What degree of change will it undergo in the next 20 years? To some extent, that question is being answered at this very moment. During the 3-year editorship of Assistant Comptroller General Harry Havens, who succeeded Mr. Heller, the *Review*'s content and format have stabilized in preparation for almost certain changes that could take place in the near future.

For one thing, the *Review*'s design is already undergoing alterations in the wake of the comprehensive effort GAO has undertaken with Robert P. Gersin and Associates of New York to refashion all agency publications, including the *Annual Report* and the *Review*. This effort is designed, in part, to cast GAO publications in a more consistent and recognizable mold. In this process, the magazine could lose some of its design "uniqueness" as a special publication, but it could also achieve a greater degree of "brand identification" in the bargain.

Content could also be changed. For one thing, another readership survey is being planned to discover what the *Review's* audience likes and dislikes about the current magazine. Readers will have a voice in whatever significant changes occur, either through their responses to the upcoming survey or through articles they submit to liaison staff. These changes should help *The GAO Review* offer an even more intriguing menu than it has provided in its first 20 years.

Mr. Bowling is a senior evaluator in the Resources, Community, and Economic Development Division. He received a B.A. in English from Haverford College in Pennsylvania and a Ph.D. from Drew University in New Jersey. Before joining GAO in 1978, Mr. Bowling taught at Drew University and served as a consultant for the Allied Chemical Corporation. He is a member of the Academy of Political Science, the American Society for Public Administration, and the Modern Language Association of America.



Mr. Heil is a senior evaluator in the Resources, Community, and Economic Development Division. He joined GAO in 1969 after working for Arthur Young & Company as an accountant. Since coming to GAO, he has worked in several civil and defense issue areas. He holds a B.A. in accounting from Elizabethtown College in Pennsylvania and is a certified public accountant.

The Superfund Videotape: Broadcasting to the Congress

Timothy P. Bowling

Jeffrey E. Heil

On June 24, 1985, GAO entered the video reporting age. As members of the 99th Congress considered legislation to reauthorize the Superfund hazardous waste cleanup law, they were able to tune in Channel 6 on the congressional closedcircuit television system to watch a 10minute videotape entitled "GAO's Views on Superfund Reauthorization Issues." The videotape was based on the overview report on Superfund¹ prepared by the Resources, Community, and Economic Development Division (RCED). This report and related testimony provided congressional committees with information and insights on ways to improve the nation's hazardous waste cleanup efforts. Concerned that GAO's views on the act's reauthorization might have reached only the legislative and oversight committees, RCED sought additional ways to communicate its message to all 535 members of the Congress as they began floor debate on Superfund. This concern was the genesis of the Superfund videotape report.

Superfund: The Call for Cleanup Action

The threat posed by abandoned or uncontrolled hazardous waste sites initially burst upon the public consciousness in the late 1970's when homeowners in Niagara Falls, New York, discovered toxic chemicals seeping into their basements. Subsequent investigations discovered that the community was located over Love Canal, an extensive ditch filled with discarded hazardous wastes. On the heels of this discovery, the public became aware that many other hazardous waste sites existed across the land. Some of these sites, such as Love Canal, appeared to slumber quietly under homes and schools. At more visible sites, oddly colored lagoons emitted toxic

fumes while rusting steel drums leaked their contents into the soil.

The Congress sought to deal with this threat in 1980 through the Comprehensive Environmental Response, Compensation, and Liability Act (commonly known as Superfund). The act provided that a \$1.6 billion fund for financing cleanups be accumulated over 5 years from taxes on petroleum and certain chemicals. At the time Superfund was enacted, the Congress believed that cleaning up the nation's hazardous wastes was a task that could be accomplished with these funds. However, at the time our video report was broadcast, Superfund's taxing authority was only 3 months away from expiration, and America's hazardous waste problem was far from resolved. Based on the lack of progress in cleaning up known sites and the discovery of additional sites, hazardous waste cleanup will clearly be a long-term project, rather than the 5-year effort originally envisioned.

Why a Superfund Videotape?

Among the considerations in making any videotape is the extent to which the subject lends itself to visual presentation. With such graphic images as steel drums oozing dangerous substances, boarded-up houses sitting on lethal dumpsites, and cleanup crews wearing astronaut-like "moon" suits, the hazardous waste issue met this criterion especially well. In addition, several congressional staff members indicated that a brief message would be especially helpful as members neared a vote on whether and how to reshape the Superfund Act. To meet this need, GAO decided to make a

¹"Cleaning Up Hazardous Waste: An Overview of Superfund Reauthorization Issues" (GAO/RCED-85-69, Mar. 29, 1985).

short videotape presenting important, but not overly complex, information on this significant issue: Within 10 minutes, busy members of the Congress would hear and see the essence of GAO's Superfund message. Those who wanted more information would be referred to the GAO report for details.

On the Set With GAO: Making the Videotape

The process of producing the videotape from the germination of the idea to the delivery of the product over the airwavestook about 1 month. Costs were kept low by using primarily in-house resources. RCED's Environmental Protection Agency (EPA) audit staff, working with GAO's audiovisual group, wrote the script, obtained the films and slides, designed the graphics, and produced the finished product. Most of the pictures and film were borrowed free of charge from EPA. However, to save time and produce a more polished product, we hired a narrator for the voice track and contracted with a private video firm to produce state-of-the-art, computergenerated video graphics. GAO's audiovisual staff then combined these elements into a coherent tape of professional broadcast quality in about 4 days. The film was shown on the House Broadcasting System (for both the House and Senate) on the members' channel during June, July, and September 1985.

The Message: Congressional Action Needed

The videotape was successful in large part because of the importance and timeliness of its message. After an extensive study of the first 4 years of the Superfund program, GAO concluded that the Congress needed to consider restructuring the act to provide for broader and more consistent cleanup efforts. Several significant conclusions of the GAO study follow:

- The full extent of the hazardous waste site problem is still unknown, because EPA and the states have given site discovery relatively little emphasis. With a systematic site discovery effort, the number of sites could increase dramatically, from 20,000 to over 300,000 sites.
- The cost of cleaning up the nation's worst hazardous waste sites is uncertain but probably much greater than the \$7 billion to \$22 billion EPA estimates. Superfund costs, in 1983 dollars, could grow to

\$39 billion, and the cleanup could take until the year 2017.

- EPA's site cleanup program has experienced difficulties during its first 4 years. EPA has cleaned up only ten priority sites; many other sites have received incomplete attention, necessitating repeated cleanup efforts.
- The potential health effects of hazardous wastes range from headaches and nausea to cancer and birth defects. However, the exact link between exposure to hazardous wastes and illness remains largely unexplored.
- No Superfund cleanup standards have been set. In the absence of standards, EPA applies standards from other environmental laws that do not address all of the substances and conditions found at hazardous waste sites.
- EPA has limited its long-term cleanup responsibility to priority sites. These sites represent only 10 percent of the agency's current site inventory. Many of the remaining sites also present serious health and environmental risks.

Unlike other environmental laws, Superfund does not give EPA responsibility to set national standards and ensure compliance for all sites. As a result, EPA does not direct, monitor, or oversee states' cleanup actions at nonpriority sites. Although some states have programs to clean up these sites, state resources, authorities, and standards for cleanup vary widely. Because of this, the public may not receive uniform protection from the dangers posed by hazardous waste sites.

Based on this information, GAO's videotape concluded that the Congress should consider changing the act's structure to more closely parallel previous environmental legislation. This change would give EPA responsibility for setting national standards for all hazardous waste sites. Under this alternative, states could be delegated some or all cleanup functions, with EPA retaining oversight responsibility.

After the videotape was aired, the Congress considered bills to reauthorize the Superfund Act, several of which incorporated provisions based on many of GAO's conclusions and recommendations.

The Future of Videotape Blue Books

Although this was GAO's first video report, the idea had been mentioned in GAO's 1982 internal report, *Excellence Through the '80's*. The report recommended that the agency experiment with innovative communications techniques, including video-recorded report messages. Will video reports play a large role in future GAO communications, possibly becoming a common GAO reporting technique? This question will probably be the subject of considerable debate.

After seeing the videotape, Mr. Bowsher indicated that the idea merited further experimentation and directed that additional video reports be produced. As a result of this directive, the Superfund videotape was followed by a videotape—also produced by RCED—that explored farm credit issues. Like the Superfund videotape, this effort was greeted with approval by GAO management. On the basis of these experiences, it appears that video reports may have found a place in GAO's future.

From Satellites to Space Shuttle and Beyond: GAO Evaluates the Military's Role in Space

Richard G. Herrera



Mr. Herrera, who joined GAO in 1966, is the manager of the Los Angeles Regional Office audit site at the Air Force Space Division of Air Force Systems Command, El Segundo, California. In that role he plans and directs work in the Air Force and procurement issue areas. Mr. Herrera also serves as the region's Hispanic Employment Program manager and is a member of GAO's Hispanic liaison group to the Assistant Comptroller General for Human Resources. He received a B.S. degree in accounting from California State University, Los Angeles.

Ed. note: During the last 3 years GAO has devoted an increasing amount of resources to evaluating Department of Defense (DOD) space-related activities and programs. In 1984 staff from the National Security and International Affairs Division (NSIAD), Information Management and Technology Division (IMTEC), and several regional offices engaged in an agency-wide planning assignment that resulted in a 5-year plan showing how GAO should address the rapidly emerging issue of the military's use of space. The Los Angeles Regional Office has participated in the planning efforts and assignments in this area, capitalizing upon its proximity to the Air Force Space Division of the Air Force Systems Command, which oversees U.S. space technology efforts and develops, buys, and operates all DOD satellite systems. Mr. Herrera expresses his appreciation to the site staff-particularly Dan Bullock, Robert Mikami, Theophilus Yu, and Winston Weiser-for their contributions

Communication satellites, killer satellites, space lasers, and space stations-once the props of science fiction movies-are now a reality. So are the implications of the military's role in space, a subject that has fueled major concern in the American public, the Congress, and the administration. Over time, U.S. military forces have become increasingly dependent on "passive" command, control, communications, and intelligence (also known as "C³I") space systems to accomplish their missions. Although the cost of these systems has already grown rapidly, past investments may be insignificant compared with potential expenditures for developing future space systems, including space weapons. GAO, as always, will play a major role in helping

the Congress carry out its oversight responsibilities concerning the effectiveness and efficiency with which these expenditures are made.

DOD's presence in space has created important, controversial issues that have received much congressional attention and an increasing amount of GAO's resources. As DOD's role in space expands and its space-related budget grows, we can expect GAO's involvement in evaluating military space programs and activities to increase further. Already, a 5-year issue-area plan has been prepared to direct GAO's work.

DOD's Emerging Presence in Space

Military strategists throughout history have known the importance of taking and holding the high ground. Space, termed the ultimate high ground, offers an immensely strategic vantage point from which the U.S. political and military leadership can command, control, and communicate with the military forces that will deter or wage war in the future. Parallels are being drawn between the development of combat missions for the aircraft of the past and the spacecraft of today. In World War I, for example, aircraft were used first to reconnoiter, then to prevent reconaissance (by shooting aircraft down), then to protect reconaissance aircraft, and, finally, to deliver bombs. The development and use of space systems seem headed down the same path.

The nation's increasing dependence on space systems and their attendant ground support systems has led DOD to steadily increase its investment in them. From fiscal year 1980 through 1986, for example, DOD's space-related budget grew from \$5.0 billion to \$12.0 billion. The fiscal year 1986



(U.S. Air Force photo)

The Fleet Satellite Communications System provides global communications for the U.S. Navy and Air Force as well as the Department of Defense.

amount includes \$3.7 billion sought by the administration for the President's Strategic Defense Initiative, commonly known as the "Star Wars" program.

DOD's expanding role in space is directly linked to two major shifts in U.S. nuclear deterrence policy. First, in 1980, then-President Carter revised the nation's nuclear war strategy to include a flexible response to foreign aggression and the possibility of fighting a prolonged nuclear war, including the capability to absorb a series of nuclear strikes. This policy required that the nation's C³I space assets—particularly those considered vital to strategic nuclear forces—have the capability of surviving a nuclear conflict and accomplishing planned missions.

The second shift in policy occurred in 1983 when President Reagan announced the "Star Wars" program. This research and development program is intended to identify and develop technologies and systems capable of defending against ballistic missiles. Space systems are essential for such an effort, particularly for detecting missiles, communicating with the various elements of the defense system, and destroying enemy missiles.

Although all the military services are involved, primary responsibility for developing and operating DOD's space programs currently rests with the Air Force. The Air Force Systems Command is responsible

for researching and developing, acquiring, and operating military space assets. The Air Force established the Space Command in 1982 to oversee all space operations, and the Navy subsequently created its own Space Command. More recently, the President authorized a new, unified Space Command to manage all future military space operations; plan for joint, wartime use of space assets; and serve as the focal point for identifying future requirements.

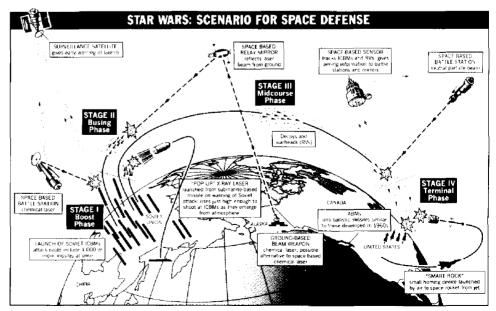
DOD's space assets consist of space-based passive systems, active systems, and launch and support systems. Passive satel-

lite systems that gather and transmit data and other information are used to accomplish critical communications, navigation, surveillance, and reconaissance missions. Given a threat of nuclear war, the National Command Authorities (i.e., the President, Secretary of Defense, and their authorized alternates) will use these systems to receive information, deliver instructions, and control the escalation of conflict. Active space systems are weapons designed to attack and destroy objects operating in or traveling through space. These active systems include the U.S. antisatellite (ASAT) weapon, which is intended to destroy the operational capability of satellites, and the weapons technologies of the "Star Wars" program.

