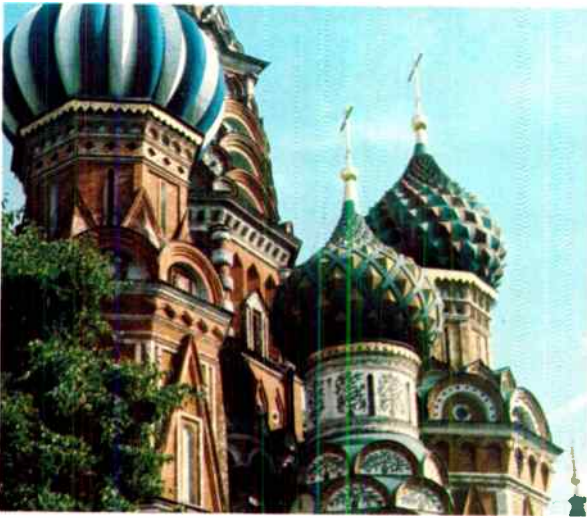
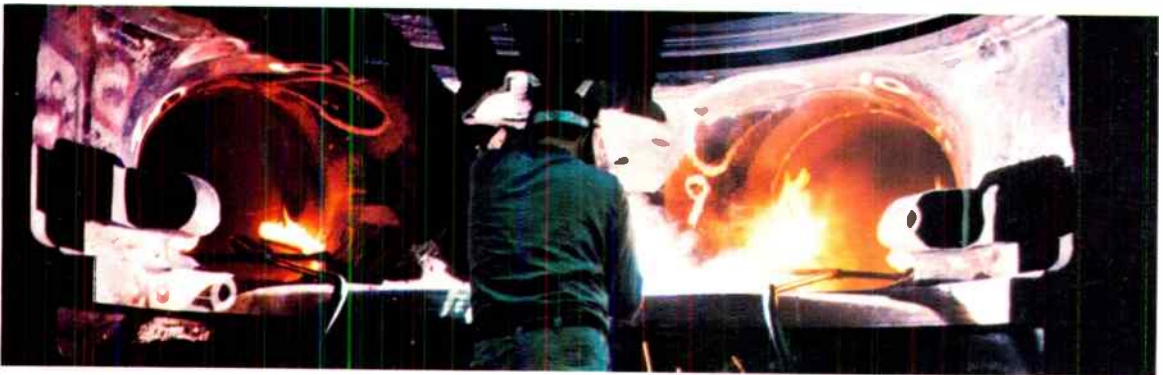

GE's NEW PRESIDENT:
A PROFILE



EXPLORING TRADE
WITH USSR



ST-G: CALLING THE RIGHT SHOTS



VOLUME 49 NUMBER 4

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THE COMPANY

GE'S NEW PRESIDENT: A PROFILE

Monday morning papers on June 26 carried the year's biggest GE story: Fred J. Borch's decision to retire at year-end and the announcement of Reginald H. Jones as the Company's President, preparatory to succeeding Borch as the Company's Chief Executive Officer.

Phones at GE headquarters' Corporate Public Information Operation began to ring. *The New York Times* wanted an interview. So did *Business Week*. So did *Fortune*. So it went.

GE's top officers saw there was nothing for it but to put themselves at the receiving end of reporters' questions and photographers' lenses. They submitted with good grace.

Out of the interviews, the tapings, the photographic sittings, the artists' sketches, began to emerge a rounded picture of this major decision and the men involved in it.

Why an early retirement? was *Business Week's* first question to Chairman Borch who, at 62, could have extended his 41-year GE span considerably longer. Borch's answer: "There are two basic reasons for it. One is Reg's age. Very important. We have a tradition around here that we like to have our Chief Executives have a reasonably long run at the job, like nine or ten years, and if he feels he has things under control before that, why, it's his option... Reg is 54 right now and will be 55 when he takes over, so I think the age is right. He's got a good run ahead of him... The second reason is, as I've told the Board, I've made the kind of contribution that I can make and it's time for new blood, new thinking, new changes."

Illustration at right was drawn by Jennifer Parrett for R. H. Jones profile in *The New York Times*.

Other than the age advantage, what other factors favored the choice of Reg Jones? Press accounts fastened on four main elements:

- **The man himself**—A reporter for Pittsfield's *Berkshire Eagle* found Jones's familiarity with the local situation "surprising" — especially since "his first and last tours of duty here were in the early 1940's when he worked as a traveling auditor." The reporter's surprise was stirred by Jones's "detailed knowledge of the GE installation in Pittsfield," including a full awareness of employees' recent favorable vote on the Company's daywork transition plan.

Long-time associates of the new GE President point out that reporters from other plant-city papers would very probably have found him equally versed in their local situations. As one expressed it: "Reg has a memory that's both capacious and precise. He can readily summon an amazing depth of detail on an astonishing range of subject matter."

The word sketches drawn by reporters invariably dwelt on the great distances he has come in his rise to success. As Gene Smith, writing in the *Times*, described it:

"The son of a steel mill foreman, he was born in England on July 11, 1917, and came to this country when he was 8 years old. The family settled in Trenton, and the father became an electrician, eventually establishing his own business there. Mr. Jones is a graduate of the Wharton School at the University of Pennsylvania... The new G.E. president joined the company's business-training course in 1939 and in 1942 became a traveling auditor, a post he held for eight years."

The words that journalists select to describe Jones form a cluster: "articulate," "persuasive," "soft-spoken," possessing both "humility" and "financial acuity." He's a man "who stands 5 feet 11 and weighs 170 pounds" and who, for relaxation, plays "a little bridge" and tries to get in a round of golf on weekends—"I try at golf; my handicap is 18." He told *Fortune* he relishes an annual vacation family get-together in Canada—"This year there'll be 13 of us," including



NEW PRESIDENT (continued)

two three-year-old grandchildren.

• **His rounded experience** was cited by the press as an important factor in his election. Re-counting his "broad-gauged career," *Business Week* said: "His managerial assignments have included manufacturing, marketing, administration, and finance. In his 33 years with GE, he has worked in the electrical apparatus, air conditioning, construction components, and distribution/sales areas."

Reporters formed the conclusion that although Jones began his career in finance, his later experiences on varied GE managerial assignments now dominate his accounting background. Jones himself confirmed this, as in telling the *Times*, "I've really spent more time in general management than in finance."

The barest outline of his general manager positions documents his claim: he was first named a general manager in 1953 in the apparatus area and in 1956 was named to head the Air Conditioning Division. Two years later he headed up the General Electric Supply Company Division, a responsibility that gave him experience with pooled sales operations. When the Construction Industries Division was formed in 1964 he fulfilled "a unique challenge": he continued to head both divisions until he was named Group Executive of the Components and Construction Materials Group in 1967.

In subsequent moves up, he was elected a Senior VP in 1970, a member of the Board in 1971, and Vice Chairman and member of the CEO on March 1, 1972.

• **His Honeywell success**—Press accounts left no doubt that it was as "the architect of the Honeywell deal" that Reg Jones displayed the full powers of his mind and personality that qualified him for top GE responsibilities.

Business Week described how he spent nine months probing the Information Group, "which had been a huge cash drain on the Company for 14 years," and came to the conclusion that success in the business required a 15% share of the computer market. His task force decided "it would be too costly to achieve such market penetration through internal expansion," yet acquisition was ruled out by the Justice Department. "GE decided, instead, to sell out. Jones headed the negotiations to find a buyer, winding up in a deal with Honeywell Inc." The result: GE will have an important source of cash for almost a decade as it disposes of Honeywell shares. Jones: "The return we will realize from

this will more than offset the total expenditures that General Electric made in the computer business."

Business Week closed its account by picturing business schools as eager to write case histories "on what is considered to be the quintessence of a corporate divestment."

• **His commitment to strategic planning**—The account in *Business Week* said flatly: "He was vaulted into GE's top spot largely because of his intimate identification with 'strategic business planning.'"

While Jones would view this as an overstatement, in view of the contributions made by other GE officers, press interviews invariably wound up exploring what was headlined as "GE's new strategy for faster growth."

Reporters found Jones both an articulate explainer of strategic planning and an ardent advocate—an "extremely significant" move for GE, he said, and one whose impact will be as profound as Ralph Cordiner's decentralization.

What about future changes he will try to make in GE? Jones obviously regarded the question as premature, saying of Chairman Borch: "He calls the shots." But the discussions underscored at least several major emphases:

A continued "people orientation"—this will be as important to him as he believes it to have been with Fred Borch. He wants to be approachable, accessible. He'll respect people who bring up the bad news as well as the good.

Growth faster than the GNP—"We're determined to grow the General Electric Company faster than the growth of the national economy," he told *Fortune* writer Eleanor Tracy. To outgrow the Gross National Product will require clear identification of which businesses to give priority, in terms of allocating resources.

Interest in communication—He is concerned with the lack of communication between business and the public, saying "We've got a tremendous job of convincing people that the American business system is by far the most productive the world has ever known. Whether you're talking about the quality or the quantity of life, it's probably in the best position to deliver. Admittedly it's had its excesses and hasn't always done what people would have wanted of it, but the current breed of businessmen has an awareness of social responsibilities. There is an understanding of the needs of people that has tempered business decisions and actions. We need to put that across." □

Operation Agnes: Countering Catastrophe



Rapid City, S. D.: GE's unique service response to disaster brought technicians from far places to help. Shown, technicians from Denver and Seattle work to restore flood-damaged appliances.



Kingston, Pa.: The store of Ed Rowlands (right), GE servicing dealer in the Wilkes-Barre area for 20 years, was completely inundated by raging waters sweeping through after nearby dike burst.



GE's Jack Clarke (left) and Rowlands survey row upon row of flooded appliances.