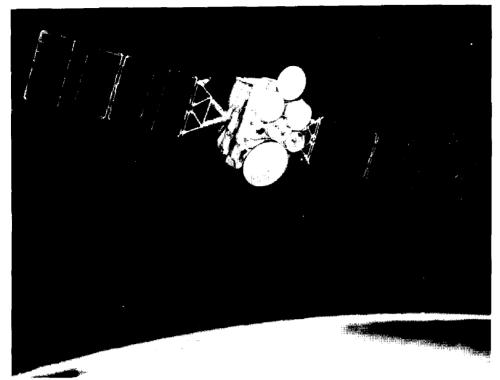
GAO's Current Role

The National Security and International Affairs Division's (NSIAD's) Air Force and C³I subdivisions and the Information Management and Technology Division (IMTEC) are primarily responsible for GAO's work in this area. Several regional offices—including Atlanta, Boston, Denver, Los Angeles, and New York—also play major roles in planning and performing assignments, since key DOD units and contractors are geographically located within their regional boundaries.

These divisions and offices have performed a large variety of assignments that have approached the space militarization issue from different perspectives. The focus of work has included evaluating



By Dave Cook, copyright The Washington Post, 1985



(U.S. Air Force photo) The Defense Satellite Communications System provides communications support to systems that are operationally controlled by the Defense Communications Agency.

- DOD's organizational structure and ability to manage the multiservice space program,
- efforts to develop space C³ systems to improve strategic and tactical force effectiveness,
- the impact on national military policy of deploying weapons in space,
- launch and satellite control capabilities and needs, and
- requirements for space-related data processing and transmission capabilities.

GAO's divisions and offices have used a three-pronged approach—i.e., evaluating an individual program, a space mission, or a space-related functional area—that has been generally effective in addressing the major areas identified above. By evaluating individual programs, GAO has provided the Congress with a relatively quick status report on the development of systems in which there is much interest.

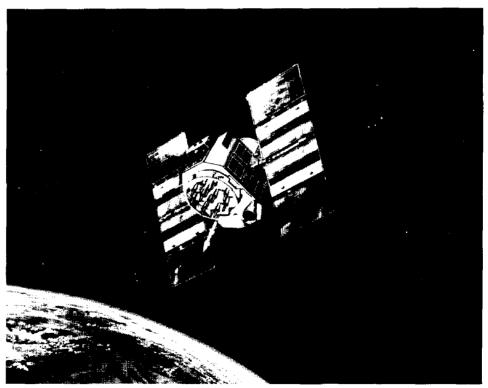
A prime example would be the MILSTAR satellite program, a multibillion dollar system that is considered DOD's highest priority C³I system. By looking into a mission area such as communications, GAO has provided the Congress with an overall assessment of whether a particular mission

can be accomplished. Finally, by reviewing functional areas, such as the survivability of space assets, GAO can inform the Congress on whether space policy goals that

cut across systems and missions are being met. GAO has routinely performed simultaneous assignments in this issue area.

The following ongoing assignments illustrate GAO's involvement in and approach to this fast-emerging issue area.

- Review of the U.S. Antisatellite (ASAT) Program. The ASAT is a two-stage rocket, launched from an F-15 fighter, that destroys a satellite by colliding with it. The controversy surrounding the ASAT has affected many aspects of the program, including the system's cost. The objectives of GAO's review are to assess the program's current costs, schedule, and performance data; the ASAT test and evaluation program; and the ASAT support system's cost and operational capabilities. The review will also assess how an extended moratorium on ASAT testing could affect the cost and schedule.
- Review of Military Space Environmental Monitoring System. The Defense Meteorological Satellite Program (DMSP) consists of a system of satellites that provides worldwide weather information to the U.S. military. Three replacement satellites are being produced and 12 more are planned for delivery through the 1990's. GAO's review is focusing on several operational problems DMSP has experienced



(U.S. Air Force photo) The NAVSTAR Global Positioning System provides global navigation and positioning requirements of the U.S. military, federal civil agencies, and NATO.

and on the steps DOD has taken to correct problems and control costs and schedule changes. In addition, GAO will assess the acquisition strategy and the measures required to enhance the survivability of DMSP as well as possible duplication of information by civilian weather satellites.

- Review of DOD's Efforts To Improve Space Systems' Survivability. In July 1982 President Reagan, recognizing the importance of space systems to the national security and the threat of Soviet antisatellite capabilities, directed DOD to improve the survivability and endurance of space systems. Currently, GAO is examining satellite systems, satellite architectures. and space technology to determine the (1) adequacy and management of current survivability directives and efforts, (2) need for and development of different survivability options and technologies, (3) extent to which available options have or have not been implemented, and (4) shortfalls and problems-both experienced and anticipated-in achieving adequate survivability.
- Review of the Tactical Warning/Attack Assessment System's Obsolescence Problems and Modernization Efforts. At the request of the chairman, House Committee on Government Operations, GAO is evaluating the capabilities of the Tactical Warning/Attack Assessment System as well as the current efforts to modernize it. Several regions are performing joint reviews that focus on various aspects of the system, including (1) current technical capabilities, (2) upgrades to the space-based parts, (3) communications links among the system components, (4) upgrades to the ground-based parts, and (5) various specific systems and upgrades.

GAO staff members working on issues related to the militarization of space are faced with challenging and rewarding assignments. In many cases, they have been on the cutting edge of major events and developments, such as the planning for the "Star Wars" program, establishment of the Space Command, and controversy over the future use of the space shuttle. Early involvement has afforded GAO staff the opportunity to provide useful information that has contributed to the ongoing congressional and public debate over the military's future use of space.

The difficulties inherent in working with the military establishment on highly technical, mostly classified, programs present a constant challenge to GAO staff members assigned to this area. Too, the fact that the issues and programs constitute highly visible, fast-moving concerns of national significance practically ensures that the work is interesting and exciting. For example, GAO staff members have observed a satellite launch and a space shuttle landing, toured the Cheyenne Mountain Complex in Colorado (a ground station where satellite data are analyzed and processed), and witnessed a laser demonstration at the Space Technology Center in New Mexico.

What the Future Holds

The United States' emphasis and reliance on space, particularly by the military, will continue to expand. Developments have shown that some military missions can only be performed from space, some can be performed better from space, and some can be performed more economically from space. For these reasons, the administration is supporting several significant initiatives to expand and improve the nation's space-related capabilities, including

- a new national space policy that establishes comprehensive civil and defense space programs,
- a joint DOD and National Aeronautics and Space Administration assessment of the need for new launch capabilities and related advanced technologies.
- upgraded and improved strategic C³I systems and links for the National Command Authorities, and
- continued development and testing of the "Star Wars" research and development program.

These initiatives, taken as a whole, carry expensive price tags, attract controversy, and have international implications. The "Star Wars" program alone could cost \$25 billion for research and technology demonstration through 1989, according to DOD estimates. Daily newspaper accounts frequently chronicle the cost concerns and possible repercussions of the nuclear arms race. GAO has already received requests from the Congress to evaluate aspects of the program.

Congressional interest probably will continue to grow, as will GAO's involvement, as issues evolve from and funding requirements increase related to the militarization of space.

However, cost and controversy are not the only factors that will influence GAO's work. Many questions exist about the effectiveness of DOD activities and efforts to improve DOD's space programs. In addition, revolutionary developments (e.g., the space station and a space plane) now hover on the horizon and could shape future U.S. space programs in many areas. All of these factors will influence how much and what kind of work GAO does in this area.

In 1984, GAO's "brain trust" on space issues laid out a plan that defined the work GAO should be doing in that area. The task was not easy, especially considering the broad spectrum of players, programs, and problems. However, a focus for GAO's work did emerge and important questions were developed.

The central issue facing the nation, particularly the Congress and DOD, is whether adequate plans are being developed for the military use of space and if these plans are being adequately implemented and coordinated. In addressing this issue, GAO will emphasize such major areas as investment strategies, planned C3I improvements, launch and spacecraft control capabilities, and ADP and communications resources. Because DOD has placed a high priority on improving C3I systems, GAO will expend considerable effort in evaluating those programs. The work will concentrate on the cost effectiveness of existing and planned C³I systems, the adequacy of efforts to improve C3I survivability and interoperability, and the effectiveness of efforts to develop electronic combat capabilities.

Whichever question is addressed in the military space issue area, the work offers unique opportunities for GAO staff. All of GAO's issue areas, whether health, environment, law enforcement, or information technology, offer complex problems, challenging responsibilities, and significant personal rewards. However, the development of outer space for national security carries a certain excitement beyond the usual issue area.

The sheer other-worldliness of this issue area, filled with concepts and gadgets that seem better suited to science fiction than a GAO audit, prompted one staff member to call it "Star Trek come to life." Grappling with the ultimate in technology fires one's imagination and analytical skills to a degree quite consistent with the serious implications of an issue area so obviously crucial to future survival.

GAO and Television News: An Alliance of Incentives

Anne Motley Hallum



Ms. Hallum is an assistant professor of political science at the University of Alabama, Huntsville. She received a B.S. degree in urban studies from the University of Minnesota, an M.P.A. degree from the University of Alabama, and her Ph.D. degree in political science from Vanderbilt University in Tennessee. She has also attended Rhodes College in Memphis and George Washington University. Ms. Hallum is a member of the American Political Science Association and the American Society for Public Administration. A portion of Ms. Hallum's Ph.D. dissertation, which concerned congressional oversight of the executive branch, dealt with network coverage of GAO.

In 1979, the CBS weekly news program 60 Minutes presented a story on GAO that began with this complimentary assessment: "In its search for waste and mismanagement in the government, the GAO has become the taxpayer's best friend. And it's often the journalist's best friend, too. Hardly a day passes without a news story based on the findings of a GAO investigation. We frequently use the GAO as a source for 60 Minutes stories." I Readers of The Washington Post and a few other major newspapers are already aware that GAO audits are frequently cited in news stories.

The GAO Office of Public Information (OPI) has developed a distribution system that reflects considerable print media interest in GAO reports. After reports are released to the Congress, OPI automatically delivers unclassified reports to news organizations on the GAO media distribution list. This list now has several hundred entries, ranging from major national news magazines, the Associated Press, and United Press International to several smalltown dailies and interested individuals. The largest news organizations may receive all the unclassified reports, but numerous trade publications have requested copies of only the reports of potential interest to them. Publications in this second category include, for instance, The Tobacco Observer, Occupational Hazards, Chain Store Age, and The New Farm. Obviously, GAO is accessible to the print media, which is appropriate for a public agency. But what about television news coverage of GAO? After all, network news is the main source of public affairs information for two thirds of the U.S. population. Furthermore, Roper polls show that almost 50 percent of the electronic media audience trusts the accuracy of television news more than any other source, twice the percentage of respondents who consider newspapers the most credible.² What has been the extent of network news coverage of GAO over the years? What are some of the incentives for broadcast journalists to turn to GAO as a source of news? What types of GAO reports do they deem "newsworthy"? What is the effect on the legislative branch of GAO news stories? And, finally, what benefits accrue to GAO from television coverage?

GAO and the Evening News

As part of my doctoral dissertation on congressional oversight of the executive branch, I researched network coverage of GAO using resources at Vanderbilt University in Tennessee. The Vanderbilt Television News Archives, which began taping the network evening news in 1968, provides monthly indices of topics of the broadcasts. I used these indices to measure the number of times GAO stories were aired on network evening news shows from 1968 to 1983. I also analyzed the content of tapes of news stories from 1976 to 1981.

From 1968 through 1983, the three major networks aired 317 news stories about GAO during the evening newscasts. An average of 21 stories a year seems insignificant until one considers the vast number of federal agencies that compete as sources of television news. GAO coverage is modest compared to that of the Department of Defense or the State Department; nevertheless, GAO ranks among the most

¹Dan Rather, 60 Minutes, CBS, April 8, 1979. ²Austin Ranney, Channels of Power: The Impact of Television on American Politics (New York: Basic Books for the American Enterprise Institute for Public Policy Research, 1983), p. 14.

Figure	1		Network News Stories Referring to GAO, 1968-1983													
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
ABC	0	0	0	2	12	6	3	8	6	9	5	9	4	5	4	7
CBS	2	3	3	2	15	11	8	10	9	13	18	11	8	2	9	11
NBC	2	6	2	4	10	9	8	6	9	5	5	10	4	10	5	7
Total	4	9	5	8	37	26	19	24	24	27	28	30	16	17	18	25

Note: Over the 15-year period, ABC produced 80 GAO stories, CBS produced 135, and NBC produced 102, for a total of 317.

important sources of news from the legislative branch.

Figure 1 shows certain patterns in GAO television coverage. For instance, the CBS Evening News produced more GAO news spots—over 42 percent of all GAO news spots-than either ABC or NBC. In addition, the number of stories increased dramatically between 1971 and 1972, probably because GAO findings played a key role in the Watergate disclosures that began in August 1972 and continued into 1973. GAO was involved with campaign financing only from April 1972 to 1974, when the Congress created the Federal Election Commission. But GAO performed accurately, fairly, and quickly during a highly volatile period,³ and its reputation was clearly enhanced during this time, particularly in the eves of the media.

Television Interest in GAO After Watergate

GAO had only one experience auditing a political campaign, yet Figure 1 shows that by 1983 media attention to GAO had not receded to its pre-Watergate level. One reason for the sustained media interest in GAO is probably the work of OPI, which was first established in 1966. A second possibility is that reporters discovered GAO as a news source during the same period that investigative journalism came of age. Although most GAO stories in 1972 and 1973 dealt with dramatic GAO findings about the Nixon administration's involvement in Watergate, GAO and reporters remain natural partners in oversight long after the Watergate precedent. Producers of 60 Minutes continue to value GAO's work, as revealed by the fact that, from 1971 through 1983, 60 Minutes mentioned GAO in 16 segments and reported in depth on 12 GAO audits. Without exception, these stories presented the agency's work in a favorable light.

Why Reporters Turn to GAO Reports

A primary reason knowledgeable journalists rely on GAO reports for story leads is their professional respect for the agency. Journalists see themselves as independent critics of government excess who monitor leadership and inform the citizenry. These adversarial goals are similar to the oversight goals of GAO evaluators. Both institutions are investigative, and both value their credibility and accuracy. GAO and the media even have the same nickname, "watchdog."

A second reason media representatives rely on GAO reports is that they are an accessible depository of background research. Reporters perform in a highpressure, competitive arena and seldom have time to conduct thorough research. In addition, media researcher and author Stephen Hess observes that reporters prefer the excitement and personal contact of the interview, their primary research tool, even when they have time to go to a library to research documents. Furthermore, organizational norms of the news business tend to favor the use of safe stories that have already been published or aired elsewhere.⁴ The problem is that interviews and news stories written by colleagues are not the most reliable means of documentation. GAO reports, on the other hand, are the products of painstaking checking procedures designed to ensure correct findings.

Fortunately, Hess notes, Washington journalists contact press secretaries or public information offices on about half their stories, a procedure that gives them access to more accurate data.⁵ This routine underscores the importance of GAO's OPI. OPI will mail highly reliable GAO reports—with conclusions summarized in two or three pages and technicalities deleted—directly to reporters at no charge. OPI will even arrange follow-up interviews with the evaluators involved. That such programs as 60 Minutes often take the shortcut of

using GAO findings or that the nightly newscasts use GAO reports for "backgrounding" is no wonder.

A third reason broadcast journalists turn to GAO reports is that they are newsworthy in themselves, and recognizing and writing newsworthy stories are the central concerns of journalists.

Defining 'Newsworthiness'

Given the imperative of presenting only 22 minutes of news each evening, how do producers decide which items are newsworthy? Over the years, the pursuit of an audience has led to a particular network television news form and a fairly uniform definition of news. A television news item is usually presented as a "story," with a unifying theme and events serving as illustrations for the theme. An internal memorandum from Reuven Frank, thenexecutive producer for NBC news, explains: "Every news story should, without any sacrifice of probity or responsibility, display the attributes of fiction, of drama. It should have structure and conflict, problem and denouement, rising action and falling action, a beginning, a middle and an end. These are not only the essentials of drama; they are the essentials of narrative."6 Thus, dramatic conflict is the overriding characteristic of television news.

Furthermore, news assemblers usually select stories that have a large impact on the viewer; the news should seem important and, preferably, strike close to home. Third, a desirable TV news story should reassure the viewer that all will be well. A

³Frederick C. Mosher, *The GAO: The Quest for Accountability in Government* (Boulder, Colo.: Westview Press, 1979), pp. 214-17.
⁴Stephen Hess, *The Washington Reporters* (Washington, D.C.: Brookings Institution, 1981), pp. 18-19, 52. 130; Edward J. Epstein, *News From Nowhere: Television and the News* (New York: Random House, 1973), p. 34.
⁵Hess, *The Washington Reporters*, p. 18.
⁶Epstein, *News From Nowhere*, pp. 4-5.

final requirement of broadcast journalism is that stories be visually interesting.

The Newsworthy GAO

How do stories dealing with the results of GAO work meet these basic criteria for newsworthiness? To begin with, GAO reports are products of oversight, which potentially involves conflict between the overseer and the program or agency being examined. Sometimes news stories represent GAO as an agency of the Congress taking on the giant executive branch. Other times, the agency is depicted uncovering the misuse of government funds in the private sector.

Second, almost one third of the GAO television stories aired between 1976 and 1981 dealt with subjects that directly affected the average television viewer. Examples of newsworthy GAO audits that might not have significantly affected the federal budget but were of interest to anyone concerned with health and safety follow:

- A study of weak precautions in drug testing by the Food and Drug Administration (one television news story), (HRD-76-96, July 15, 1976).
- Findings of inadequate coal mine monitoring to prevent black lung disease (one story), (RED-76-56, Dec. 31, 1975).
- Reviews on the potential for sabotage at nuclear power plants and in nuclear material shipment (three stories), (EMD-77-32, Apr. 7, 1977, and EMD-79-18, May 7, 1979).
- A report on inadequate protection of workers from known cancer-causing agents (two stories), (HRD-77-71, May 10, 1977).
- A report on poor nutrition in school lunches (one story), (PAD-77-6, July 26, 1977).
- Findings of cancer-causing agents in cosmetics (two stories), (HRD-78-139, Aug. 8, 1978).
- A review on common food products contaminated by pesticides (one story), (CED-78-9, Jan. 9, 1978, and CED-78-109, Apr. 26, 1978).
- Reports on the dangers of storing and transporting liquefied natural gas (five stories), (EMD-78-28, July 31, 1978).
- A study on indoor pollution in many office buildings (one story), (CED-80-111, Sept. 24, 1980).

Current events during the 6-year period studied sometimes sparked publicity about previous GAO findings. For example, the shutdown of the Three Mile Island Nuclear Plant in Pennsylvania prompted news items on potential hazards at nuclear plants, as documented earlier by GAO. Additionally, the energy crisis raged during the 6 years studied, and GAO was consulted for numerous stories on oil production, gasohol, coal mining, the Department of Energy, and President Carter's energy plan. In fact, there were more news spots (26) dealing with energy audits than with any other single subject area.

GAO stories also provide viewer reassurance. The fact that the highly esteemed General Accounting Office has uncovered problems or has caught the perpetrators of fraud, waste, or abuse is itself reassuring. A story citing a GAO report leaves the distinct impression that something is being done to improve matters.

Data concerning the visual interest of GAO stories is summarized in Table 1. By far the best visuals for GAO news items are films of the programs or events under investigation, such as canned film of weapons systems or a shot of a nuclear power plant, a school lunchroom, a coal mine, or cosmetics bottles. The possibilities for eye-catching film of the subject of the audit are almost limitless. Thus, GAO reports meet the four television news criteria—conflict, viewer impact, viewer reassurance, and visual interest—consistently and well.

Benefits for the Congress From GAO Publicity

We have seen that the news media have incentives for maintaining contact with GAO, but the Congress and GAO have their own reasons for maintaining positive relations with the media.

In pursuit of favorable publicity, today's Congress is extremely accessible to reporters. Yet interviews with press secretaries reveal their many frustrated attempts to achieve national recognition through media coverage for the senators or representatives for whom they work. Such media attention helps reelection efforts, enhances a member's status in Washington, and improves his or her chances to achieve policy goals.

Almost 60 percent of the GAO stories from 1976 to 1981 were also Congress stories.

Table 1 reveals that congressional hearing rooms were frequent settings for GAO stories. Table 2 shows that one third of the GAO-Congress news items covered only the Senate and about another one third covered only the House. As far as individual members were concerned, 22.6 percent of the stories named representatives and 31 percent of the stories named senators. In many instances, a single story included interviews and mention of several members. Given the brevity of television news, it is difficult for reporters to mention the cumbersome names of individual committees, even in abbreviated form. As a result, newscasts in this study rarely named the committees involved; CBS, which has consistently covered GAO in more depth than the other networks, named committees most frequently.

Whether the association of a member of the Congress with a newsworthy GAO report brings favorable or unfavorable coverage is an important consideration. Frequent attacks on the Congress by the national media have contributed to declining public confidence in the legislative branch. One study of network news stories on the Congress in general did not find a single item that treated the Congress favorably and coded 14 percent of the stories as negative. However, coders of the GAO-Congress stories in this study found that almost 43 percent of the news items were favorable to the Congress; over 53 percent were neutral; and only about 4 percent (three stories) were critical of specific congressional action.8 This information suggests that media coverage of GAO may help improve the reputation of the Congress in the eyes of the general public.

Benefits and Risks of Publicity for GAO

Anchorman Roger Mudd once observed on the evening news that "most people don't know the difference between the GAO, the GOP, and the GSA." Undoubtedly, the initials "GAO" are lost to the public in the government's alphabet maze. Perhaps the most obvious benefit of TV news coverage

 ⁷Michael J. Robinson and Kevin R. Appel,
 "Network News Coverage of Congress," *Political Science Quarterly*, 94 (fall 1979),
 pp. 412-13.
 ⁸Two coders viewed the stories independently

^{*}Iwo coders viewed the stories independently to code the slant of news items. The measure of intercoder reliability is the conservative estimate, Scott's pi (.80), which takes into account the extent of agreement that may result from chance alone.

⁹CBS Evening News, CBS, August 30, 1978.

	ABC	CBS	NBC	Total	Percent*
Film used	27	39	22	88	61.9
Congressional setting (other than hearings)	9	7	9	25	17.6
Hearing room	5	13	5	23	16.2
Film of agency, program, or event audited	25	31	21	77	54.2
GAO offices or report	3	11	4	18	12.7
Other	4	1	2	7	4.9

Note: The figures in the "film used" row cannot be reconciled by adding the other rows because in many cases stories used film from two or more settings. For the same reason, the percentages add up to more than 100.

*Percentage of all 142 GAO stories published from 1976 to 1981

Table 2
References to the Congress in GAO Network News Stories, 1976-1981

ABC	CBS	NBC	Total	Percent*
23	34	27	84	
7	11	10	28	33.3
7	11	8	26	31.0
7	16	6	29	34.5
7	9	3	19	22.6
1	11	_3	15	17.9
		23 34 7 11 7 11 7 16	23 34 27 7 11 10 7 11 8 7 16 6	23 34 27 84 7 11 10 28 7 11 8 26 7 16 6 29 7 9 3 19

Note: The figures in the "references to the Congress" row cannot be reconciled by adding the other rows because the categories overlap. For the same reason, the percentages add up to more than 100.

*Percentage of GAO-Congress stories from 1976 to 1981

for GAO is increased public awareness that the agency exists. If this awareness includes a general understanding of GAO's role in government, all the better.

In addition to keeping the general public informed about government, news coverage is also a useful channel of communication within government. Perhaps the most important internal audience for news coverage of GAO is the Congress. Of course, GAO officials are constantly in touch with congressional members and staff, and GAO routinely sends reports to congressional committees. However, because of the proliferation of federal agencies and specialinterest groups, members are swamped with information, and GAO must compete for their attention. Like most of us, senators and representatives rely heavily on the mass media as a shortcut method for staying informed. Thus, GAO coverage in The Washington Post or on evening newscasts alerts members to specific findings they

may want to pursue further. In fact, author Frederick Mosher asserts that the media are the best means for GAO to communicate with the Congress. ¹⁰

Executive branch officials are also members of the media audience, and they will admit that publicity increases the impact of GAO reports. During a Washington conference on oversight, one executive official stated, "No federal bureaucracy will be completely on its toes if it does not expect that it's going to be subject to some kind of review, and I mean more than the classical review by the President and OMB. I always found . . . that three out of four GAO reports were really worthwhile. They frequently made it possible to energize an agency to do something they just couldn't get the inertia of the agency to address until that report hit the public press."11

If media notice strengthens the oversight capabilities of GAO and the Congress, one

wonders why GAO leadership has been traditionally cautious about publicity. One reason is that media interest tempts overly zealous agency employees to "leak" draft reports before they have been released to the Congress. Such leaks are definitely counterproductive to GAO's mission, since they anger, alienate, and distract the most important actors in oversight: members of the Congress. Therefore, OPI works to monitor all contact with the media to prevent even the inadvertent leaks.

A second concern regarding the media is that GAO's credibility will suffer if the agency is labeled a "publicity hound" or if evaluators appear to be partisan or lobbying for a particular program change. The most dramatic example of a drop in credibility occurred with the publicity surrounding the Mayaguez report in 1976.¹² Portions of the report were critical of President Ford's rescue of the Mayaguez crew from the Cambodian regime. Some Democratic members of the Congress chose to withhold the report until the eve of the campaign debate between President Ford and Jimmy Carter. The resulting uproar was not as critical of President Ford as it was of GAO, since many people assumed that GAO's timing in releasing the report was politically motivated. The agency was severely chastised by political commentators and government officials. The network news aired seven stories about the *Mayaguez* report, and articles and editorials appeared in newspapers across the country.

The reaction to the *Mayaguez* report illustrates that GAO's reputation for nonpartisanship is well-known and highly valued. GAO's response to the incident was to implement the "30-day rule," which requires unclassified reports to be released to the public and the media no later than 30 days after their issue dates. The enactment of

See Television, p. 50

¹⁰Mosher, *The GAO*, p. 249. Also see Frederick C. Mosher, *A Tale of Two Agencies: A Comparative Analysis of the General Accounting Office and the Office of Management and Budget* (Baton Rouge: Louisiana State University Press, 1984), p. 174.

¹¹James L. Sundquist, *The Decline and Resurgence of Congress* (Washington, D.C.: Brookings Institution, 1980), pp. 339-40.

¹²"The Seizure of the Mayaguez: A Case Study of Crisis Management" (GAO/ID-76-45, Oct. 6, 1976). For a case study of the report, see Nancy G. Deck, "The Seizure of the SS Mayaguez," Cases in Accountability: The Work of the GAO, ed. Erasmus H. Kloman (Boulder, Colo.: Westview Press, 1979), pp. 203-25.

Two Weeks' Worth: Then and Now

Robert W. Ford



Mr. Ford's GAO career included assignments in Washington, Chicago, New York, St. Louis, Dayton, and Indianapolis. While in Indianapolis, he transferred to the Internal Revenue Service. He rejoined GAO in Washington, D.C., where he served as head of the Civil Audit Branch and on audit assignments at the Social Security Administration, the Railroad Retirement Board, the General Services Administration, and the Department of Health and Human Services. Mr. Ford then spent several years in GAO's training office. Mr. Ford attended the Virginia Polytechnic Institute in Blacksburg, Virginia, and received a bachelor's degree in commercial science from Southeastern University in Washington, D.C. In 1979, Mr. Ford retired from GAO to join the faculty of the U.S. Department of Agriculture Graduate School. He also serves as a consultant to GAO and the University Research Corporation in Chevy Chase, Maryland. Mr. Ford is chair of the seminars committee of the Institute of Internal Auditors, Washington Chapter, and a member of the Association of Government Accountants.

In the Mid-1960's

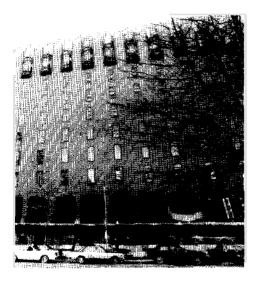
I'd give this decade mixed reviews, so far. We started out pretty well, but then came President John Kennedy's assassination. Since that emotional period, my audit work has become even more interesting than during the first years of my career. I have finally become an audit manager and have been reassigned from headquarters duties to on-site audit work at the General Services Administration (GSA). Following a period of orientation in the functions of the Public Buildings Service (my particular area), our auditing team has decided to focus on buildings under construction. Our innovative approach will give us a chance to test the effectiveness of ongoing inspection and other forms of control.