"A wall of water 12 feet high and 24 feet wide came through the town at 50 mph," recalls a Rapid City witness to the night of June 9th, when massive flooding in that South Dakota city drowned 235 persons, destroyed 884 homes, and did damage estimated at \$100 million.

Although GE has no facilities in Rapid City, the Company rushed in service teams to aid the flood victims. Among the first on the scene: Al Farrell, manager of the Apparatus Service Shop in Casper, Wyoming, to work with the Black Hills Power and Light Company in restoring electric service to the area; and Jack Clarke, manager of Customer and Public Relations at Louisville, who organized a Major Appliance Business Group team from Louisville, Denver, and Seattle to help owners of the more than 4,000 damaged homes to repair salvageable appliances and equipment.

But the Rapid City disaster was only a forerunner of even greater disaster, Clarke told GE zone and district managers gathered two weeks later to mobilize anew, this time in response to Hurricane Agnes, which produced floods that damaged more than 110,000 homes in 11 Northeast and Middle Atlantic states.

GE swung into action, making available more than 5,000 engineers and technicians from its extensive field service, apparatus service, and factory service and distribution networks for round-the-clock repair of vital municipal facilities, industrial plants, and household appliances. Priority went to repairing stand-by equipment for hospitals, sewage treatment plants, water pumping stations, and power stations.

Hundreds of GE employees from components in the flood-stricken area served as volunteers—helping police and firemen, operating ham radios, and contributing food and clothing. GE trucks delivered damaged equipment to emergency centers servicing equipment for GE and Hotpoint dealers and their customers.

The Company contributed special GE Emergency Aid Plan loans or grants to employees affected by the floods and—as in Rapid City—granted cash rebates to customers replacing flood-damaged General Electric and Hotpoint products, as well as extending credit to GE dealers.

GE's Operation Agnes: a total Company effort to counter catastrophe. ■

GE in Sokolniki Park: Exploring trade with the USSR

The exhibit looked like many another that GE regularly sponsors at industrial shows and trade fairs, housed in a separate glass-walled building emblazoned with the Monogram.

But this time there were three significant differences.

First, the location was Sokolniki Park, a five-minute ride on an ultramodern subway from Red Square at the Center of Moscow, in the USSR.

Second, it was truly multinational in its scope—with products from the U.S. and Europe, and GE people from Paris, Geneva, Frankfurt, and Milan, as well as Louisville, New York, and Roanoke. For once, the U.S. was in the minority.

Third, since its intent was to focus on the span of GE's technological strengths, the range of products was unusually large—from home appliances and lamps to industrial controls, plastics, outdoor lighting, and a special display on R & D.

The exhibit in Moscow, from July 12-26, was part of Elektro '72, an electrical industry trade fair organized by the USSR Chamber of Commerce (roughly comparable to the U.S. Department of Commerce). GE's participation was at

the specific invitation of the Ministry of Electro-technical Industries.

Individual GE products have previously been shown in the USSR and other parts of Eastern Europe, both in U.S. government-sponsored exhibits and in small product displays. Elektro '72, however, was a broader and more comprehensive participation, prompted by the growing understanding in US-USSR relations symbolized by the recent U.S. summit meetings with Russian leaders.

What's GE's theory of the case, in looking toward trade with the Soviets?

Edward E. Hood, VP and Group Executive of the International Group, comments: "First, let's understand that what we're talking about are products and technologies available from our competitors in many industrialized nations, although obviously we feel ours are the best buy. These are all non-strategic goods, and any sale or agreement would be within U.S. government guidelines. And we're up against worldwide competitors. One of the first things you notice in Moscow hotels is the number of Japanese and Western European businessmen there to sell their goods and services to the Soviet market. We want to win a share of this business, just as in any other market."

Hood added: "I personally feel that carefully developed and mutually beneficial trading links with the Russians can accomplish a great deal toward bridging the gaps between our nations, and building mutual trust and respect."

On display from the U.S. were appliances and air conditioners, water coolers, lamps and fixtures, controls from Roanoke, small appliances, and semiconductors. From Belgium there were



GE's exhibit building in Moscow... a focal point of Soviets' interest.

Lexan® and Noryl® plastics; from Germany and Italy, operating machine tools with controls from the Italian affiliate, COGENEL, plus a variety of COGENEL motor controls and components. GE's worldwide service capability was visible in an Installation and Service Engineering team from Frankfurt who earned the Soviets' respect for their effectiveness in installing and maintaining the complex of electrical services needed.

Just as important as the exhibit was a series of technical presentations made by GE experts on subjects such as steel and cement mill automation, air conditioning, and industrial controls. These presentations were attended by Soviet engineers selected by the Electrotechnical Ministry.

The point of the exhibit as Ed Hood puts it: "Our participation in Elektro '72 is a step toward identifying with the USSR our areas of mutual interest. We have discussed a broad range of products, mainly in the industrial and consumer fields. We see prospects for a variety of activities that include technical assistance, licensing, and exports to the Soviet Union. But while a number of possibilities are under consideration, we haven't reached any conclusions."

Other non-Communist countries, particularly Japan and the U.S.'s European allies, have been busily expanding their trade with Eastern Europe, building a volume of sales that far exceeds that for the U.S. "What this means," Hood says, "is that the benefits of this trade—in terms of jobs for GE people, technological exchanges, and income for share owners—have been going elsewhere."

For U.S. industry overall the trade potential is not tremendous in the near term. "We can expect a considerable rise above the present \$200-million volume in US-USSR trading," Hood says. "And certainly the Soviets are highly interested in many phases of U.S. commercial technology. But there are major problems in financing and other areas. No one should expect the present trickle of trade to burst into a flood overnight."

From the experience at Elektro '72, however, "we know that the Russians are serious about buying our products and technology," Hood concludes, "and they are an important customer for the future. And there's not one of us who doesn't believe that at least a small contribution is being made toward better understanding and a healthier economic interdependence." ❧

A new way to care for product stepchildren



Technical Ventures' BenDaniel.

What's to be done when someone in the Company comes up with a good idea—but one that simply doesn't fit in with GE plans or that, when pursued, doesn't qualify as an appropriate addition to the Company's product lines?

The traditional answer: liquidate. But it can be an answer that discourages good people and that may not give the idea or product a fair shake. GE has been looking for other answers.

One was outlined in the March-April *Monogram*: Technology Marketing Operation's program for selling off or licensing surplus patents or other technological properties.

Now another approach has surfaced, after a year's trial. It's called the Technical Ventures Operation, sponsored by the R & D Center in Schenectady. David J. BenDaniel, TVO's manager, helps to form external companies to exploit technical developments that GE itself doesn't want any longer to pursue. To these new ventures General Electric contributes not cash but assets such as patents, equipment, and inventory, in return for which the Company receives equity, a percentage of ownership, in the new business.

An interesting twist is that many of the GE people involved in developing a technology are being given the opportunity to go with the new enterprise. BenDaniel explains: "Certain emerging areas of technology call for the establishment of unique kinds of companies—initially relatively small—that can react quickly to busi-

STEPCHILDREN (continued)

ness situations and opportunities. It's TVO's purpose to match certain GE products, processes, and ideas with employees who are eager to pit themselves against the demanding task of starting up a new technical company. In other words, our program represents a challenging element of growth potential, not only for GE profits but for GE people."

TVO, in operation for over a year, established its first spin-off venture with the formation of the Intermagnetics General Corporation (IGC) last June. IGC took over the responsibility for production, distribution, and sales of all superconducting magnets, materials, and systems formerly handled by GE's Superconductive Products Operation. Carl Rosner, former manager of SPO, is now president of Intermagnetics General, and all key employees of the former GE operation transferred to the new Company.

The second venture involved the formation of Community Information Systems. The Company relies on GE-developed cable-TV concepts and hardware. It will, it is hoped, provide such innovative community services as at-home education, entertainment, armchair shopping, medical monitoring, and stock market quotations.

The most recent of TVO's spin-off businesses is Ferrodyne Corporation, which emerged from the Ferrous Die Casting Project of the Lamp Metals and Components Department. The new venture produces ferrous die castings for industry under GE patents transferred to Ferrodyne. The company received patents and equipment but no funds from GE; GE owns 40 percent of Ferrodyne's common stock.

Of Ferrodyne, BenDaniel notes that "here was a worthy business idea that was being closed down by GE—the Company just couldn't find a 'fit' for this radically new metal-working process. Our thought was that perhaps a casting business itself could succeed and point the way for the industry. By working to set up a new company and keep the development team intact, General Electric is giving the technology a new chance, presenting this GE team an entrepreneurial opportunity, and enabling the Company itself to share in future rewards if steel die-casting becomes successful."

BenDaniel's objective for TVO is to spin-off "a few" new stepchild ventures a year. ❏

Denver information meeting: they wrote the book

General Electric's 1972 Share Owners' Information Meeting will be held October 10 in Denver, Colorado. The meeting's location: the Phipps Auditorium at the Denver Museum of Natural History in City Park on Colorado Blvd. The Denver meeting will mark the sixth year that General Electric has held an additional share owner meeting devoted primarily to management reports on the Company's business, and offering share owners the opportunity to have written questions answered by a panel of Company officers.

Announcement of these facts had a special meaning for two members of General Electric Broadcasting's KOA radio/TV station in Denver. Bill Barker and Jackie Lewin of the KOA staff have collaborated on *Denver!* a book that's been described as "necessary reading for those who know Denver, think they know Denver, want to know Denver, or ought to know Denver."



Jackie Lewin

Bill Barker

The book offers "a sprightly tour of from whence Denver came and to whence she seems to be going."