Monday

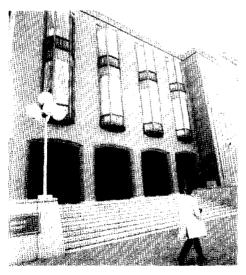
Reviewing the object of our audit is an appropriate way to start the week, so I decide to visit the New Executive Office Building (NEOB), now being built directly across 17th Street NW (in Washington, D.C.) from the famous Sans Souci restaurant. The NEOB is a large, red brick building designed by the well-known architect, John Carl Warneke, who has done such fine work in California. Across Lafayette Park another of Mr. Warneke's buildings, a federal courthouse, is going up; we have included it in the audit scope, too. Accompanied by one of my auditors, I walk around the construction sites thinking proudly about how very differently we do things these days. I chuckle at how many people think of auditors merely as deskbound column-adders who wear green eye-shades.

Feeling rather proprietary (already I think of the buildings as mine), I complete the tour and head back to the GSA building,

an older building designed in the monument style. What a difference, I think, from "my" new ones.



New Executive Office Building on 17th Street, Northwest.



The United States Court House, directly across from Lafayette Park.

Tuesday

It is a beautiful day in Washington, sunny and mild. We have just come back from a visit to the Association of Concrete Manufacturers, where they showed us some films of concrete preparation, including controls designed to ensure compliance with the architect's specifications. Afterwards, we visit the site inspector's office to go over details of the audit.

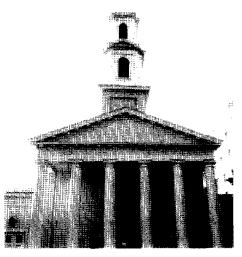


The site inspector's office was housed in an old row house (dark gables) on Jackson Place, near the White House.

Later in the afternoon, the principal inspector accompanies us to the building sites, and we put on hard hats to comply with safety rules. The whole procedure is thrilling, just like being in the construction business. The buildings themselves are now in a fairly well-advanced stage of construction. The steel frames are in place, and concrete trucks are lined up to discharge their loads. Construction superintendents are checking blueprints and directing the stream of concrete buggies. The process we see now does not look quite like what we saw in the films.

St. John's Church sits across Lafayette Park from the White House looking quite serene amidst all the construction and apparent confusion. They say that every president since Madison has attended services at St. John's. President-elect Lincoln was there before his inauguration, but those attending were said to be unaware of his presence. John Kennedy managed to attend before the tragedy in Dallas.

On our way back to the GSA Building we pass the old Winder Building on 17th Street, across from the Bureau of the Bud-



St. John's Church

get. During the Civil War, the Winder Building was used as the Army Telegraph Office. President Lincoln often slept there, wrapped in his shawl and awaiting word from the battle front. The huge concrete vases decorating the Budget building are supposed to have been designed by General Douglas MacArthur, the hero of Bataan.

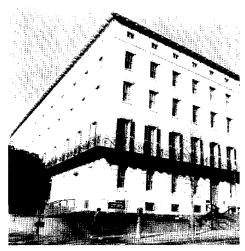
Wednesday

I park at the lot on the corner of 6th and H Streets NW near GAO and walk to the GSA Building, which is quite far away but affords some exercise. Passing through Chinatown, I note the old Surratt House, where the conspiracy to assassinate Lincoln is supposed to have been planned.

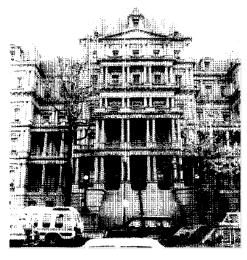


The General Services Administration Building at 18th and E Streets, Northwest.

Nearing the White House, I spot A.T. (Sammy) Samuelson approaching. Sammy is director of the Civil Division and my boss. He lives near GSA and always walks to GAO. Sammy is also president of the Washington Chapter of the National Association of Accountants (NAA). I have with me an application to the NAA given to me by a prospective member. Sammy will be happy to have it because the Washington Chapter is trying to become "numero uno" in this year's national membership drive. As we approach each other, I hold up the form, Sammy opens his briefcase, and I plop it in. Sammy doesn't pause. He never has been one to chitchat.

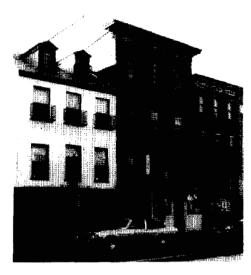


The Winder Building, where President Lincoln's ghost still visits.



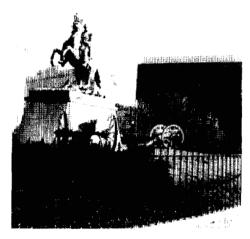
The old Bureau of the Budget Building (now called the old Executive Office Building) next to the White House on Pennsylvania Avenue.

Pennsylvania Avenue is peaceful this morning and the President's mansion looks serene. Lafayette Park is practically



The Surratt House (white brick on left) in Chinatewn.

deserted except for the squirrels. The concrete trucks are already arriving at the construction sites, and I hurry along to pick up some papers before making my daily visit.



Another perspective on Lafayette Park

Thursday

Art Schoenhaut, deputy director of our division, calls and suggests we take a look at the construction of the new Bureau of Standards' buildings out in Gaithersburg. Some problems have been reported that an on-site visit might rectify. A visit might also enhance our knowledge of construction matters. I make the necessary arrangements for the trip to Gaithersburg next Monday and then go off to GAO for a meeting.

After completing my business at GAO, I

encounter a fair-sized crowd that practically blocks the sidewalk in front of the White House. I start to make a snide remark about the hassle, when the identity of the person standing in the middle of the crowd and causing the commotion becomes clear. It is LBJ (President Lyndon B Johnson) happily chatting. I put out my hand to shake his, but he turns aside saying that he has a skin rash and shouldn't be touching anyone.

Hardly anyone except the immediate crowd is paying any attention to him as I move on to GSA. I keep thinking that things have really settled down since the Kennedy tragedy.



Author completes business at GAO building, 20 years later.

Friday

I go out to the construction site and note that samples of concrete that have been taken for testing are still out in the sun. Because leaving samples in the sun too long could affect the results of the tests and because I am carried away with enthusiasm about the wonders of a construction audit, I bend down to shift one of the heavy containers and get a better look at data on the attached tag. At the same moment that I get a good grip on the container, the seam of my trousers, already strained by excessive avoirdupois, seizes the most inopportune moment to give way. An associate standing immediately to the rear (later to be the regional manager in Philadelphia) proclaims the obvious in excited terms. I head back to GSA to find some old-fashioned safety pins to repair the damage. Thank goodness it's Friday!

In the Mid-1980's

Since I retired, I have begun a new career as consultant and instructor in auditing and management. I love the chance to share what I have learned in the last 20 years.

Monday

I take the Metro to Farragut West and walk to the offices of Arthur Andersen & Co., where I arrange to use a slide presentation on internal controls. I am scheduled to conduct a class at the U.S. Department of Agriculture (USDA) Graduate School for the Saudi Arabian Financial Auditor Training Program. Anticipating language difficulties, I hope visuals will help. The "big eight" accounting firms have done a great deal in the last few years to advance the knowledge of accounting and auditing, and I am particularly grateful for this work.

Mission completed, I walk around Lafayette Park, where the scene has changed since the 1960's. Barriers protect the White House, and the park is full of advocates or opponents of one thing or another. Signs are everywhere. St. John's Church doesn't look quite so peaceful.

I wonder how Sammy Samuelson would have reacted during his daily walk to GAO had the same activity existed 20 years ago.



Signs in front of the White House.

Tuesday

I leave home about 6:30 a.m. to drive to Rockville, Maryland, to do some work at a government agency. Beyond the Washington Cathedral, always a thrilling sight, I pass numerous construction sites. These sites were rarities in the 1960's, but are now rapidly transforming the city.

On the return trip, instead of crossing the river on Key Bridge, I drive through Georgetown and head for Washington Circle and 23rd Street. This route takes me past the Watergate Hotel and the Kennedy Center for the Performing Arts, two more buildings that have been constructed within the past 20 years.

Wednesday

Today I am conducting a seminar for the Institute of Internal Auditors at the National Press Club at 14th and F Streets in downtown Washington. This area has several great restaurants now and has had several others in the past. The Ceres, the Ascot, the Two Caesars, and the Neptune Room in the Warner Theater all graced this neighborhood some years ago. Now, the Shoppes at National Place, the refurbished National Theater, and, of course, the new J.W. Marriott Hotel enliven the area.

The seminar is a success, as is the Chapter luncheon, presided over by Chapter President Jim Wesberry. Jim has recently accepted a position at Price Waterhouse International. Carol Codori, of the Office of International Audit Organization Liaison, and I discuss some ideas for a 20th anniversary issue of *The GAO Review*, and she invites me to write something for it.

Thursday

I arrive early at the graduate school to look over material for the Saudi Arabian classes. I remember when this area, which now boasts such a neat array of buildings (the Holiday Inn, U.S. Information Agency, Gallery Place, etc.), was something else again. Not so long ago this block was home to a wholesale grocery outlet, including an old-fashioned restaurant where one could get the best scrambled eggs, I thought, in the world.

Business completed, I take a side trip to the waterfront and recall the palatial cabins of the old Washington-Norfolk steamship line that traveled overnight to Norfolk. A boat left Washington each evening at the same time that a sister ship left Norfolk and they passed each other in the night. As a child I sailed up from Norfolk on one of those fabulous ships to see Herbert Hoover inaugurated. Wandering back to the car, I wonder how well the Saudi Arabians will like my material.



I spend the morning catching up on a few things: I must revise the student book for one of my classes at the graduate school, perform some important research at the Arlington Library, and handle the weekly banking chores.

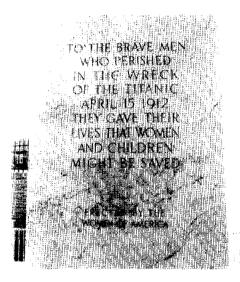
In the afternoon, I go to GAO to consult with Harry Ostrow, a staff member in the



At the National Press Club library with Review assistant editor, Carol Codori



The Titanic Memorial



Memorial inscription.

Office of Policy, on material for my classes. In the hall I meet Allan Mendelowitz, now an associate director in the National Security and International Affairs Division. Back in the 1970's, Allan participated in one of the operational auditing courses I conducted for GAO's upper-level employees. The course ran for 2 weeks at that time, and Allan referred to me as "Mr. Chips" for its duration.

My business done, I head back across the Roosevelt Bridge. It has been another good week.

Two Weeks' Worth

Legislative Developments

Judith Hatter



For the past 20 years my predecessor, Margaret L. Macfarlane, and I have been attempting to highlight the work of the Congress as it affects the functions, duties, and responsibilities of GAO.

During this 20-year period, the Law Library Legislative Information Section and, before it, the Legislative Digest Section of the Office of the General Counsel, have compiled legislative histories on all laws enacted by the Congress.

The Law Library's GAO Legislative History Collection contains histories of most of the public laws enacted since 1921, when GAO was established. Each history contains all versions of the bill, remarks and floor debate from the *Congressional Record*, committee reports, hearing transcripts, and GAO comments on the legislation. Related bills, debate, and hearing content are also included in the compilation. In addition, the Law Library offers several commercial sources of legislative history.

It may be interesting to recall some of the laws discussed in this column over the years either because they affected GAO's organization and function or because they were newsworthy in their own right. Because of space limitations, however, I can only list the laws. Do you remember

- the various laws pertaining to the Presidential Election Campaign Fund?
- the Economic Opportunity Amendments of 1967?
- the law mandating a feasibility study concerning application of uniform cost accounting standards for government contractors?
- the establishment of the Commission on Government Procurement?

- the Legislative Reorganization Act of
- the evaluation of health maintenance organizations?
- the Congressional Budget and Impoundment Control Act of 1974?
- the General Accounting Office Act of 1974?
- the law establishing the Federal Paperwork Commission?
- the work resulting from the Energy Policy and Conservation Act?
- the New York City loan guarantee legislation?
- the Medicare-Medicaid Anti-Fraud and Abuse Amendments?
- the Chrysler Corporation loan guarantees?
- the GAO Act and the GAO Personnel Act, both of 1980?
- the Federal Managers' Financial Integrity Act of 1982?
- the codification of title 31 of the U.S. Code, which contains most of the law pertaining to GAO?
- the Competition in Contracting Act of 1984, which provides a statutory base for GAO's bid-protest functions?

If you would like to delve more deeply into the impact on GAO or the relationship to GAO's work of these or any other laws, please call (202) 275-4456. The Law Library staff, of which I am a member, is always available to assist you with your legal research.

GAO Senior Staff Changes



Kenneth J. Coffey

Dr. Kenneth J. Coffey, planning director of the National Security and International Affairs Division (NSIAD), has been selected by the Navy to be the first occupant of the new Chair for manpower, personnel, and training analysis at the Naval Postgraduate School in Monterey, California. Dr. Coffey's 2-year assignment began July 2, 1985. Dr. Coffey teaches graduate-level courses to officer-students.

Dr. Coffey joined GAO in 1979 as associate director of the military personnel group of the Federal Personnel and Compensation Division. When NSIAD was created, he became head of its manpower, reserve affairs, and logistics subdivision. He was named NSIAD planning director in January 1985.

Dr. Coffey earned undergraduate and graduate degrees in journalism and law and a Ph.D. in war studies from King's College, University of London. He has been a visiting professor at the National Defense University and an administrative assistant on Capitol Hill. He has served with the Defense Manpower Commission, the Selective Service System, the U.S. Information Agency, the Peace Corps, and the Marine Corps. He also has served as a consultant on military manpower issues to the National Security Council, the Congressional Budget Office, and other organizations.



Neal P. Curtin

Mr. Neal P. Curtin has been promoted from GAO's Executive Candidate Development Program to the position of director, Office of Quality Assurance (OQA).

Mr. Curtin joined GAO's Chicago Regional Office in 1970. He was assigned to the European Branch in Frankfurt, West Germany, from 1974 to 1978. Since returning to Washington, D.C., he has worked in the Human Resources Division and the former International Division, served a tour as a report reviewer in OQA, and headed the report review function in the National Security and International Affairs Division (NSIAD) from its establishment in 1983 until November 1984. He was selected for the third Executive Candidate Development Program in 1984.