Its two authors are described on the book's fly-leaf: "Denver-born Bill Barker and Jackie Lewin team up to create the Barker shows, heard nightly on KOA radio and seen weekends on KOA-TV. Mr. Barker, after serving tours of duty in Hollywood (as set designer, script writer and cartoonist), returned to his home town where for ten years he wrote his popular column in the *Denver Post*. (A selection of these pieces appeared in his book, *The Wayward West*.) Free-lance author and former book critic Mrs. Lewin selects Barker's guests and serves, he says, as his brains and conscience. She's the wife of a leading neurologist, a vigorous mother and an authority on all things Denverian." ❏

Computer pooling: “Now is the time”

General Electric, believed to be second only to the U.S. Government as a user of information processing hardware, has reached a major turning point in its computer philosophy.

A decision has been reached at the Corporate Policy Committee level to move on a systematic basis toward the pooling of the Company's general purpose computer resources.

GE's targets are rigorous, VP and Comptroller Willis E. Forsyth told the *Monogram* recently. The objectives have been set by a Review Board of product division general managers chaired by VP Leonard C. Maier. These objectives call for the Company “to proceed to reduce the number of computer locations from over a hundred to a total of 11 to 14 during the next five years.”

Moreover, Forsyth notes, “the plan will call for the computing centers to operate under a set of standards which will enable us, if it proves desirable later, to go the next step of merging the centers down to four in the 1980's.”

What's behind the change? Forsyth spelled out three main advantages:

- Dollar savings—“Our best estimate is that by carrying through this program the Company can reduce yearly information processing costs by \$25 million a year by 1977 and avoid \$33 million in computer investment over the next five years.

- Greater processing capacity—“Projections show that GE computer needs will double by 1977. Pooling of computer usage will aid us in going to larger and more sophisticated machines capable of handling this greater load more efficiently.”

- Big units for everybody—“Development of a GE regional computer network will enable the smallest operation to tie into the most advanced and sophisticated processing capability.”

He points out, however, that in order to make sure that operations are given the maximum flexibility under such a consolidation, two important approaches are planned:

- “This is a *hardware* pooling, not an information systems pooling.” Each GE operation will retain and develop its own unique systems.

- “Except for the centers managed by Corporate Facilities Services, the regional centers will be managed by *field* operations.”

Playing a key role in the coordination plan will be a Corporate Computer Council, including representatives from each Group. “The Council will provide essential inputs, in terms of identifying particular trouble spots that require special attention,” Forsyth explains, “and will disseminate to the various Groups the decisions reached at the corporate level.”

An immediate timing goal is to establish, by the end of 1972, a master plan for getting the job done. To execute this new Corporate thrust, two new corporate-level components report to the comptroller:

Corporate Computer Resources and Consulting Operation, under Anthony K. Manero, will handle such technical aspects as determining computer needs, selecting the equipment and regional center locations, and determining the standards under which they will operate.

Corporate Computer Accounting Operation, under Raymond F. Pettit, will handle the administrative and economic aspects such as development of financial controls and measurements, preparation of budgets and appropriation requests, and establishment of cost systems and billing rates.

Forsyth concluded with the thought that “today operations throughout the Company are relying heavily on a common family of computers and if we are ever going to be able to reap the benefits of consolidation without having to overcome great hardware compatibility problems that we would face from the use of different families of computers, *now is the time!*”



Planning computer pooling, Comptroller Forsyth (center) meets with new managers Manero (left) and Pettit. □

Election '72:

no time for
indifference



*They have such refined and delicate palates
That they can discover no one worthy of
their ballots,
And then when someone terrible gets elected
They say, "There, that's just what I expected!"*
—Ogden Nash

Miami conventions and Presidential candidates' maneuvers shouldn't be allowed to mask the other important decisions facing voters this year. As Steve Galpin (above), manager of GE's Community and Government Relations Operation, says it: "A lot more than the Presidency is at stake. Specifically, up for election on November 7 are all 435 seats in the U.S. House of Representatives, 33 U.S. Senate seats, 18 governorships, all or some of the seats in 43 state legislatures, and countless local offices."

It adds up to being no occasion for "refined and delicate palates," no time for indifference.

Further, powerful new forces are at work to reshape political strategies this year.

One is a prodigious influx of new voters. The Voting Rights Act of 1970 lowered the voting age to 18 for Presidential and Congressional elections and reduced residency requirements for Presidential elections to 30 days. Next, the 26th Amendment to the Constitution, ratified in 1971, made 18 the legal voting age in all elections. Finally, a Supreme Court ruling in March of this year shortened residency requirements to 30 days for all elections, although it is up to the individual states to comply.

"We could be on the way to a record voter

turnout in November," Galpin says. "The Census Bureau estimates that 25 million persons—11 million 18-to-20-year-olds now given the vote and another 14 million who turned 21 after the 1968 elections—have been added to the rolls of eligible registrants, an 18% increase. With the other 5 million or so who will benefit from the easier residency and absentee ballot conditions, there could be as many as 30 million new Presidential voters this year. We estimate that more than 40,000 GE people will themselves be able to vote for the first time."

Another important change is in political giving. Subscribing to the Will Rogers observation that "politics has got so expensive that it takes lots of money to even get beat with," the Revenue Act of 1971 has reduced the cost of small donations of money to candidates or parties for election campaigns at all levels of government—federal, state, and local. For the first time, political contributions of up to \$50 (\$100 for a married couple filing a joint return) are an approved deduction that can be applied on federal personal income tax returns.

It's possible to do better, according to Galpin, by taking the *tax credit* route, an alternate provision of the law. "On political contributions adding up to \$25 or less, you can take half as a tax credit," he explains. "If, for example, you give \$25, you can take \$12.50 off your tax bill when you file your 1972 federal tax return. Married taxpayers filing jointly can take as a tax credit half of their political contributions that total \$50 or less. If the federal tax rate for your income bracket is under 50%—as it is for most of us—and if you give no more than \$25 (\$50 for a couple), the tax credit is a better deal than the tax deduction." In either case, the IRS will require a receipt or cancelled check as verification of the contribution.

Leading the effort to acquaint GE people with the new guidelines is a Company-wide program now in full swing at most domestic locations. Called "Constructive Citizenship," the program was begun in 1964 to encourage employee participation in public affairs and is now in its third Presidential campaign. For 1972, four appropriate forms of political activity are stressed: registering to vote; working for candidates; giving money to campaigns; and voting on Election Day.

Register, work, give, vote—it's the GE voters' formula for electing people "worthy of their ballots." ❧

CORPORATE BRIEFS

GE wins awards: The Shreveport Plant of Commercial Distribution Transformer Products Department has received the American Legion's "Employer of the Year Award" for Louisiana in recognition of its leadership role in hiring veterans. The new plant won out over older established Louisiana businesses by hiring 191 vets in 1971, 45% of all new employees brought on board last year. Vietnam veterans alone numbered 148.

The Lighting System's Business Department at Hendersonville has accepted for the Company an award of honor from the Agricultural and Technical State University at Greensboro, North Carolina. The school, a predominately black institution, honored GE and several other firms for "generous support, an endowed chair, scholarship aid and other direct benefits through the University Industry Cluster program sponsored by the National Association of Business."



Strategic planning: Small group discussions like this one punctuated the two-day Strategic Planning Conference held in mid-June at GE's Management Development Institute, as 85 of the Company's top strategic planners met to compare notes and wrestle with the finer points of planning. Vice Chairman Dave Dance set the theme: "Strategic planning is not a 'tomorrow' concept but one for right now that is absolutely critical to the Company's continued growth and success. It's here to stay."

A state-wide solid waste system for Connecticut is the subject of a special study to be conducted by General Electric. GE was chosen from among 22 organizations that submitted pro-

posals for a comprehensive system for disposing of garbage, trash, and other solid wastes, with maximum recovery of materials and energy. The system-design phase will be spearheaded by the Research and Development Center. The project team will draw upon the skills of Companywide departments, and GE's Space Division has been chosen to implement a possible subsequent operational phase.

The project team includes the State's Department of Environmental Protection, Northeast Utilities, and the Southern Connecticut Gas Company.



College recruiting: Visits by GE recruiting teams to some 300 colleges and universities are bringing in a total of new college graduates that is expected to rise above last year's 1,100. Recruiters are also winning high marks in terms of quality. Example: of those employed for the Financial Management, Technical Marketing, Field Engineering, and Manufacturing Management programs, three-fourths finished in the top quartile of their class. Representative of the newcomers: Ed Phifer (center above), who has joined GE's Nuclear Energy Division at San Jose. He was Texas A&M's top 1972 graduate, with a perfect 4.0 grade point average. With Phifer: (left) Dr. D. M. Simmang, head of Mechanical Engineering at the University, and James L. D'Acosta, Corporate Education Services' Southwestern Region representative.

GE TV series scheduled: "International Performance"—the new series of public broadcasting TV shows supported by GE—will start on October 5 and continue weekly through December 21. Originally produced by the French national TV network, the programs will include Stravinsky's "Firebird" ballet, Wagner's "Tristan and Isolde," Oscar Wilde's "Salome," and other great performances of music and dance. □

THE BUSINESSES

ST-G: the importance of calling the right shots

A casual observer, noting the past decade's unprecedented surge in electric power demand, might easily conclude that the Steam Turbine-Generator Products Division's current growth and its position atop the heap were simply the inevitable results of a rapidly growing market.

From talks with some of the people closest to the business, however, quite a different picture emerges. It's conceivable that ST-G might not even be around if Division people, present and past, hadn't faced up to some tough problems and called the right shots.

The Company's large steam turbine-generator business in 1961 shipped the 100-millionth kilowatt produced during its first 58 years of operation. Apart from that milestone, however, future prospects at that time were bleak. Nagging the business: under-utilized manufacturing capacity; aging production facilities, methods, and processes; rising costs and falling prices; foreign competition and sagging employment. All in all it made for a dismal investment climate.