Mr. Curtin graduated from Bradley University in Illinois with a B.S. degree in economics. He has received a GAO Meritorious Service Award (1981) and the NSIAD Director's Award (1984), among other GAO awards. He is a member of the American Society for Public Administration.



Richard H. Field

Mr. Richard H. Field has been hired as a special consultant to prepare and carry out a long-range facilities management plan for GAO. As facilities management planner, Mr. Field will develop a comprehensive master plan for GAO office space worldwide.

Mr. Field comes to GAO from the General Services Administration (GSA) where he was deputy assistant commissioner for design and construction and special projects officer for congressional liaison in the Public Buildings Service. Before joining GSA, he worked as a general engineer and policy planning officer at the Naval Facilities Engineering Command; he has also worked for the Air Force.

Mr. Field has a B.S. degree in mechanical engineering from the University of New Hampshire and a master's degree in administration from George Washington University.



Ira Goldstein

Mr. Ira Goldstein has been reassigned to the position of deputy director for operations in the Human Resources Division.

Mr. Goldstein joined GAO in January 1982 and served as chairman of the Task Force on Reports before being named director of the Office of Quality Assurance late in 1982. He came to GAO from the Department of Health and Human Services (HHS), where he served in the Office of the Secretary and in the Social Security Administration. Before leaving HHS, Mr. Goldstein served as director of policy and acting associate commissioner of social security for the Aid to Families With Dependent Children and Low-Income Energy Assistance programs.

Mr. Goldstein graduated with a B.S. degree from the University of Pennsylvania and holds a M.B.A. degree from the Harvard Business School. He received a GAO Distinguished Service Award in 1984.



James F. Hinchman

Mr. James F. Hinchman has been appointed GAO deputy general counsel. He comes to GAO from the Department of Agriculture where, for 5 years, he was associate general counsel for production, distribution, and assistance.

Prior to joining the Department of Agriculture, Mr. Hinchman was deputy associate director for labor, veterans, and education in the Office of Management and Budget. From 1977 to 1978, he was associate general counsel of the former Department of Health, Education, and Welfare (HEW) where he had begun his federal career in 1971. He has also served in the Department of Housing and Urban Development.

In 1983, Mr. Hinchman was awarded the Presidential Rank of Meritorious Senior Executive. He also received the HEW Superior Service Award.

Mr. Hinchman received his A.B. degree from Harvard College in 1963 and his J.D. degree from Harvard Law School in 1970. He served in the U.S. Navy from 1963 to 1967. He is a member of the bar in Massachusetts and the District of Columbia.



Robert A. Peterson

Mr. Robert A. Peterson has been named the deputy director for operations in the General Government Division. He joined GAO in 1964.

Prior to becoming Special Assistant to the Assistant Comptroller General for Operations in January 1984, he served as senior associate director in both the Human Resources Division and the General Government Division.

Mr. Peterson received a B.S. degree in business administration from the University of South Carolina and an M.S. degree in financial management from George Washington University. He is a certified public accountant (Virginia) and a member of the American Association of Accountants and the National Association of Accountants. Mr. Peterson has received several GAO awards over the years.



Melroy Quasney

Mr. Melroy "Joe" Quasney has been selected associate director for human resource systems in the Information Management and Technology Division (IMTEC). Before joining GAO, Mr. Quasney served as the director for the Information Resources Management Directorate at the Naval Air Logistics Center.

Mr. Quasney's experience has focused on the design and implementation of major computer applications and operating systems. While employed by Westinghouse Space and Defense Center, he worked on developing the on-board and ground-tracking radar systems for the Apollo and Gemini space missions. At Bendix Field Engineering, he was involved in the design and development of early warning radar defense systems.

Mr. Quasney has received numerous awards including the Department of Commerce's Silver Medal,



Howard G. Rhile

Mr. Howard G. Rhile has been promoted to associate director of the natural resources area in the Information Management and Technology Division (IMTEC). Mr. Rhile began his GAO career in 1965 in the former Civil Division. He then served in the Far East Branch, where he managed audit assignments, and in the Branch's ADP technical assistance group. He later joined the material management group of the former Logistics and Communications Division as an audit manager.

Mr. Rhile transferred to the General Government Division in 1974 and subsequently became the division's assistant director for ADP audits. In 1982 and 1983, Mr. Rhile was a member of GAO's ADP task force and of the IMTEC transition team. In the latter year, he was appointed special assistant to the director for planning and administration in IMTEC.

Mr. Rhile received a B.S. degree in accounting from Temple University in Philadelphia. Since coming to GAO, he has received many awards, including an Outstanding Achievement Award and a Meritorious Service Award in recognition of his outstanding performance as a member of the ADP task force, the IMTEC transition team, and the IMTEC division.

He is a certified systems information auditor and a member of the Association of Federal Information Resource Managers, the Association of Government Accountants, and the EDP Auditors Association.



Daniel F. Stanton

Mr. Daniel F. Stanton has been appointed head of the post-assignment quality review system (PAQRS) in the Office of Policy. Initially, Mr. Stanton will build a conceptual framework and methodology for assessing the effectiveness of the processes used by GAO to ensure technical accuracy in its work.

Mr. Stanton was designated deputy director of the General Government Division (GGD) in October 1978. He had served as associate director of GGD, where his responsibilities included directing the audit and investigative work for law enforcement and criminal justice activities.

He served in the U.S. Army from 1954 to 1956, and he graduated from the University of South Carolina in 1959 with a B.S. degree in accounting. He is a certified public accountant (Virginia) and a member of the American Institute of Certified Public Accountants.



James R. Watts

Mr. James R. Watts has been promoted to associate director, central financial operations and law enforcement group, in the Information Management and Technology Division (IMTEC). Mr. Watts joined GAO in 1963 in the San Francisco Regional Office (SFRO) where he worked on a variety of assignments in civil and defense agencies and eventually became audit manager for SFRO's automated data processing (ADP) audit and technical assistance group.

In 1974 Mr. Watts transferred to the Financial and General Management Studies Division (FGMSD) and was selected group director for the ADP group. In 1983 he joined GAO's information resources management transition team to help establish IMTEC.

Mr. Watts received his B.S. degree in accounting from Fresno State College in California and graduated from the Wharton Information Systems Program at the Wharton School, University of Pennsylvania. A certified public accountant in California, Mr. Watts is also a member of the American Institute of Certified Public Accountants, the California Society of CPAs, and the Association of Government Accountants. While serving at GAO, he has

received several awards, including an Outstanding Achievement Award from IMTEC in 1984 and the FGMSD Division Director's Award in 1978.



Roger J. Wheeler

Mr. Roger J. Wheeler has been named director of GAO's Office of Information Resources Management, where he will coordinate and manage GAO's information systems and services.

Mr. Wheeler joined GAO in June 1985 as special assistant to the Information Management and Technology director. He has over 20 years of private-sector experience in automated data processing (ADP) systems and management, including 16 years at the accounting firm of Arthur Young & Co. From 1976 to 1980, he served as national director of Arthur Young's computer auditing program and helped develop the firm's computer-related fieldwork performance guidelines and quality assurance program. In 1980 he began coordinating Arthur Young's information systems planning to meet long-range operational and management information needs.

From 1965 to 1968, Mr. Wheeler was a systems analyst and systems programming manager with Pan American Airways' Aerospace Services Division, a base-support contractor to the Air Force at Cape Canaveral. He was also a systems representative at IBM's Service Bureau Corporation from 1962 to 1965.

Mr. Wheeler, who earned his degree in accounting at Boston University's College of Business Administration, is a certified information systems auditor. He served on the American Institute of Certified Public Accountants' 1979–81 task force on computer fraud review.



Daniel C. White

Mr. Daniel C. White has been appointed deputy director for planning and reporting in the Information Management and Technology Division.

Mr. White joined GAO in 1961 in the Dallas Regional Office and was named auditor-incharge of the San Antonio Suboffice in 1965. He returned to the Dallas Office in 1969, with responsibility for all the regional work in automatic data processing, and was named assistant regional manager in the Chicago Regional Office in 1974.

In 1979 Mr. White was named a group director in the former Community and Economic Development Division and directed GAO activities in the environmental and, subsequently, water issue areas. Mr. White was a member of GAO's first Senior Executive Service candidate program and, in December 1981, became associate director for activities in the nuclear and electricity areas in the Resources, Community, and Economic Development Division.

Mr. White majored in accounting at the University of Arkansas, graduating in 1961 with a B.S.B.A. degree. He also attended the Wharton-GAO Information Systems Program and the Dartmouth Institute. He is a certified public accountant as well as a member of the American Institute of Public Accounting and the Texas Society of Certified Public Accountants.

He received a GAO Career Development Award in 1973, the Community and Economic Development Division Director's Award in 1981, and a Distinguished Service Award in 1981.

GAO Senior Staff Changes

Two Men, from p. 3

ciples and standards for the federal community and in fostering and nurturing operational auditing in the United States, as well as internationally."

Mr. Weitzel and Mr. Morse will be long remembered for their contributions to the development of the modern GAO. In addition, staff and readers of the *Review* will remember them for creating the *Review* and defining its mission within the organization.

Briefcase, from p. 5

events in the survey. The top-ranked item, revenue sharing/block grants, has expanded in scope and importance in the 1980's and remains a major force in intergovernmental relations in 1986. The ten events are a useful reference point for assessing federalism in transition.

- 1. General Revenue Sharing and Five Block Grants. Put into place a tripartite system of federal aid that gave states and localities added discretion over how federal dollars could be spent.
- 2. Civil Rights/Voting Rights Legislation. Facilitated minority political expression, especially in central cities.
- **3.** Baker v. Carr. A landmark Supreme Court decision calling for "one man, one vote" in state legislatures that brought to an end rural domination of many state legislatures and led to the modernization that occurred there throughout the 1970's.
- 4. California's Proposition 13. Dramatic expression of citizen dissatisfaction with government that led to cutting taxes, establishing spending and taxing limits in cities and states across the country, and rethinking the roles of the various levels of government.
- 5. Economic Opportunity Act/War on Poverty. Heralded the major acceleration of federal domestic assistance, providing substantial federal dollars to inner cities while largely bypassing state and local government.
- 6. National Environmental Policy Act (NEPA). Led to federal preemption of the air/water quality field and served as a fore-runner to other national regulatory actions that threatened the "balance" of federalism.

- 7. Serrano v. Priest. A California Supreme Court decision that reaffirmed the principle of equity in funding/service delivery and brought about significant reorganization of school finance systems.
- 8. New York City Fiscal Crisis. Emphasized awareness of the intergovernmental effects of suburbanization, the intergovernmental responsibilities toward central cities and urban areas, and the importance of sound financial management systems.
- 9. School Desegregation Court Cases: Green v. New Kent County School Board, Swann v. Charlotte-Mecklenburg Board of Education, Milliken v. Bradley. In conjunction with Brown v. Board of Education, laid the basis for federal school desegration initiatives that have powerfully affected numerous central cities.
- 10. Medicare/Medicaid. Represents another major expansion of governmental activity involving all three levels of government and significantly expanding social programs for the elderly and poor.

Topics, from p. 16

of the evaluation is aimed at determining the effect of one, and only one, cause.

From the normative perspective, we start with a criterion (a drinkability standard), determine the condition (the actual water quality), and, by subtracting one from the other, determine the amount of the discrepancy, if any. Usually, we may suppose that the discrepancy will be accounted for by several causal factors. Although we know the size of the discrepancy, building a case linking a single cause or several causes to the discrepancy is generally very difficult from this point on.

What is the implication of determining program impact instead of, or in addition to, program discrepancy? Looking at program discrepancy allows us to determine whether a program goal has been achieved and, if not, to determine the amount of the shortfall. But no conclusions can be drawn, based upon the discrepancy alone, about whether the discrepancy or part of it can be attributed to the program. The reason for this is that multiple, possible causes other than the program may account for the discrepancy. For example, failure to have drinkable water may be

caused by an increase in agricultural pollution, not by faults in the wastewater treatment plant. Armed only with information about a discrepancy, ruling out alternative causal explanations is usually conjectural.

Note that working from discrepancy to (multiple) causes using the normative perspective is the reverse of working from (single) cause to impact using the impact perspective. In turning the problem around, the prospect for making a sound determination of a cause-and-effect relationship is greatly enhanced.

Historically at GAO, most questions about program performance have been framed using the normative perspective. The contribution of the impact perspective is that, by posing a different question, we may be able to separate the program effect from other factors. If a way can be found to estimate program impact, a direct conclusion about the causal effect of the program is at hand. The trade-off is that the impact perspective does not deal with the question of goal attainment.

The most general inference to be drawn from the comparison of the program discrepancy and program impact approaches is that we need to be clear about which approach should be followed on a given project: We need to understand the question we are trying to answer and then use the appropriate methods to obtain the answer.

Where To Look for More Information

Measurement error has been treated from many different points of view. Unfortunately, the variety of terminology makes moving from one source of information to another difficult. A sampler follows.

Andersen, R., J. Kasper, M.R. Frankel, and associates. *Total Survey Error*. San Francisco: Jossey-Bass, 1979. In the context of sample surveys, treats measurement error as one element of the total amount of error that must be considered in empirical work.

Blalock, H.M., Jr. Conceptualization and Measurement in the Social Sciences. Beverly Hills, CA: Sage, 1982. A sociologist's view of measurement issues.

Ghiselli, E.E., J.P. Campbell, and S. Zedeck. Measurement Theory for the Behavioral Sciences. Red Bluff, CA: W.H. Freeman, 1981. Presents the basic ideas of measurement as they have emerged from psychology.

Kirk, J. and M.L. Miller. *Reliability and Validity in Qualitative Research*. Beverly Hills, CA: Sage, 1985. The approach of ethnographers to measurement error in qualitative research (not reviewed at press time).

Young, H.D. Statistical Treatment of Experimental Data. New York: McGraw-Hill, 1962. Measurement-error concepts and procedures from physical science and engineering points of view.

Zeller, R.A. and E. Carmines. *Measurement in the Social Sciences*. New York: Cambridge University Press, 1980. A somewhat more advanced treatment of measurement error by a sociologist and a political scientist.

The notion of program impact is important in many fields, although, here again, the terminology is not uniform. Another sampler follows.

Anderson, S. et al. Statistical Methods for Comparative Studies. New York: John Wiley, 1980. An excellent overview of statistical methods for estimating program impact. Tends to use medical examples.