Craig: "ST-G's present growth isn't just automatic; the way was paved when ST-G managers called the 'right' decisions on three main fronts."

Add low orders to the top of the list of that period's threats, asserts Donald E. Craig, Vice President and Division general manager of ST-G. Craig, who took the reins of the then Turbine Division in 1961, says that prior to the 60's, peak order years had come in 1946, '50, and '56. "The expected high order rate that would have continued the cycle in 1961 or '62 didn't materialize, and because of our under-utilized capacity, we were hard pressed by the squeeze on prices and its disastrous effect on profit margins. We could well have gone out of the business—as Allis Chalmers did—and created a vacuum in our service to the nation."

What, then, has turned the business picture around in barely a decade and led to ST-G's booming growth? Craig sees three actions as standing out.

BOOST FOR R&D EFFORT

One was the decision, not only to maintain a high level of research and development, but to greatly accelerate it, a courageous move in view of the depressed market. It was reasoned that in the fast-moving days to come, it would be performance—reliability, availability, and efficiency—that would take first place in the customers' estimation of value. Wouldn't the customer-oriented supplier that could best fill utilities' need to generate power reliably at the lowest possible cost for a long period of time be most likely to get the nod?

Thus, the Product Development Laboratory, established in the mid-50's to supplement the flow of basic information from the Company's Research and Development Center, was followed less than eight years later by a new Materials and Processes Laboratory, where 400 sci-

entists, engineers, and technicians have rolled back frontiers of turbine-generator technology in such fields as chemistry, insulation, metallurgy, and new materials.

Further enhancement of the Division's R&D effort came just last January with the dedication of the \$7½-million computerized Aerodynamic Development Laboratory, an up-to-the-minute refinement of the "air shack" of the 1920's, to develop and test concepts associated with the critical steam paths and efficiency of turbines.

Charles W. Elston, manager of ST-G's Business Planning Operation, points out the nature of the engineering task facing designers of tur-

turbine-generators. "A 1200 megawatt nuclear turbine-generator will be over 200 feet long and 50 feet wide, a complex assembly of highly stressed parts and components made of specially formulated materials and expected to function with precision for a lifetime. A modern turbine-generator cannot even be assembled, let alone loaded and tested as a complete unit, except in the power plant of which it will be a part. When

the capacity on the country's 10 most efficient power generating systems is GE equipment."

ST-G's research and development effort has, therefore, led the way to the twin objectives of real technical progress and customer esteem. The Division is able to offer machines at about the same cost per kilowatt as the turbine-generators of a decade ago, even though the total cost of the overall power plant has about doubled.



Elston: "By accelerating R&D in a lean time, ST-G gained technical advantages that are the base of today's leadership."

you consider that the equipment we're designing today couldn't even have been built 10 years ago, you can see that the importance of our R&D effort can't be overemphasized."

There are tangible indicators of success. Development work, for example, on the problem of heat dissipation in generators led to the principal technological breakthrough in generator design—liquid conductor cooling—and has given GE generators a commanding lead over the competition, which came much later to the decision that gas cooling was being outgrown. "The GE generators now in service have logged a reliability record of 99.8 percent, best in the world, largely because of our continuing exploration of phenomena years in advance of their application."

As utility systems have grown, ST-G's progress in increasing unit ratings has kept pace with their requirements. "Our 1100 megawatt fossil turbine installed in TVA's Paradise Plant is the world's largest turbine-generator in successful operation today," Elston says, "and we're continuing to work toward the even larger ratings for both fossil and nuclear installations that will be needed in the future."

Because of rising fuel costs, efficiency, too, is vital to electric utilities, and General Electric turbines lead the field. Elston: "70 percent of

"MAKE SCHENECTADY COMPETITIVE!"

That was the rallying cry for the 1964 program that constituted the second step in ST-G's ascension from the gloom of a decade ago.

An outmoded, out-of-control piecework system had so inflated manufacturing costs that the investments necessary to grow the business were stifled and employment figures skidded.

George B. Cox, general manager of the Turbine Department, recalls the campaign: "Piecework and other cost-inflationary factors were killing us, and GE-Schenectady was in danger of losing at least 5,000 of its 19,000 people. It isn't farfetched to suggest that Schenectady was on the verge of ceasing to exist as a viable manufacturing center."

The choices were clear: move out or stay and fix it. "Don Craig decided to take his case to the people," says Cox. "His message, to both the hourly force and the community, was straightforward: eliminate the outmoded piecework, and we're willing to make the capital investments here that can help make this a going business and Schenectady a prosperous community."

The idea caught on, and piecework was eliminated, but productivity, instead of rising, initially declined. "Daywork requires more supervision and support services, and we weren't



Cox: "The 'Make Schenectady Competitive' campaign turned out to be right for the community and for the business."

(continued on page 14)

ST-G (continued)

really equipped to handle the transition in the beginning," Cox admits, "but we had resolved to see it through, and we did."

The "Make Schenectady Competitive" campaign ultimately helped to do just that. Today, General Electric employs about 28,000 at Schenectady, up 45% from the MSC days, and the spirit both in the plant and in the community is confident.

NEW PLANTS AND MACHINE TOOLS

The third key action was to fulfill the Company's commitment, made during the MSC campaign, to step up investments in the business and community. With a massive infusion of capital, ST-G embarked on a mammoth program of expansion and renovation of its Schenectady plant. The addition of modern machine tools and new manufacturing methods helped to further pare production costs and made the business better able to compete. As orders flowed in, more jobs were created, and Schenectady began to hum again.

The investments have not slackened, and other communities have joined Schenectady in

The Division's spirit of optimism is expressed in more than bricks and mortar, in the opinion of Generator Department general manager N.J. Boraski. "We're continuing to make a tremendous investment in the best of large machine tools and numerical controls, which not only contribute to extremely accurate workmanship and quality, but which have helped to make us the lowest-cost producer in the world, able to compete with firms whose labor rates are a fourth those in Schenectady."

Boraski points up the high investment risks in the long-cycle business: "Today, we're putting in machine tools for units we'll be building five years from now and installing 10 years from now." The Division's greatest strength: "people," Boraski says. "They're personally involved in quality, dedicated to reliability, and responsive to customer concerns and problems."

Customers, in turn, have been responsive to ST-G's strides in technological innovation and equipment performance. Shipment and service records set by the Division one year have been broken the next, the order level has been in the vicinity of 20 million kilowatts four out of



Boraski: "ST-G is the world's lowest-cost producer—a position earned by tremendous investment in the best production capability."

experiencing the new dynamism of the business. Added since 1968:

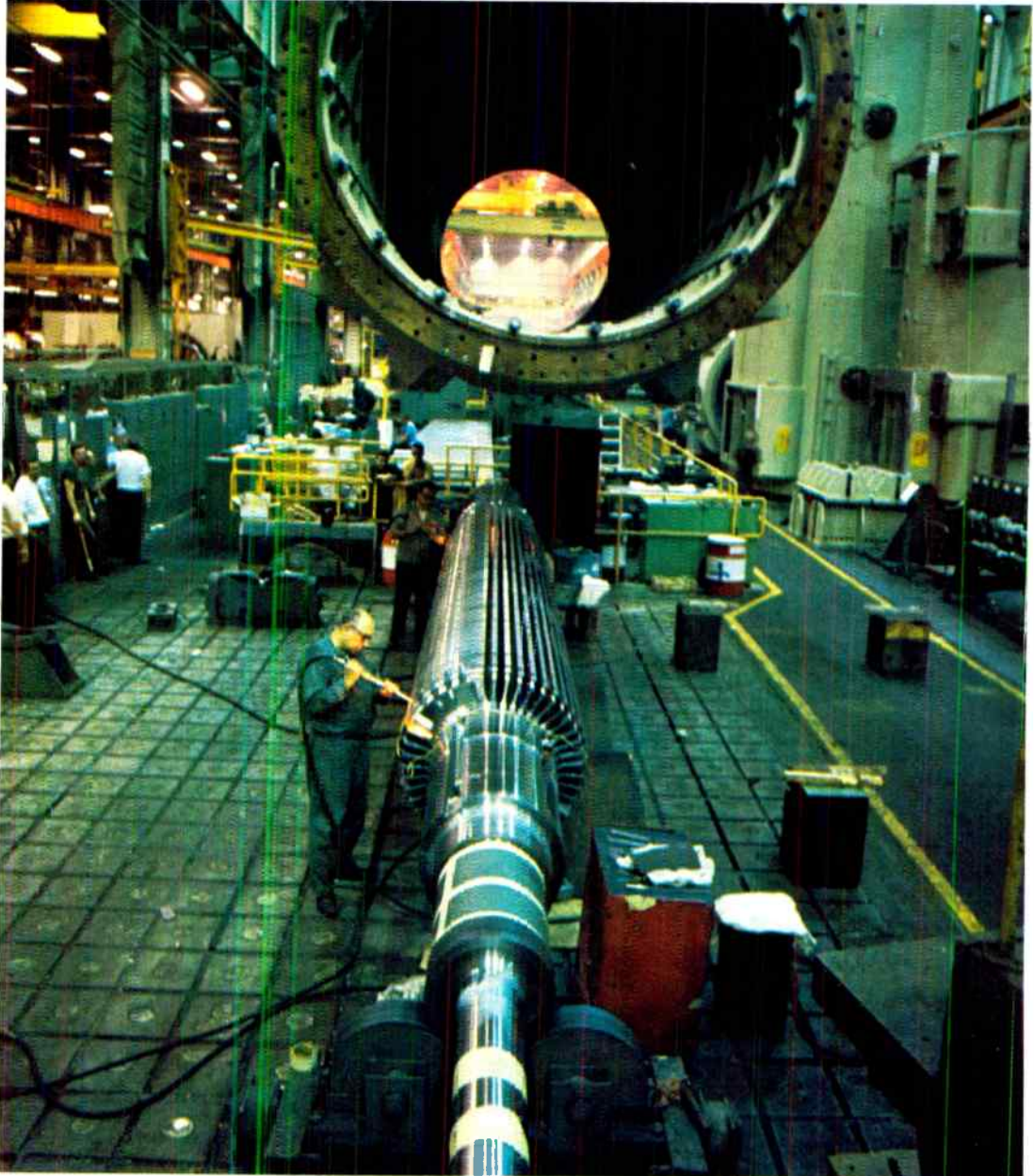
- New three-building turbine plant at Charleston, S.C., for making large hoods, inner casings, and low-pressure turbine parts. Among its modern machine tools is an 85-ft. planer mill.
- Leased facilities in Schenectady, consisting of 750,000 square feet in six renovated buildings left vacant by the demise of the American Locomotive Co., for turbine and generator assemblies.
- New generator frame plant at Merrimack, N.H., to be fully operational by late next year. Machine tools now being installed, including a 150-ft. boring mill, will be "cutting chips" by Fall.
- New Test and Balance Facility, to be operational in early 1974, now going up at Schenectady.

the last six years, and manufacturing backlogs have risen to well over 90 million kilowatts. And, almost as a planned finale to the 1961-71 decade of revitalization, ST-G shipped its 200-millionth kilowatt last January, duplicating in just 10 years its earlier accomplishment that had taken 58 years.

Speaking to electric utility industry representatives at the Schenectady ceremony marking the achievement, Don Craig said, "It may be appropriate to think of the viability of the large steam turbine-generator business and its ability to meet your industry's needs in terms of a three-legged stool. One leg is *performance*, one leg is *research and development*, and one leg is *volume*. If any leg of this stool is too short, the stool becomes unstable, and the other legs will inevitably be shortened."

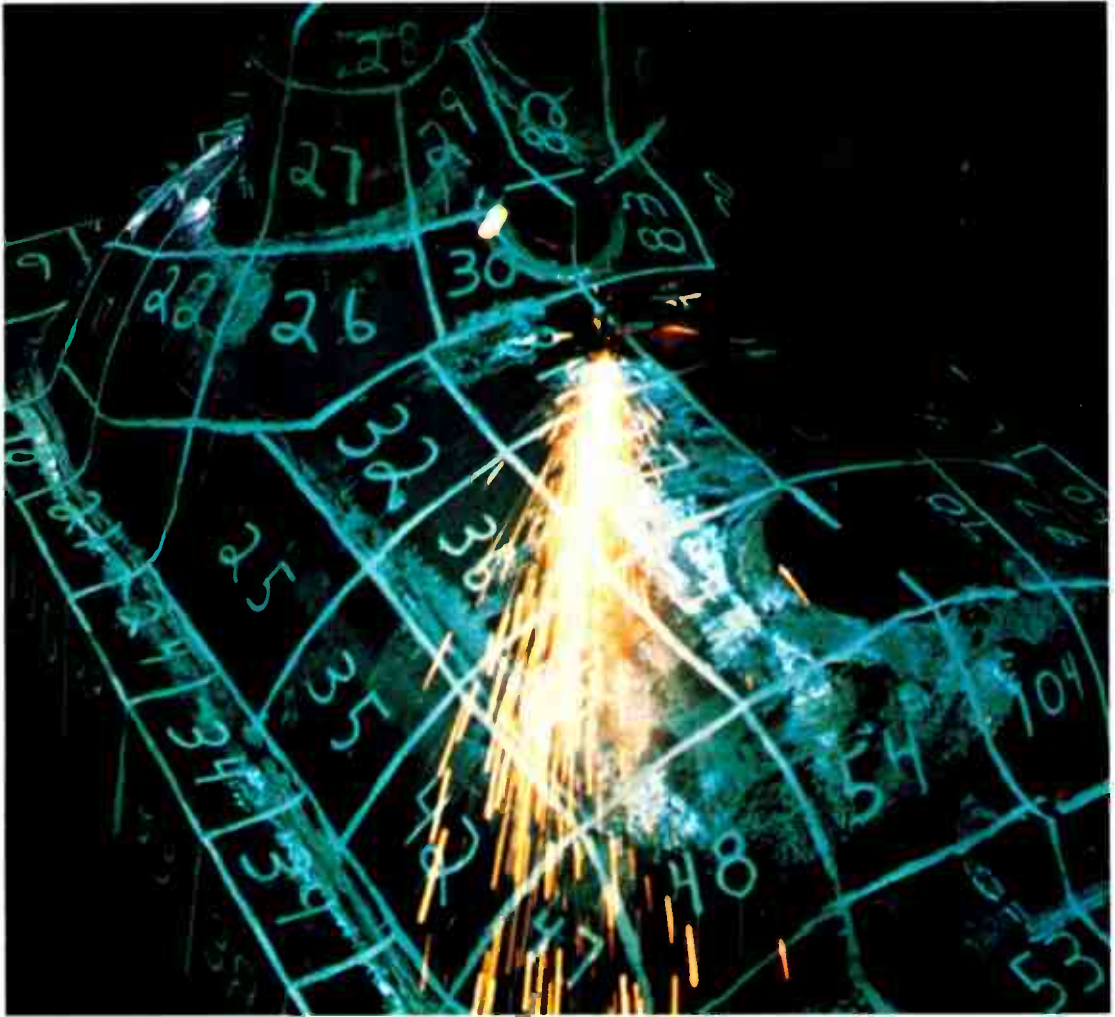
The people of ST-G are determined to hold that stool steady as a rock.

A POWER PORTFOLIO: As part of its coverage of the Steam Turbine-Generator Products Division, the Monogram commissioned professional photographer Arthur Schatz to record the impressions, verbal and photographic, of his first visit to ST-G's Schenectady plant. Schatz, on contract with Life magazine for the past ten years to cover stories in many spots around the world, supplied the photos and words on this and the following two pages, as well as the ST-G cover photo.



"My first impression was one of awe: everything was so mammoth, so confusing—posing the staggering problem of how to put onto a one-inch-square piece of film a plant that's over one mile square. After a four-hour walkthrough, though, I saw order taking the place of confusion: everything is organized to flow logically, step by step. So I followed the process stage-by-stage and concentrated on selecting the visual high spots—and soon felt much more at home."

(continued on page 16)



"A turbine shell, marked in numbered squares to guide grinding operations, reminded me of a huge turtle."



"They do things on a big scale in this business. The Product Development Lab even has this permanent turbine just to test turbine components."

"Of the advanced machine tools at work, this one intrigued me most: a vertical boring mill shaping metal the way a potter's wheel shapes clay."



"I saw this picture and that at upper right as a pair—the one showing the huge scale of a generator, the other the attention to fine tolerances."

"Photographers always like odd lighting, especially when it's functional as it is here, where the light shows up flaws otherwise invisible."



"Craftsmanship—that's what this scene of an ST-G employee intent on a high-pressure steam turbine bucket assembly said to me." ▯



FOR FINANCIAL ANALYSTS, A "CHEERIE ERIE"



Erie visit gave financial analysts the chance to experience the good news that GE is shaping for commuters. They viewed prototype cars that logged over 10,000 test miles before first production cars were built.



Day's activities included an eight-mile preview ride on new high-speed commuter cars for the New Haven.

At Transportation Technology Center, analysts heard about GE experiments with linear induction motors as power sources for future high-speed travel.

as Industrial Group reports its growth prospects

GE's Investor Relations staff annually organizes a day when analysts from the financial and investment community can review a major GE business sector with its managers. Here are a reporter's jottings from the June 7 visit by over 100 analysts to Erie, Pa., hosted by the Industrial Group:

Early morning tours gave analysts a partial glimpse of the four new facilities brought on line in the last year by Transportation Systems Division... views of production of new transit cars for New York City commuters... close-ups of the complex "electrical content" that accounts for up to 60% of cars' cost, explaining why GE reversed its traditional role to become prime contractor rather than components supplier.

After the tour, analysts heard VP and Group Exec Clem Sutton extend "cheerier Erie" welcome... overview a "mix of businesses" that together would rank in size "around 110th or 120th on *Fortune's* famous 500 list"... introduce presentations by VPs and Division GMs Bryce Wyman, Dick Gifford, George Feeney, Lou Wengert, Bruce Roberts, Wells Corbin, Pete Van Dyck.

Main points left by Wyman's review of mass transit business: "Nothing can stop an idea whose time has come"... fueled by U.S. reactions against today's "lopsided auto-oriented transportation policy"... with locomotives and other transpo products swelling a total market that will see the U.S. over next 20 years doubling the capability built up over 200 years.

Communications equipment was seen by Sutton as "headed for a record year in orders and sales" and as "set to resume its long-term 10-12% annual growth rate." Gifford detailed changes that have made it possible for General Electric to move from participating only in two relatively small segments to a diversified substantial business.

Computer time sharing is "now back on its 30%-per-year growth rate, after a flat 1971" (Sutton)... a business seen by Feeney as in great flux, resulting from trends away from decentralized fragmented computer use to


greater centralization... and from time-sharing alone to "networking" that coordinates geographically dispersed activities. Analysts got the point that "GE is number one in this business and growing faster than the market."

The urgent need for increased productivity is the force that will pull industrial automation equipment out of the doldrums it's been in for the last couple of years, Wengert reported. Adding to the U.S. challenge is the over-age, obsolescent status of U.S. production, with 65% of U.S. machine tools over 10 years old... a challenge to be met by accelerated investment in automation systems, producing a total market that "will grow at an average rate of 7 to 10% annually over the next five years."