Judd, C.M. and D.A. Kenny. *Estimating the Effects of Social Interventions*. New York: Cambridge University Press, 1981. An intermediate-level text focusing on program impact.

Langbein, L.I. Discovering Whether Programs Work. Glenview, IL: Scott, Foresman and Co., 1980. Treats methods for estimating program impact in a relatively nontechnical way.

Rossi, P.H. and H.E. Freeman. *Evaluation:* A *Systematic Approach*. 2nd ed. Beverly Hills, CA: Sage, 1982. An introductory text that includes sections on program impact.

Change, from p. 21

AFMD since Donald Scantlebury's death in June 1981, and Campbell was named regional manager of the Norfolk Regional Office.

Restructuring AFMD essentially completed Mr. Bowsher's transformation of GAO's or-

ganization into its current structure of four operating divisions (GGD, HRD, NSIAD, and RCED) and three technical divisions (AFMD, IMTEC, and PEMD). Although GAO's mission has remained much the same, the organizational structure designed to fulfill it has changed considerably. New issues have arisen, and others have faded from the scene. Familiar names, such as Weitzel, Keller, Morse, Samuelson, and Newman, are gone. Twenty years from now most of today's leaders will have departed. What will GAO's organization look like then, and who will be leading it? It's an interesting thought, but that is another story.

Role, from p. 25

enroll in GAO's courses for evaluators to gain an understanding of the report-writing process from the evaluator's perspective. GAO writer-editors take external courses to enhance their editing and graphics skills and their comprehension of the complexities of the more technical subject matter of some of today's GAO reports. Such external training includes courses in editing, technical writing, publishing, production management, accounting, computing, statistics, and public administration.

A writer-editor curriculum group was established to analyze future training needs. Its efforts resulted in the first GAO training course specifically designed for writer-editors. Unlike many editing courses, Advanced Training for Writer-Editors presumes knowledge of grammar, format, and line editing skills. It stresses message design, structured reading as a report-review technique, strategies for report conferencing, and models for understanding report writing as a process.

Varied Career Paths

Writer-editors and former writer-editors contribute to the improvement of writing and communication at GAO from a variety of positions. Former writer-editors who pursued alternative careers within GAO have served as or are now serving as special assistants to the Comptroller General and the Assistant Comptroller General for Policy and Program Planning, specialists in information resources management, and evaluators. Writer-editors-turned-evaluators have been involved in drafting numerous GAO reports and briefing documents, the

Annual Report, and scripts for several recent videotape presentations. Most writereditors, however, continue to expand and develop their role and to seek to more fully use their communications skills within the 1082 job series for writereditors, managing editors, and the Writing Resources Branch manager.

Writer-editors influence every GAO report, yet their contributions to report drafting, revising, and processing occur behind the scenes. Evaluators can point to chapters or entire reports as their own products, but the writer-editor's contributions blend with those of reviewers and specialists and remain essentially anonymous. While the efforts of GAO's 60 writer-editors are greatly appreciated and freely acknowledged by most evaluators, the full extent and nature of the writer-editor's expanded role has only recently begun to be recognized agency-wide.

Television, from p. 39

this rule demonstrates that GAO is aware of the power of the press and the need to have a measure of control in its relationship with the media.

In conclusion, GAO recognizes that the wrong kind of publicity can damage its most vital asset-its credibility-and impair its effectiveness. Although frequent contact with reporters is a fact of life in modern government, publicity does not have to involve leaks, partisanship, or advocacy for specific GAO recommendations. Instead, a professional relationship with the media is one legitimate way to keep the Congress and the public informed. Citizens today are often cynical about fraud and waste in the bureaucracy. It might help if more people knew about the sincere efforts of GAO to increase the efficiency and effectiveness of government.

Other GAO Staff Changes

Additional Staff Changes		
Name	Division/Office	Title/Area of Responsibility
Golden, Michael R. Pool, Robert C.	Office of the General Counsel Office of the General Counsel	Senior Attorney Senior Attorney
SES Promotions		
Name	Promoted From/To	Title/Area of Responsibility
Wray, Henry R.	Office of the General Counsel, ES-3 to ES-4	Associate General Counsel, personnel law
SES Reassignments		
Name	Reassigned From/To	Title/Area of Responsibility
Anderson, Walter	IMTEC/IMTEC	Senior Advisor to the Director
Egan, George	NSIAD/NSIAD	Director, planning staff
Giammo, Thomas P.	IMTEC/IMTEC	Associate Director, government-wide information technology
New Staff Members	The following staff members joined G 1985.	AO during the approximate period April to June
Name	Division/Office	From
Morris, Purri D.	General Government Division	University of Kansas
Philip, Constance	General Government Division	Home Medical Systems, Inc.

General Government Division

Strand, Robert W

North Texas State University

New Staff (cont.)		
Name	Division/Office	From
Coffman, Kim	Resources, Community, and Economic Development Division	Dept. of the Interior
Featherston, Fran	Resources, Community, and Economic Development Division	Administrator for the Courts, State of Washington
Lewter, Brenda	Resources, Community, and Economic Development Division	Dorothea B. Lane Secretarial School
Bainbridge, Ross	Office of Information Resources Management	National Bureau of Standards
Hudson, Inez	Office of Information Resources Management	Dept. of Agriculture
Leech, Thomas	Office of Information Resources Management	Private Industry
Aponte, Marisol	Personnel	Dept. of Labor
Cline, Sherry G.	Personnel	Veterans Administration
Crockett, Novelia P.	Personnel	Dept. of the Treasury
Massie, Jacqueline A.	Personnel	Defense Investigative Service
Robinson, Robin D.	Personnel	Dept. of Justice
Savoy, Louise M.	Personnel	Dorothea B. Lane Secretarial School
Turman, Marion D.	Personnel	Dept. of Commerce
CA CE DE TIL. J ! 10C		

Staff Members Hired in 1966

Ed. note: The staff members listed below—all of them current employees as of publication time—were hired in 1966. Although hundreds more staff members have worked longer at GAO, these employees have pursued their GAO careers during the same two decades in which the *Review* has been in print. In addition, Mr. Elmer Staats, predecessor to Comptroller General Charles A. Bowsher, began his term in 1966.

Name	Division/Office	Hiring Date
Stathis, Peter N.	Assistant Comptroller General-Operations	07/05/66
Fuerstenberg, Judith A.	Accounting and Financial Management Division	07/05/66
Gramling, Robert W.	Accounting and Financial Management Division	06/01/66
Keels, Alice C.	Accounting and Financial Management Division	07/05/66
Mautz, Robert K.	Accounting and Financial Management Division	11/21/66
Simonette, John F.	Accounting and Financial Management Division	09/18/66

Name	Division/Office	Hiring Date
Cunningham, Katharine	General Government Division	05/18/66
Finch, Johnny C.	General Government Division	06/06/66
Fortune, Ella J.	General Government Division	10/24/66
Harris, Daniel C.	General Government Division	06/15/66
Herrmann, Larry A.	General Government Division	06/19/66
Johnson, Patricia H.	General Government Division	01/16/66
King, Ronald L.	General Government Division	06/06/66
Tansey, George F.	General Government Division	07/18/66
Tilghman, Alice E.	General Government Division	02/27/66
Byrne, Edith J.	Human Resources Division	01/03/66
Hightower, William A.	Human Resources Division	06/13/66
Miller, Neil N.	Human Resources Division	10/03/66
Miller, Roland H. III	Human Resources Division	06/13/66
Smith, Thomas Jay	Human Resources Division	06/06/66
Tasca, Edward R.	Human Resources Division	01/24/66
Vance, Joe A.	Human Resources Division	11/03/66
Walsh, Thomas J.	Human Resources Division	06/06/66
Rinaldi, James V., Jr.	Information Management and Technology Division	07/05/66
Bonanno, Charles J., Jr.	National Security and International Affairs	09/06/66
Carroll, Roger A.	Division National Security and International Affairs	11/20/66
Esposito, Pasquale L.	Division National Security and International Affairs Division	08/15/66
Gaynor, Clement A., Jr.	National Security and International Affairs Division	08/30/66
Johnson, Harold J., Jr.	National Security and International Affairs Division	01/03/66
Kuhta, Steven F.	National Security and International Affairs Division	06/06/66
Kushner, Ronald A.	National Security and International Affairs Division	02/21/66
Marek, Andrew G.	National Security and International Affairs Division	06/20/66
McGinley, Robert F.	National Security and International Affairs Division	05/22/66
Saunders, Jean G.	National Security and International Affairs Division	11/16/66
Shackleford, Edna D.	National Security and International Affairs Division	01/17/66
Sprouse, Jacob W., Jr.	National Security and International Affairs Division	06/13/66
Trahan, Jane O.	National Security and International Affairs Division	07/05/66
Allen, Walter L.	Resources, Community, and Economic	06/20/66
Borsellino, Frank J.	Development Division Resources, Community, and Economic Development Division	06/06/66
Foster, June M.	Resources, Community, and Economic Development Division	12/08/66

Staff (cont.)		<u> </u>
Name	Division/Office	Hiring Date
Harman, John W.	Resources, Community, and Economic Development Division	06/06/66
Heck, Thomas A.	Resources, Community, and Economic Development Division	05/23/66
Hunt, James R.	Resources, Community, and Economic Development Division	04/11/66
Janik, Chester F.	Resources, Community, and Economic Development Division	02/21/66
Mason, Roy T.	Resources, Community, and Economic Development Division	06/13/66
Niemi, Edward A.	Resources, Community, and Economic Development Division	07/07/66
Scott, Jay L.	Resources, Community, and Economic Development Division	07/20/66
Thomson, John A., Jr.	Resources, Community, and Economic Development Division	01/10/66
Weigel, Dwayne E.	Resources, Community, and Economic Development Division	03/30/66
Wilkinson, Bettye H.	Resources, Community, and Economic Development Division	06/20/66
Mendelson, Lillian	Office of Financial Management	04/24/66
Aiken, Iula M.	Office of the General Counsel	12/27/66
Clark, M. Alice	Office of the General Counsel	09/11/66
Cunningham, James M.	Office of the General Counsel	08/01/66
Heitzman, Robert J.	Office of the General Counsel	08/14/66
Phillips, Floyd M.	Office of the General Counsel	01/30/66
Suggs, Pauline V.	Office of the General Counsel	03/21/66
Grindel, Gernard G.	Office of Information Resources Management	06/20/66
Knapp, Ted D., Jr.	Office of Information Resources Management	05/24/66
Coleman, Janie M.	Office of Library Services	10/17/66
Hessek, Edgar L.	Office of Organization and Human	06/05/66
Howell, Julia B.	Development Office of Organization and Human Development	01/03/66
Elliott, Clara H.	Personnel Systems Development Project	10/10/66
Benone, James O.	Office of Policy	06/20/66
Dowdell, Johnnie M.	Office of Security and Safety	10/03/66

Name	Regional Office	Hiring Date
Crowl, Robert M.	Atlanta	06/20/66
Lorente, Carolyn C.	Atlanta	08/29/66
Jorritsma, James S.	Boston	06/20/66
Laudermilk, Gerald L.	Boston	07/05/66
McDonough, John E.	Boston	10/24/66
Reis, William M.	Boston	06/06/66
Wilson, Paul I.	Chicago	11/21/66
Murphy, John M., Jr.	Cincinnati	06/13/66
Scott, Billy W.	Dallas	06/06/66
Sheppard, James C.	Dallas	06/06/66
Taylor, Seth D.	Dallas	07/31/66
Baughman, Glen L.	Denver	03/21/66
Begnaud, Paul S.	Denver	06/13/66
West, Douglas H.	Denver	02/01/66
Aiello, Jerry W.	Detroit	06/27/66
Coughenour, Charles R.	Detroit	04/25/66
Kruper, Gilbert W.	Detroit	06/29/66
Vieregge, Ronald A.	Detroit	10/24/66
Warsing, Donald P.	Detroit	08/21/66
Ashley, David E.	Kansas City	01/31/66
Hammons, Robert G.	Kansas City	02/01/66
Hill, Leonard C.	Kansas City	06/20/66
Patterson, Tommy J.	Kansas City	06/20/66
Snavely, John G.	Kansas City	08/15/66
Golichnik, Michael S.	Los Angeles	06/28/66
Herrera, Richard	Los Angeles	06/27/66
Levy, Ruth R.	New York	08/01/66
Rashes, Bernard D.	New York	10/24/66
Cheely, Willie J., Jr.	Norfolk	06/13/66
Peacock, John L.	Norfolk	06/13/66
Hubbs, Thomas P.	Philadelphia	05/18/66
Piskai, Michael R.	Philadelphia	09/19/66
Stengel, D. Richard	Philadelphia	07/05/66
Day, Dennis W.	San Francisco	08/15/66

	, ,	•
Staff	(cant	1
DUCKET	(COM	. ,

Name	Regional Office (Cont.)	Hiring Date
Bell, Vickye J.	Seattle	04/04/66
Carroll, John P.	Seattle	03/13/66
Grantham, Merna S.	Seattle	10/03/66
Campbell, Henry D.	Washington	06/13/66
Grimes, Dade B.	Washington	06/20/66
Heagy, Maryellen F.	Washington	07/01/66
Lynard, Louis G.	Washington	02/01/66
Scott, Dean T.	Washington	07/11/66
Trescavage, Bernard J.	Washington	06/13/66
Vass, Bradley C.	Washington	06/20/66
Name	International Office	Hiring Date
Markray, Louise V.	European	12/12/66

Attritions

The following staff members left GAO during the approximate period from April to June 1985.