AC motors, described by Sutton as "historically a leading indicator to general economic recovery," have begun "slowly picking up in the small sizes." GE's success in the business, Roberts commented, is keyed to supplying some 10,000 motor models to meet varying customer needs... it's a market due to rise 6½% annually through 1977.

Corbin's rapid-fire picture of Industrial Sales pointed up pooled sales efforts for eight of ten GE Groups... seven sales regions... thirty-six sales districts supported by HQ staff of top application engineers and professional marketers... offices in nearly 100 cities... a long, strong sales arm for GE industrial operations.

Servicing industrial products, Van Dyck added, puts GE in the midst of the service industry—"the largest and fastest-growing segment of the economy"... an industry to which the Apparatus Service Business Division brings "the largest service organization for industrial equipment in the world"—and a real asset to the country in times of emergency (see flood story, page 5).

Sutton summed up: "Sales of the Industrial Group will double in the next five years—and net income will more than double... The growth opportunities for the Group are as great now as they have been at any time in its long and profitable history, and this is a very healthy sign for General Electric as a whole." 

PEOPLE

SOME INTERESTING GE JOBS (that happen to be filled by women)



Billie Jean Evans moves familiarly in the complex administrative business world. In fact, she's manager of Hardware Data Processing at GE's Aircraft Engine facility at Evendale, Ohio. The nine-member component she heads up handles a production control budgeting and labor-costing system and is responsible for two computer systems relating to the development of future airplane engines.

"It's there if you want to work for it," says Miss Evans, who began her GE career in 1960 as a keypunch operator. "The most difficult task I faced when I became a manager was in convincing people who worked with me—both men and women—that my being a woman has nothing to do with my ability to do the job," she says.

Evendale seems convinced. One indicator: Miss Evans recently completed a term as president of Evendale's General Electric Management Association.



Reynelda Muse is a familiar face to TV viewers in Denver, Colorado. She co-anchors a half-hour "Eyewitness News" report every noon on KOA-TV, owned by General Electric Broadcasting Company, Inc.

"When I joined KOA in 1968, it was with the agreement that I'd be a news reporter first and a woman second," says Mrs. Muse, who began her broadcasting career in college as an announcer for Ohio State University's campus radio station.

Her "very lucky break" came when a CBS producer traveling through Columbus heard her broadcast and wrote to compliment her on her presentation. The producer's interest led to introductions to GE people who, having just purchased KOA, were looking for new talent.

Working with fellow anchorman Clyde Davis, Mrs. Muse finds TV reporting a challenging and stimulating profession. "Besides the fact that I enjoy my work, I think I make

a contribution to the community, both in terms of informing the public and in giving black children a television personality they can identify with."



Madelyn Jennings has the title of manager—Environmental Support Operations in the Components and Materials Group. But don't get the idea that this means she oversees only such work as monitoring the emissions of GE chemical plants. Reuben Gutoff's Group defines "environment" much more broadly.

Chief determinants of the content of her job, she says, are "the new varieties of corporate social responsibility." From her office in Bridgeport, Connecticut, Mrs. Jennings directs the Group's programs in manpower planning, equal opportunity and minority relations, and occupational health and safety, as well as environmental protection. In addition, she handles a great many special assignments in communication at the Group level.

Under her direction, a va-

riety of new programs are being put into action. "We look at manpower planning as an integral part of the strategic planning process." A Group specialist heads up Equal Opportunity/Minority Relations. The Group now has its own medical director, a certified occupational physician. Working for him is an industrial hygienist who conducts surveys to monitor the environment both inside and outside GE plants.

Mrs. Jennings came to GE in 1960 after working in advertising and public relations. Her route up has been via market research, business analysis, and manpower planning.



Ursula Wolff is a senior scientist in charge of electron microscopy work in the Materials Structure and Properties Unit at the Vallecitos Nuclear Center in Pleasanton, California.

The research done by Miss Wolff and her team of four fellow scientists "has a number of practical applications," says the German-born professional. "We study the effects of radiation on the structure and properties of materials used in nuclear reactors, characterize metal fractures caused by corrosion or overload, and deal with a multitude of other structure-

related materials questions."

She has authored some 25 technical papers and participates in a number of professional societies.

After gaining degrees from the Universities of Berlin and Goettingen, she came to the U.S. in 1952 and began her GE career as a metallurgist in Cleveland's Lamp Metals and Components Department.

She hasn't found science to be a field that discriminates against women. "Whatever roadblocks I've encountered," she says, "have been due to the limitations of my knowledge and skill—not to my being a woman."



Marion Kellogg is an expert in telling business operations how to improve their productivity, performance appraisal systems, and manpower utilization. As a consultant on GE's Marketing Management Development staff in New York, she communicates her expertise both to GE managers and to selected outside companies. She's a frequent lecturer and leader of management workshops—work that has taken her throughout the U.S. and to many spots around the world.

In addition to conducting week-long seminars four times a year, Miss Kellogg and her "traveling road show" conduct a number of shorter

seminars on varied aspects of marketing management development. "I've tried to focus on first-level management in my seminars," she explains, "since in strengthening them we will be strengthening all of the individual contributors to the marketing function."

She enjoys recalling her role as GE's "first woman manager." That was in 1953, when she became manager of Employee Relations for the Flight Propulsion Laboratory Department at Ohio's Even-dale plant.

It was a big step for her as well as GE. After receiving an M.S. in physics from Brown, she entered the Company as an engineering assistant. "But I recognized that my talents lay in the area of personnel work rather than in physical sciences. Luckily, I was encouraged to try, and I've been in personnel work ever since."



Jane Cunningham is, at 24, the recently appointed manager of disbursements for the Division Finance Operation, Electronic Components Division, in Syracuse, New York. Most of the GE people in the component are older than she, but she doesn't see this as a problem: "It depends on me. If I meet the obligations of this position and my re-

GE JOBS (continued)

sponsibility to each of them, then I expect they will continue to give me their full cooperation."

Mrs. Cunningham graduated from Ohio Northern University with the highest average among business graduates in her class and went on to complete GE's two-year Financial Management Program. She started with GE in Syracuse in June 1969 as a forecast analyst and was a specialist in general accounting before her promotion.

"I knew I could be a very active individual contributor," she says, "but I never imagined I would manage eleven people. I see my challenge as gaining the respect of managers both inside and outside the Company. I want them to accept as fact that I'm capable of doing my job as well as any other good manager, man or woman."



Jacqueline Pinckney took only a year after joining the Equal Opportunity/Minority Relations staff in New York to move up as manager of EO/MR Program Development Communications and Administration.

She likes to call herself a "loophole woman"—one who

has gotten through to success despite "the double liability of being a black female." A GE employee since 1956, Mrs. Pinckney came to corporate headquarters from the Space Division at Valley Forge, where she was manager of Information Services for the Management and Technical Services Department.

"I think GE is doing a good job in recruiting women and minorities into the Company," she says, "but the challenge lies in utilizing them more effectively in the work force. It's my job to develop programs, policies, and activities that will improve the utilization of both these groups."

She sees the problem of upward mobility for women as somewhat similar to that of minorities: "Most of the top slots in our industry are filled by people with technical degrees. College-bound girls and minority youngsters should be encouraged to study technical and business courses. Once that happens, we'll begin to see changes."

Jackie Pinckney obviously intends to be a prime mover in bringing about those changes.




Dr. Anne Belfort is manager of Operations and Evaluation

Planning at the Philadelphia headquarters of the Re-entry and Environmental Systems Division. It's a highly responsible job in the component she describes as the Division's "doing" department. "We translate ideas into finished products, which includes buying materials, building, testing, evaluating, shipping, and servicing the product."

But she has her sights on still higher goals: "I may not be the first woman general manager at General Electric, but I'm going to do my best to become one." As one significant milestone for her progress, she was the first woman graduate of GE's General Management Course at Crotonville.

"My responsibilities include developing the department's business plan and allocating its resources—funds, facilities, and manpower—in a way that will best support the diverse businesses of the Division," Dr. Belfort says. "With 2500 people in the department, and a great number of products to be produced, it's very important that resources be allocated so that work is done efficiently."

A Ph.D. in engineering psychology and the author of 25 technical papers, Dr. Belfort joined General Electric eight years ago as an engineering psychologist at Philadelphia. "The climate for women is much more open today," she believes. "When I recruit potential women executives I can honestly tell them they will find an atmosphere in GE conducive to their growth." 

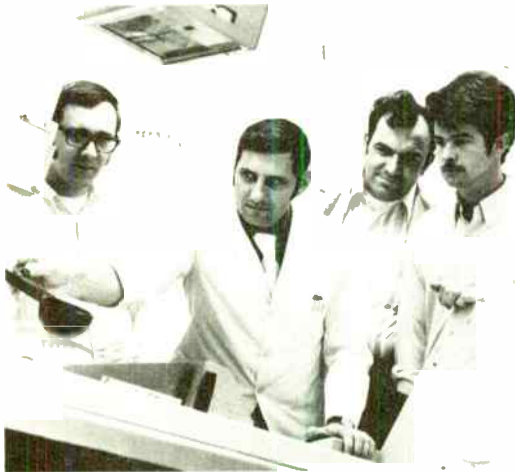
“Best Buy” goes Up With People

Addressing the June meeting of Best Buy council chairmen from around the Company, Leonard C. Maier, Jr., VP and Best Buy Operations Director, explained the Campaign's thrust at the midyear mark: "Now that GE people are highly informed, motivated, and committed to the program, our goal must be to communicate Best Buy benefits to external publics while we continue to strive for people involvement internally."

This orientation is already being reflected around the GE circuit with a number of Best Buy activities aimed at strengthening both people and customer involvement. Several exam-

ples of these efforts include: employee visits to on-the-spot customer locations; customers visiting and speaking to GE employees; special programs for hundreds of GE suppliers; and a Best Buy game between the Cincinnati Reds and the Chicago Cubs attended by 24,000 GE'ers.

To give an extra thrust to people involvement in the final months of 1972, plans have been formulated for a six-week Companywide tour by 20 performers from the popular Up With People group. The tour is fashioned after Appliance Park's successful Up With People Best Buy kickoff.



Medical Systems Business Division employees tour area hospitals to discuss first-hand the performance of a new x-ray system with the customer.



24,000 GE'ers from the Aircraft Engine Business Group and their customers attend a Best Buy sports spectacular at Cincinnati's Riverfront Stadium—the visit set a major-league record for attendance by a single group.



To heighten Best Buy's people orientation, 20 members of the Up With People group of singers will tour Companywide locations this fall.



Best Buy suggestion winners from GE's Lighting Systems Business Department saw how their 6,000 lighting luminaires helped reduce the crime rate in Washington, D.C., by 29% and talked with customer John E. Hartley, Assistant Director of D.C.'s Department of Highways and Traffic. ▣



CANADIAN GE: NEW MAN AT THE HELM

One of the new thrusts that Walter G. Ward will be bringing to Canadian General Electric Limited is a renewed emphasis on increasing opportunities for self-development and mobility among CGE's younger employees.

The Canadian affiliate's new Chairman of the Board and Chief Executive Officer has strong personal reasons for this emphasis.

At sixteen, in Depression-hit Canada, he had to quit school and go to work on the radio assembly line at CGE's Peterborough plant. But the Works' manager and assistant manager were men who took an interest in spotting youthful promise and giving it a hand up. They encouraged young Walter to go to night school and, when the courses needed to complete Ward's high school requirements weren't available in Peterborough, got him transferred to Toronto, where he worked on transformers by day and classwork at night.

Those men were Ian McRae, deceased, and Carl Salmonsén. After graduating in electrical engineering at McGill University, Walter Ward has taken on one challenging assignment after another, both in CGE and in GE, in Europe as well as North America, culminating with his new role as the man to lead GE's largest affiliate.

As a native Canadian, Ward is understanding of his nation's quest for a more clearly defined national identity that recognizes its uniqueness in resources and character—a quest that includes an increasing concern for an environment that will enable the development of Ca-



J. Herbert Smith (left), outgoing Chairman of Canadian General Electric, receives farewell memento from his successor, Walter G. Ward.

nadian independence in the face of a very high percentage of foreign ownership and investment. At the same time he is keenly aware from personal experience of the benefits that accrue to Canada from the relationships between Canadian affiliates and U.S. parent companies.

"One point that gets overlooked by the critics of U.S.-linked affiliates in Canada," he commented to a *Monogram* reporter in Toronto recently, "is Canada's unique economic situation. We have a small population in a vast territory. We enjoy a sophistication in our industry and

ORGANIZATION CHANGES

Changes here are in addition to the election of a new GE President (see page 2) and a new Chairman for Canadian General Electric (see above).

CORPORATE

James L. Hindenach, *Manager—Foreign Financing, Corporate Treasury Operation.*

Anthony K. Manero, *Manager—Corporate Computer Resources and Consulting Operation, Corporate Accounting Operation.*

Raymond F. Pettit, *Manager—Corporate Computer Accounting Operation, Corporate Accounting Operation.*

Paul E. Kindig, *Manager—Purchasing and Traffic Consulting Service, Corporate Consulting Services.*

CANADIAN GENERAL ELECTRIC COMPANY LIMITED

Alton S. Cartwright, *elected President.*

COMPONENTS & MATERIALS GROUP

Van W. Williams, *General Manager—General Purpose Motor Business Department.*

technology, and a high level of living standards, that would be very difficult, and really impossible, to maintain on our small economic base if we weren't able to tap into U.S. technology and capital. Canada greatly needs the very sort of technological input and cross-fertilization that Canadian General Electric receives from its association with General Electric. On the other hand, we need to insure this does not become a crutch and that independent managerial and technological development takes place."

Ward faces other challenges in taking over CGE's top post at the start of its 81st year. "It will be a challenge," he says, "simply to try to live up to the high standards set by J. Herbert Smith, who retired on June 1 after forty years with CGE, including his last 15 as Chief Executive Officer. In those 15 years, sales grew from \$230 million to \$495 million, and CGE evolved a number of new businesses. He hands on a very strong and respected Company."

Where will Ward concentrate his energies? "One direction is to seek the most appropriate answers to the problems of integration and interface with GE-U.S. and with the GE world system. The objective is to use CGE's strength and experience to marshal all of the resources in Canada and, as required, throughout the GE system to serve Canada's needs and future growth. Our strategy recognizes both the economics of multi-product manufacturing and marketing in a small and sophisticated market and the need to integrate product and technology with GE domestic businesses so as to maximize our ability to competitively serve Canadian customers. Also, CGE must evolve its own unique technology and products. Going beyond the primary task of serving the needs of Canadian customers, CGE must help build Canadian

exports—especially important when one recognizes that Canada has almost one-third of its GNP in the export sector."

Continued success in carrying out this strategy and adjusting it as the country identifies its change of direction and priorities, he feels, "will maximize both the benefits to Canada and the growth in share owners' investment in CGE."

Ward recognizes as a primary problem "the need to improve substantially our current level of return on investment." In response, one of his top priorities will be "to get at a real change in the mix of our businesses. We can no longer operate on what might be called an 'averaging approach' to the total electrical market. We must be selective. Canada itself is going to be forced into being more selective in its industrial endeavors, and the successful businesses here will be those which, in turn, correctly select the markets they serve and the opportunities to which they commit resources. We of CGE must make good use of strategic planning principles to identify those opportunities to which we will commit ourselves, to expand those selected, and to curtail, with dispatch, those that seem less promising."

As for CGE's prospects, Ward is optimistic. "We signed a new union contract this year. We've got some 18,000 employees in 33 plants producing a product range that parallels that of GE except defense and goes on beyond to such uniquely CGE products as tea-kettles and a new 'Papriformer' for the paper industry. Our sales in 1972 will, for the first time, top half-a-billion dollars. Our earnings improvement is outpacing our sales gains. With our involvement in many of Canada's most challenging technological projects, we feel that CGE is a Company of the future in a country of the future." ❏

CONSTRUCTION INDUSTRIES GROUP

Robert W. Baeder, *Manager—Group Strategic Planning and Review Operation.*

G. Ronald Mac Arthur, *Manager—General Electric Supply Company Strategic Planning Operation.*

Eugene T. Maher, *Division Counsel—Contractor Equipment Legal Operation.*

CONSUMER PRODUCTS GROUP

Jack C. Acton, *General Manager—Housewares Engineering Department.*

INDUSTRIAL GROUP

Claude R. Breese, *Division Counsel—Industrial Sales Legal Operation.*

POWER DELIVERY GROUP

James A. Smith, *General Manager—Power Systems Management Business Department.*

POWER GENERATION BUSINESS GROUP

John A. Urquhart, *Deputy Division General Manager—Power Generation Sales Division.*

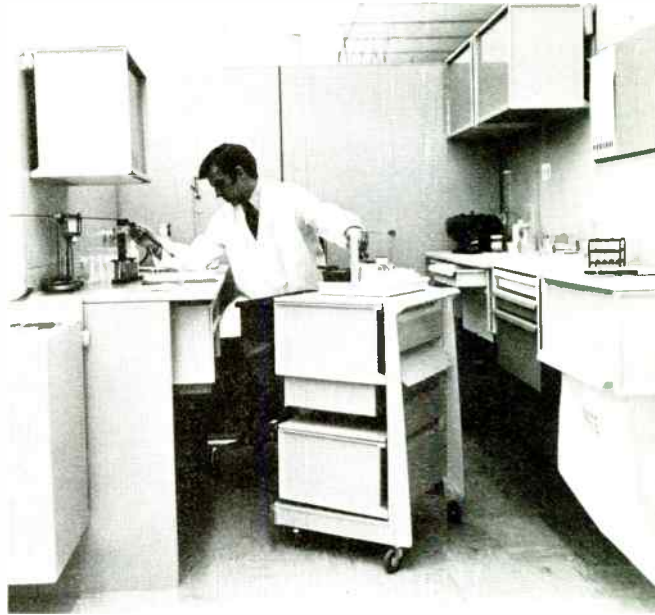
HOSPITALS PRESCRIBE GE PLASTICS

Thirty U.S. hospitals are currently testing a new idea in furniture. It's a system of coordinated furnishings called CO/STRUC® by its developers, the Herman Miller Research Corp. GE's interest: the units are molded of GE Noryl® thermoplastic resin.

Noryl's special properties of toughness and heat resistance are put to work in CO/STRUC components to save time and cut costs. Larger components, for example, are designed to be suspended from wall rails, allowing floor cleaning to be faster, more thorough. Units can be lifted off the rails and onto carts for fast removal of used medical items and soiled laundry. Fresh, sanitized units—relying on Noryl's ability to withstand the high temperatures and steam in large commercial washing equipment—quickly replace soiled units.

CO/STRUC is one step in a march toward use of Noryl in furniture, according to H.J. Singer, manager of GE's Noryl Products Section. "The growing emphasis on flame retardance for consumer safety, coupled with the demand for durability, makes Noryl a prime material," he says, "for furniture in schools, transportation terminals, and other public facilities."

Beyond institutional furniture, Singer sees Noryl being used increasingly in home and office furnishings: "Self-extinguishing grades of Noryl are being molded for kitchen furniture components, and one manufacturer has specified the material for a line of decorator chairs and desks. Plastic furniture could create a major new market for Noryl resin."



A complete hospital lab molded from GE resin. Another 120 hospitals will test the system.