 1400.	
Name	Division/Office
Butler, Evangela R.	General Government Division
Coleman, Anitra	General Government Division
Diggs-Goodwin, Helen J.	General Government Division
Gunner, John B.	General Government Division
Hodges, Sandra J.	General Government Division
Hunter, Marianne H.	General Government Division
Linhart, Edward W.	General Government Division
Mortin, John F.	General Government Division
Nosik, Douglas O.	General Government Division
Overdorf, C. Scott	General Government Division
Packheiser, Susan M.	General Government Division
Pendleton, Nancy E.	General Government Division
West, Christina	General Government Division
Buchanan, Mary	Human Resources Division
Butterfield, Kerry J.	Human Resources Division
Conniff, Brian T.	Human Resources Division

Name	Division/Office	
Cormier, Michelle A.	Human Resources Division	
Godwin, Phillip	Human Resources Division	
Jensen, Ann Marie	Human Resources Division	
O'Daniel, Lloyd G.	Human Resources Division	
Raimondi, Vincent P.	Human Resources Division	
Salvatierra, George	Human Resources Division	
Sansbury, Margaret M.	Human Resources Division	
Simmons, Venise	Human Resources Division	
Thomas, Wanda I.	Human Resources Division	
Walne, George N.	Human Resources Division	
Crowner, Evelyn	Resources, Community, and Economic Development Division	
Goodstein, Daniel	Resources, Community, and Economic Development Division	
Stone, Eileen	Resources, Community, and Economic Development Division	
Kool, Kaja	Office of Information Resources Management	
Long, Brenson	Personnel	
Name	Regional Office	
Hyland, Mary J.	Cincinnati	
McGuire, Shirley A.	Cincinnati	
Brenner, Sherry M.	Denver	
Walker, Willie	Denver	
Brown, Jo Ann	Kansas City	
Bowman, Veronica	Los Angeles	
Majauskas, T. J.	Los Angeles	
Miles, Art	Los Angeles	

Attritions (cont.)					
	Name	Regional Office			
	Boyer, George R. III	Philadelphia			
	Loscalzo, Barbara	Philadelphia			
	Ragan, Patricia	San Francisco San Francisco			
	Thayer, Tony				
	Roberson, James V.	Seattle			
Retirements					
	The following staff members retired from G. June 1985.	AO during the approximate period April to			
Name	Division/Office	Title			
Rauscher, Fred J.	Accounting and Financial Management Division	Systems Accountant			
Williams, Harlow S.	National Security and International Affairs Division	Evaluator			
Zappacosta, Frank M.	National Security and International Affairs Division	Supervisory Evaluator			
Bryant, Josephine T.	Office of the General Counsel	Legal Office Assistant			
Name	Regional Office	Title			
Demo, Charles F.	Kansas City	Evaluator			
Birkholtz, Jack	San Francisco	Senior Evaluator			
Deaths	The following GAO staff members passed away during the approximate period April to June 1985.				
Name	Regional Office	Title			
Overstreet, Floyd	Kansas City	Evaluator			
Zellner, Henry	San Francisco	Evaluator			
Bandy, Ray	Seattle	Former Regional Manager			

Professional Activities

Office of the Comptroller General

Charles A. Bowsher, Comptroller General, addressed the following groups:

Conference on the Single Audit Act of 1984 sponsored by the Office of Personnel Management and the Office of Management and Budget, Washington, Apr. 15.

Woodrow Wilson School of Public and International Affairs, Princeton University, Princeton, NJ, Apr. 18.

College of Business Administration, Creighton University, Omaha, Apr. 23.

Annual Awards Ceremony, Baltimore Chapter, Association of Government Accountants, Baltimore, May 16.

John F. Kennedy School of Public Affairs Executive Session on Public Management, Harvard University, Cambridge, MA, May 30.

National Defense University, second GAO graduating class, Washington, June 7.

Southeast Missouri University Foundation, Cape Girardeau, MO, June 21.

Professional development conference, Association of Government Accountants, San Diego, June 24.

Town Hall of Los Angeles, June 25.

Accounting and Financial Management Division

Frederick D. Wolf, director, addressed the following groups:

The American Society of Military Controllers, Crystal City, VA, Apr. 8.

The Association of Government Accountants, at their Capital Region Emerging Issues Conference, Washington, Apr. 25.

A Management Accountability and Controls Forum sponsored by the George Washington University School of Government and Business Administration and the U.S. Professional Development Institute, Bethesda, MD, May 6.

A public hearing of the Governmental Accounting Standards Board on "The Discussion Memorandum: The Measurement Focus and Basis of Accounting—Governmental Funds," Chicago, May 29.

Participants at a professional development conference on "Governments and the Private Sector—A Partnership for Public Profit," sponsored by the San Diego chapter of the Association of Government Accountants, San Diego, June 24.

Participants at a conference of the Financial Executive Institute Committee on Government Business, Coronado, CA, June 25.

External Auditors, Organization of American States, at their board meeting, over which he presided as chairman, Washington, May 20–22.

Virginia Robinson, associate director, received an award for superior performance as chapter president, Washington Chapter, Association of Government Accountants, at the annual Professional Development Conference in San Diego, June 24–26.

John F. Simonette, associate director, addressed the following groups:

A seminar of the New York Chapter, Association of Government Accountants, Albany, May 14. JFMIP Management Improvement Symposium, Dallas, Apr. 17.

Association of Government Accountants Professional Development Conference, San Diego, June 24–26.

Bruce Michelson, group director, spoke on the revised Title 2, at the Association of Government Accountants Professional Development Conference, San Diego, June 24–26.

Bob Pewanick, group director, elected capital region vice president, Association of Government Accountants.

Lee Beaty, systems accountant:

Received an Outstanding Newsletter award as editor of the Washington Chapter Newsletter at the Association of Government Accountants Professional Development Conference in San Diego, June 24–26.

Was elected to the Board of Directors of the Washington Chapter of the Association of Government Accountants.

Was reappointed editor of the Washington Chapter of the Association of Government Accountants' Newsletter.

Charles McAndrew, systems accountant:

Was awarded a Certificate of Appreciation from the Small Business Administration for his work as chairman of the Small Business Education Committee, Association of Government Accountants, Washington Chapter.

Was selected as the Association of Government Accountants Washington Chapter's Professional Notes Committee chairman.

Paul Benoit, computer specialist, received an award from the Patuxent Chapter, Association for Systems Management, for outstanding service to the systems profession.

General Government Division

William J. Anderson, director:

Discussed "Working Effectively With Oversight Organizations" at the Office of Personnel Management's (OPM) Executive Seminar Center, Oak Ridge, TN, June 21.

Spoke before the Induction Ceremony of Beta Gamma Sigma, University of Cincinnati, on "GAO and the Federal Government as an Employer," Cincinnati, May 19.

Rosslyn Kleeman, associate director, spoke to the equal employment opportunity council on "GAO's Comparable Worth Reports," San Francisco, May 30.

Daniel Harris, deputy associate director, spoke on "The Importance of IRS' Revenue Collection Efforts in Relation to the Growing Federal Deficit" before the public finance class at Moravia College, Bethlehem, PA, May 16. He also discussed GAO's work in the tax policy and administration area before the Lehigh Valley Chapter of the Planning Executives Institute, Bethlehem, PA, May 16.

Richard Groskin, evaluator, has been elected chairman of the American Society for Public Administration's Section on Criminal Justice Administration for 1986–1987.

Rod Lauver, evaluator, discussed "Concepts of Project Management for Program Effectiveness" at OPM's Government Executive Institute, Washington, June 26.

Paul Zacharias, evaluator, discussed GAO's review of the treasury securities market at a seminar on "How To Perfect Repurchase Agreements and Avoid Other Investment Losses," sponsored by the Government Finance Officers Association, Chicago, May 24.

Human Resources Division

Michael Zimmerman, associate director:

Participated in a panel discussion on "Federal Efforts at Third-Party Liability Collections Under Medicaid," sponsored by the National Conference of State Legislatures, Washington, May 8.

Discussed GAO's reviews of Medicare as part of an American Hospital Association teleconference, Washington, June 11.

Dan Brier, group director, spoke on GAO's report, "Eligibility Verification and Privacy in Federal Benefit Programs: A Delicate Balance," as part of a panel discussion at the National Governors' Association Conference, New Orleans, Apr. 24.

Jay Eglin, group director; Frankie Fulton, senior evaluator (Atlanta); and Fred Wiener, senior evaluator

(Chicago); participated in a panel discussion on GAO's work in higher education at the National Council of Higher Education Loan Programs' 1985 Default Conference, Atlanta, Apr. 4.

Gaston Gianni, group director, discussed GAO's reviews of the Job Training Partnership Act at a conference cosponsored by the National Job Training Partnership, the National Association of Private Industry Councils, and the U.S. Conference of Mayors' Employment and Training Council, San Diego, May 6.

Paul Posner, group director, spoke on data collections under block grants on a panel at the National Governors' Association Conference, New Orleans, Apr. 25.

Janet Shikles, group director, and Bill Laurie, senior evaluator (Cleveland), discussed "Aging Issues in the 1980's and the Year 2020" before the National Council on Aging, San Francisco, Apr. 22.

Tom Medvetz, senior evaluator, discussed GAO's reviews of the Job Training Partnership Act (JTPA) before a meeting of JTPA monitors, researchers, and evaluators, sponsored by Wider Opportunities for Women, Washington, June 21.

Chester Joy, evaluator, discussed GAO's reviews of the U.S. Employment Service and the labor exchange system at the National Association of Personnel Consultants' annual leadership conference, Cincinnati, Apr. 26.

Neil Miller and Debbie Eisenberg, evaluators, discussed GAO's report, "U.S. Child Support: Increase Collections From Absent Parents," (GAO/HRD-85-5), before the Montgomery County Task Force on Child Support Enforcement Problems, Rockville, MD, Apr. 12.

National Security and International Affairs Division

Paul Math, associate director, spoke on "GAO's Work in the Area of Acquisition and Procurement," with emphasis on fraud, waste, and abuse, as part of American University's IBM Corporation Program on Decisionmaking in the Public Sector, Washington, Apr. 30.

Nancy Kingsbury, acting associate director, was chairman of a policy issues panel on "The Federal Career System: Its Present and Future" for the National Capital Area Chapter of the American Society for Public Administration, Washington, May 21.

Hy Baras, group director:

Participated in a panel discussion on "Defense Procurement Policy" sponsored by the Council on Foreign Relations for White House officials, government executives, and journalists, Washington, Apr. 11.

Was interviewed by the Cable News Network on "The Army's Acquisition of the High Mobility Multipurpose Wheeled Vehicle."

Bill Beusse, group director, served as a reviewer for "Papers and Symposium Proposals," submitted to the Public Sector Division of the Academy of Management.

Burt Hall, group director, discussed "GAO's Perspective on Procurement Career Management" before the Procurement Executives on Agency Procurement Career Management Programs, Washington, June 12.

John Barmby, senior technical advisor, has been reelected to the management committee of the American Institute of Aeronautics and Astronautics.

John L. Anderson, evaluator, was elected vice president, administration, Northern Virginia Chapter of the National Association of Accountants, for the 1985– 86 terms.

Irv Boker, evaluator, was interviewed about "The Government's Program for Protecting National Security Information" on Senior Edition, broadcast on WNYC radio, New York, June 19.

Chris Bonham and Art Sullivan, evaluators, discussed "GAO's Reviews of Navy Programs" before students at the Navy Career Development Center, Washington, May 3.

Ken Brubaker, evaluator, discussed GAO's transportation and traffic management work, at the Army Transportation School, Fort Eustis, VA, Apr. 3.

Julia Denman, evaluator, discussed "Progress and Problems With DOD's Acquisition Logistics Initiatives" at the Defense Systems Management College, May 17 and June 27.

Paul Francis, evaluator, discussed "Weapon Systems' Early Production Problems" at the Defense Systems Management College, Fort Belvoir, VA, Apr. 18.

Bill Meredith and Chris Bonham, evaluators, discussed "GAO's Reviews of Navy Programs and Activities" at the Navy's Career Development Center, Washington, June 14.

John Payne, evaluator, was interviewed on GAO's report, "Improved Oversight Can Reduce Broadcast Violations at Radio Free Europe/Radio Liberty," for the National Public Radio program, *All Things Considered*, June 24.

Dave Rowan, evaluator, gave a speech to the GAO Women's Advisory Council (WAC) on "Tips for Success in the Office," Washington, Apr. 17.

Program Evaluation and Methodology Division

Ray Rist, deputy director, has had his latest book, *Policy Studies Review Annual*, Vol. 7, published by Trans-Action Books. The book brings together the key policy articles published in the past 2 years in nine key areas, including industrial policy, defense, health, social security, and energy.

Wallace M. Cohen, group director:

Moderated a panel discussion, "In Search of Governmental Excellence—The Evaluation Role," at the Department of Health and Human Services, for the Federal Evaluation Forum, Apr. 10.

Is serving as board member of the management science and policy analysis section of the American Society for Public Administration for 1985–1986.

Robert York, acting group director, spoke on the "Status of Evaluation in Science and Mathematics Education" at the annual meeting of the American Educational Research Association, Chicago, Apr. 1.

Resources, Community, and Economic Development Division

Daniel Kowalczyk, economist, wrote "Commercial Sector Energy Efficiency Improvements: An Economic and Statistical Analysis of Empirical Data," published in the April issue of *Energy Policy*.

Mehrzad Nadji, economist, is coauthor of an article, "The Spatial Content of the Arrow-Debreu General Equilibrium System," published in the 1985 *Journal of Regional Science*.

Bill Shear, economist, has been named to the Board of Editors of the University of Chicago Center for Urban Studies Monograph Series in Urban and Resource Economics.

Office of the General Counsel

Harry R. Van Cleve, general counsel:

Spoke on "Bid Protests—What Forum To Use" in a panel discussion on "Government Contract Issues of the '80's before the Dayton Chapter of the Federal Bar Association, Apr. 10.

With Richard L. Fogel, director, HRD, discussed GAO's role and coordination with the Congress and executive branch agencies, with participants of the U.S. Chamber of Commerce's Corporate Executive Development Program, WASHINGTON: NOW, Washington, May 20.

Rollee H. Efros, associate general counsel, spoke before the Legal Education Institute, Department of Justice, on "Funding of Federal Government Procurement Activities," June 12.

Seymour Efros, associate general counsel, spoke before a Defense Logistics Agency conference on "GAO's Protest Authority and Regulations," Orlando, FL, May 13.

Richard R. Pierson, associate general counsel, discussed GAO's access to records before the joint annual conference of the American Bar Association, Federal Bar Association, and National Contract Management Association, Los Angeles, Apr. 18.

Ronald Berger, assistant general counsel:

Spoke before the 1985 National Institutes of Health Research Contracting Symposium on "GAO's View on Current Contracting Issues," Fredericksburg, VA, Apr. 24.

Spoke on the Competition in Contracting Act, San Diego, June 20.

Robert H. Hunter, assistant general counsel, spoke before the Judge Advocate General School on "Fiscal Control and the General Accounting Office," Charlottesville, VA, May 23.

Bertram J. Berlin, senior attorney, spoke before the Corps of Engineers Fiscal Law Course, Dallas, Apr. 19.

William T. Woods, attorney-adviser, discussed the role of GAO bid-protest procedures, addressed the content of contracting officer's response, and offered suggestions for minimizing the number of protests, at a workshop sponsored by the Forest Service, Missoula, MT, Apr. 15.

Office of International Audit Organization Liaison

Elaine L. Orr, director, participated in a panel on "Success at the Top" sponsored by the Women's Executive Leadership Program, Washington, June 25.

Joint Financial Management Improvement Program

Doris A. Chew, assistant executive director:

Spoke on JFMIP's Financial Management Initiatives at the Federal Executive Board's Management Improvement Symposium, Dallas, Apr. 16.

Was elected program director for the Montgomery/Prince George's Chapter of the Association of Government Accountants.

Is serving as awards committee chairperson in the Washington Chapter of the Association of Government Accountants for the 1985–86 year.

Kenneth Winne, senior project director, spoke at the "Using Federal Program Administration Techniques and Information" workshop sponsored by the Associa-

tion of Government Accountants, San Diego, June 26.

Office of Organization and Human Development

H. Rosalind Cowie, manager, training branch:

Spoke on "Managing a Major Internal Training Program" at the Changing Scene Conference sponsored by the Office of Personnel Management for federal trainers, Washington, May 15.

Spoke on "Making the Transition From Education to Training" at the National Society for Performance and Instruction's (NSPI's) Jobs in Training Conference, Washington, May 18.

Became president-elect of NSPI's Potomac Chapter.

Rusty Glazer, management development specialist:

Made a presentation at the Third Annual Human Resource Development Conference entitled "Visions of Things To Come," Marymount College, Arlington, VA, May 11.

Coordinated the July program, "Getting Started: Computer-Based Training," for the Washington, D.C., Chapter of the American Society for Training and Development, July 16.

Ellen K. Harvey, counseling psychologist, spoke on the use of the Myers-Briggs Type Indicator for team building before the Legislative Program Evaluation Section of the National Conference of State Legislatures, Washington, May 9.

Jerry Meade, counseling psychologist, presented drug abuse awareness programs to the fifth and sixth grades of the Walker-Jones Elementary School, Mar. 27 and 29 and Apr. 1 and conducted a half-day stress management workshop for the teaching staff, June 26.

Personnel

Felix R. Brandon II, director, participated in the annual meeting of the American Assembly of Collegiate Schools of Business in Orlando, FL, Apr. 14–17.

Stephen J. Kenealy, national recruitment program manager, served as a panelist in the session, "Public Sector Employ-

ment," at the 1985 Mid-Atlantic Placement Association Conference, Allentown, PA, June 3–6.

Dinah Griggsby, college relations officer, has been nominated by the Virginia College Placement Association to participate in an evaluation project, conducted by the Subcommittee To Revise Productivity Standards of the Instructional Programs Advisory Committee of the State Council of Higher Education for Virginia, on student job placement services offered by state-supported colleges and universities.

Barbara Herlong, college relations specialist:

Was elected to the executive board of the National Capital Association for Cooperative Education, June 5.

Will serve as a member of the planning committee for the Third Annual Federal Cooperative Education Conference to be held in March 1986.

Phil Kagan, chief, management-employee relations branch, served as a guest lecturer at the first session of the U.S. Office of Personnel Management's new interagency personnel management training course, "Handling Employee Leave Problems," Apr. 2.

Regional Offices Denver

Frank Sutherland, Marv Hanson, and Mary Moore (Denver); Ed Sanchez (Albuquerque); and Leslie Smith (AFMD) discussed the Bureau of Indian Affairs' budget and allocation system before the tribal governors of the Southern Pueblos Agency, Albuquerque, June 10.

Kansas City

David A. Hanna, regional manager:

Spoke before the Beta Alpha Psi accounting group at the University of Nebraska on "Opportunities in Governmental Accounting and Auditing," Lincoln, Apr. 18.

Spoke before a government accounting class at the University of Nebraska and discussed the objectives of the Federal Managers' Financial Integrity Act and the progress to date in implementing the act, Lincoln, Apr. 19.

Spoke to accounting students at Nebraska Wesleyan University on "Opportunities in Governmental Accounting and Auditing," Lincoln, Apr. 19.

Attended the 18th Annual Governmental Seminar of the Missouri Society of CPAs, Jefferson City, Apr. 25.

Susanne Valdez, executive director, Mid-America Intergovernmental Audit Forum:

Addressed the 18th Annual Governmental Seminar of the Missouri Society of CPAs about the activities of the Forum, Jefferson City, Apr. 25.

Chaired a panel on single-audit implementation at the same seminar, Jefferson City, Apr. 25.

Larry Van Sickle, evaluator, spoke before a public administration class at the University of Missouri on "How To Conduct a Program Results-Type of Review," Columbia, Apr. 12.

Los Angeles

Vic Ell, assistant regional manager:

Lectured before the California State Auditors Association on "Developing and Documenting Audit Findings," Apr. 5.

Spoke at the Graduate School of Public Administration of the University of Southern California on "Toward Greater Public Accountability," Apr. 12.

Taught a graduate course in "Government Problems: Performance Auditing" at the University of Southern California, summer session.

Was appointed to the Ethics Committee of the California State Society of CPAs, June 1.

Frederick Gallegos, manager, management science group:

Spoke at the California State University (Dominguez Hills) Student Accounting Association Banquet on "The Future of EDP Auditing," May 17.

Spoke before the Orange County Association of Government Accountants on the "Certified Information Systems Auditor Program," May 21.

Taught a course in "Advanced EDP Auditing" in the Graduate Business Administration Program at California State Polytechnic University, Pomona, spring quarter.

Received notification from Auerbach, Inc., that an article he coauthored with William Perry, entitled "The Auditor, EDP and the Federal Government," was published in their EDP Audit Services.

Taught two courses for the Western Intergovernmental Audit Forum, "Introduction to EDP Auditing," June 18, and "EDP Auditing—Controls and Techniques," June 19.

Taught, with **David Ireland**, **evaluator**, and **Thomas Kinch**, **evaluator**, a course entitled "Creative Use of Audit Software" for the Western Intergovernmental Audit Forum, June 20.

Taught, with **Ed Nash**, **evaluator**, and **Joanne Parker**, **evaluator**, a course entitled "Microcomputers in Auditing" for the Western Intergovernmental Audit Forum, June 21.

James R. Bancroft, evaluator, conducted a seminar for University of Southern California graduate students on "Microcomputers in Auditing," June 20.

Thomas Kinch, evaluator, received notification from the EDP Auditors Association that he successfully passed the Certified Information Systems Auditor Examination.

Philadelphia

Richard G. Halter, **evaluator**, addressed the Philadelphia Chapter of the Association of Government Accountants on computer matching and information exchange in the federal government, May 3.

San Francisco

Jim Mansheim, assistant regional manager:

Spoke on "GAO and the Single Audit Act" at two Job Training Partnership Act (JTPA) Workshops in Sacramento and Culver City, California, on June 13 and June 20. The workshops were sponsored by the Western Intergovernmental Audit Forum and the National Association of JTPA Auditors.

Was appointed to the California Society of Certified Public Accountants' Committee on Government Accounting and Auditing.

Bob MacLafferty, evaluator, spoke on comparable worth at a regional Federal Womens Program Symposium, San Francisco, Apr. 25.

Gerry Vroomman, computer systems analyst, taught a course on microcomputers and auditing to state and county auditors, San Francisco, Aug. 16. The course was sponsored by the California Association of Auditors for Management.

Seattle

Stephen J. Jue, technical assistance group manager:

Received the Puget Sound Chapter, EDP Auditors Association's Julian J. Malck Award for contributions he made to the Chapter in 1985, Seattle, May.

With R. Jerry Aiken, technical assistance group evaluator, spoke on "Test Driving Lapsize Microcomputers Before Buying" at the spring 1985 Pacific Northwest Intergovernmental Audit Forum, Bellevue, WA, May 9.

William W. Henderson, senior evaluator, and Richard H. Sugimura, evaluator, discussed their work on "Greater Use of Value Engineering Has the Potential To Save Millions on Wastewater Treatment Projects" before the Society of American Value Engineers, Seattle Chapter, June 6.

Frank C. Pasquier, senior evaluator, spoke on "Improved Efforts Needed To Relieve Medicaid From Paying for Services Covered by Private Insurers" at the National Medicaid Third-Party Liability Conference, Kansas City, MO, June 4.

Charles H. Shervey, evaluator, received a certificate of appreciation from the Internal Revenue Service for his participation in the VITA (Volunteer Income Tax Assistance) program, in which he provided free tax-return preparation assistance to the disadvantaged, elderly, and handicapped, Seattle, Apr. 19.

Hugo W. Wolter, Jr., evaluator, spoke to accounting students at the University of Alaska on "GAO's Work, Prospects for Employment, and How To Apply," Anchorage, Apr. 19.

Awards for the Best Articles Published in The GAO Review

Cash awards of \$500 each are presented each year (see GAO Order 1551.1) for the best two articles written by GAO staff and published originally in *The GAO Review*. A non-cash award is available for best article by a member of the Senior Executive Service or candidate pool. Staff through grade GS-15 at the time they submit the article are eligible for these awards. The awards are presented during the GAO Awards Program held annually in Washington, D.C.

The awards are based on recommendations of a panel of judges that is independent of *The GAO Review* staff. The panel of judges is chaired by the director, Office of Policy (OP), who, together with the director, Public Information Office, serves as a permanent panel member. Two other SES-level panel members will be selected for a 1-year term by the director, OP. These selections will be made from among the members of GAO's office-wide awards committee. The judges evaluate articles from the standpoint of their overall excellence, with particular concern for the following:

- Originality of concepts and ideas. (The authors demonstrated imagination and innovation in selecting and developing a topic.)
- Degree of interest to readers. (The article, by virtue of the topic and its treatment, or its relevance to GAO's mission, was of special interest to GAO staff.)
- Quality and effectiveness of written expression. (The article was well organized and written in polished prose.)
- Evidence of individual effort expended.

Statement of Editorial Policy

This publication is prepared primarily for use by the staff of the General Accounting Office (GAO) and outside readers interested in GAO's work. Except where otherwise indicated, the articles and other submissions generally express the views of the authors and do not represent an official position of the General Accounting Office.

The GAO Review's mission is threefold. First, it highlights GAO's work from the perspectives of subject area and methodology. (The Review usually publishes inherently interesting or controversial articles on subjects generated by GAO audit work and articles related to innovative audit techniques.) Second, and equally important, the Review provides GAO staff with a creative outlet for professional enhancement. Third, it acts as historian for significant audit trends, GAO events, and staff activities.

Potential authors and interested readers should refer to GAO Order 1551.1 for details on *Review* policies, procedures, and formats.

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20410.

Documents published by the General Accounting Office can be ordered from GAO Document Distribution (202) 275-6241.

The 1966 GAO Review Liaison Staff

Liaison Staff

Accounting and Auditing Policy Staff

Ted M. Rabun, coordinator

Civil Accounting and Auditing Division

Clare E. Rohrer

Defense Accounting and Auditing Division

Ralph M. Kee

International Operations Division

Francis C. Chlan

European Branch

Joseph DiGiorgio

Far East Branch

Charles H. Roman

Transportation Division

Joseph P. Normile

Field Operations Division

Hyman L. Krieger

Atlanta

Andrew F. McCall

Boston

Charles F. Carr

Chicago Clement K. Preiwisch

Cincinnati

Walter Herrmann

Dallas

Harold C. Barton

Denver

George J. Vonesh

Detroit

Solon P. Darnell

Kansas City

Arnett E. Burrow

Los Angeles

Dominic F. Ruggiero

New Orleans

Ernest Candilora

New York

Kenneth Driscoll

Norfolk

Paul Gaskill

Philadelphia

Horace Y. Rogers

San Francisco

Kenneth A. Pollock

Seattle

Kenneth W. Edmonson

Washington

Michael Nutis

Editor

Jarry S. Havens

Assistant Editor

Carol A. Codori

Features Coordinator

Aberta E. Tropf

Publishing Services

Editing Staff

fudy Oberdick-Merrill Gerard S. Burke Nancy Crothers

Graphics Staff

Carmelo Ciancio Richard Rockburn

Printing Staff

Thomas Kneeland William K. White

Distribution Staff

Ann Morton

Liaison Staff

Office of the Comptroller General

Linda Kemp

Accounting and Financial Management Division

Paul S. Benoit

General Government Division

Diana P. Schultze

Human Resources Division

Joseph Eglin

Information Management and Technology Division

Daniel Long

National Security and International Affairs Division

Irene Robertson

Program Evaluation and Methodology Division

Wallace Cohen

Resources, Community, and Economic Development Division

Dan Spengler

Office of the Chief Economist

Nancy Hamilton

Civil Rights Office

Ryan Yuille

The 1986 GAO Review Staff

Office of Congressional Relations

Chris Brennan

Office of the General Counsel

Marilynn M. Eaton

General Services and Controller

Susan B. Burtner

Office of Information Resources

Management

Rich Devore

Office of Internal Evaluation

Arley M. Whitsell

Office of International Audit

Organization Liaison

Alberta Tropf

Office of Organization and Human Development

Don O'Sullivan

Personnel

Rose Decker-unit staff

Joan Clark-SES staff

Office of Policy

Elizabeth Poel

Office of Program Planning

Daniel L. Johnson

Office of Public Information

Laura Kopelson

Office of Quality Assurance

Michael Speer

Atlanta

William Ball

Boston

Paul Slater, Jr.

Chicago

Stewart Herman

Cincinnati

Elmer Taylor

Dallas

Frank Bizzell

Denver

Pamela K. Tumler

Detroit

Randall Conley

Kansas City

Bernard G. Farrell

Los Angeles

Robert Brown

New York

Eric Johnson

Norfolk

Melissa van Tine

Philadelphia

John Gunner

San Francisco

Gerhard Brostrom

Seattle

Alvin S. Finegold

Washington

Dennis O'Connor

Europe

Ralph Running

Far East

Frank Etze

Latin America

Tom Brogan