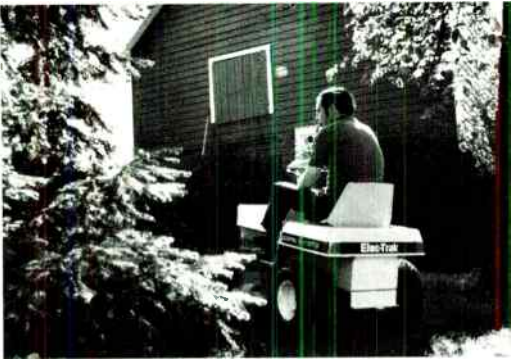
Components designed with molded-in colors insure a bright, pleasant patient environment. Railing units facilitate one-step maintenance.

Summertime sizzlers



GE's Carry-Cool[†] unit incorporates a built-in handle for complete portability—on land or at sea.

This eight-horsepower Elec-Trak[†] brings to six the number of all-electric GE tractors.

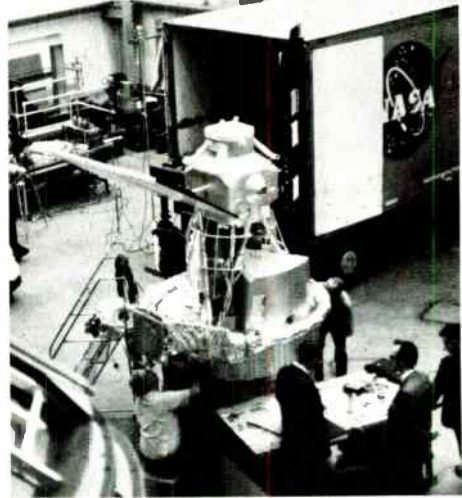


For some GE products it's the hot, hot weather that makes it "the good old summertime."

While this summer's cool start played havoc with air-conditioner markets generally, one GE product line boomed: GE lightweight, take-anywhere Carry Cool room units. Combination of the units' design, portability, and under-\$100 price tag brought sales in spite of consumers' cool attitudes.

Another hot-weather best seller: GE's line of Elec-Trak garden tractors. New sales appeal has been added by three new models and a wide variety of time-saving attachments.

ERTS TAKES OFF



What *Business Week* called a "satellite with a difference" is now looking at the earth from a space orbit, transmitting back to NASA ground stations a weekly combination of nearly 10,000 color, black-and-white, and digital tape images of the earth's surface.

Called ERTS-A—for the first Earth Resources Technology Satellite—it was launched July 23 from California's Western Test Range. GE's Space Division served as prime contractor.

The difference in ERTS is that it pushes man's use of satellites into a new dimension. Returning images from three cameras and its Multi-spectral Scanner, it will supply data to help international experimenters prepare an inventory of much of the world's natural resources. It's expected that ERTS pictures will trace sources of pollution, help survey the condition of major crops and forests, and predict the location of needed energy supplies.

GE is also one of 33 applicants from private industry that have won approval to conduct experiments via ERTS. The GE study relates to urban development and regional planning in Los Angeles County. 

RE-ORDERING U.S. PRIORITIES

The health of the U.S. economy depends on maintaining a sensible balance between the productive and unproductive uses of national wealth. Listen to Vice Chairman Jack S. Parker in his recent addresses and you come away concerned that this essential balance is in danger right now, and will be in ever greater danger, if the U.S. doesn't re-order its priorities and spending patterns in order to turn around present-day counterproductive trends. Here's a summary of Parker's hard-hitting perspectives.

Before the Town Hall Civic Organization in Los Angeles, Parker addressed himself directly to the problems caused by the rapid rise in "income maintenance" programs such as public assistance programs, social security, veterans' benefits, Medicare, and Medicaid.

"The basic problem with social welfare programs," he said, "is that they take resources away from the productive sector and transfer them to the unproductive. A good society will do a certain amount of this gladly, to help those unable to help themselves. And some of these expenditures, to the extent that they constructively relieve social problems, may eventually make the economy healthier. But expectations are rising and the government is urged to solve all problems at once."

The question raised by Parker: "How can we satisfy these expectations without overburdening the economy or turning this dynamic country into a bureaucratic welfare state?"

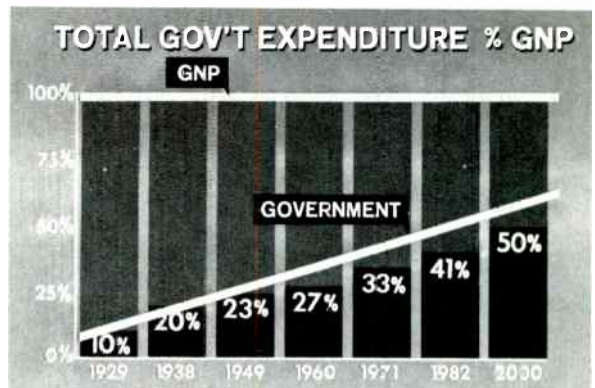
He proceeded to "put some numbers on the problem," noting that in 1960, income maintenance programs accounted for \$25 billion of the Federal budget—about half the size of the expenditures on defense, space, and international affairs. "This year, they exceeded the defense, space, and international expenditures, reaching a level of \$90 billion."

These increases helped raise the share of the Gross National Product passing through government hands. Including transfer payments,



this percentage has tripled since 1929 to \$344 billion in 1971—or 33% of the total production in the country. It's heading for about 41% by 1982, and "could equal half of the nation's output well before the century is out."

The GE Vice Chairman sees this as "something more than a long-term problem. We are talking about a right-now problem. I think the economic troubles of the past few years—the devaluation of the dollar, the collapse of our international trading position, the recession, and very slow recovery—all this suggests that our economy is already in trouble. It is burdened down with too many unproductive and counterproductive uses of the national wealth. Not all of the trouble lies in the government sector, of course. We are having our productivity troubles in industry, too."



A rising percentage of GNP is passing through government's

He warned that the facts of government expenditures rising much faster than the economy's output are signs of real danger. "Unless we can bring those government expenditures under control, and accelerate the growth of our GNP, we can expect increasingly serious periods of recession, unemployment, inflation, economic controls, and, finally, social upheavals."

Parker also responded to governmental claims that profits from the private sector can solve our social and environmental problems: "The government already has a 48% tax rate on corporate profits, and what's left averages out to less than five cents on the sales dollar for business as a whole. Those after-tax profits are not giveaways to the idle rich. They are a small but hard-working part of the economy, either plowed back into the business to keep it running, or distributed as taxable dividends in payment of the risks and to encourage capital formation. Profits must be understood as an element of cost, the necessary resource for the expansion which creates new jobs."

The key to accelerating economic growth is, in Parker's view, improved productivity. "One basic and necessary step is to encourage capital investments as other countries do," he said. He pointed out that Japan invests 27% of its gross national product in fixed assets but that in the U.S. the rate was only 12.6%. The result is that our industrial plant is aging and we are less able to offset rapidly increasing labor costs.

Parker emphasized that "if we really want to improve the quality of life and solve our social problems, we will first have to get at two basic problems: controlling unproductive government expenditures and accelerating economic growth."

A main point: "The time may be ripe for a solid program of spokespersonship in the business community, spelling out the costs and helping the public understand the trade-offs and priorities that will be necessary if we are to keep from going broke."

In an earlier address, to the Annual Business Conference at Rutgers University, Parker dealt with other social costs that will have significant impact on business. One important cost: that of environmental protection, which he estimated as costing a total of \$289 billion between now and 1982, of which \$154 billion will represent public expenditures, the remainder from the private sector.

The public will ultimately bear these costs, either in prices or in taxes, the Vice Chairman pointed out. But as the man in the middle, the businessman "will have the squeeze put on him early on, and he cannot expect to recover his costs without some delay and discount in the process."

At Rutgers, as in Los Angeles, Parker focused his audience's attention on the productivity challenge: "Our whole economy must be made more productive—the public sector as well as the private. Not only is the government a larger factor in the economy but it is stubbornly resistant to productivity improvement."

He concluded: "With the trillion-dollar government just ten to twelve years away, none of us can afford to be complacent. Make the most of a good business year, yes. But we'd also better get cracking on the more important job of controlling government expenditures and lifting the productivity of the U.S. economy, both through the industry of the private sector and through vastly improved efficiencies in the public sector."



hands, with state and local government costs rising faster than federal. New social costs add to the burden.

EDITOR'S NOTE: Ian Wilson is regarded as something of a "futurist." His work at GE the past several years has been largely concentrated on studies into trends that will shape the future social climate of business. Here, for the Monogram, English-born, Oxford-educated Ian sums up his perspectives on...



'CHANGING VALUES IN U.S. SOCIETY'

What's a topic that sounds like Sociology 101 doing in a strategic planning session at General Electric? What, really, is all the fuss about "changing values"? Isn't the change limited to "a few radical kids on campus"?

These are all, obviously, very reasonable questions. Let's start by examining the last one a little more closely. If it was only "the kids" who were involved, then maybe business could go along with the complacent view, "Give them ten years, a mortgage, and a family and they'll settle down."

But most of us sense that something more than a conventional generation gap is abroad in the land. And even if only "the kids" were affected by this phenomenon—whatever it is—business would have cause for concern. The sheer increase in numbers of the younger generation would alone give us pause for thought. These will be the new employees, the new consumers—and the new voters—with whom business will have to deal.

However, I am deeply convinced that the changes are *not* of "the kids'" making. They may reflect the changes in most obvious form; they may be the cutting-edge of the future; but they did not set the changes in motion.

The causes of this change are many, but they start with the fact that our society is in the midst of a major historical transition. This transition is of a magnitude that has been equalled perhaps only two or three times in man's previous history—once, when man the hunter and herder became man the settled farmer; again, when urban living ("civilization" in its literal sense) made its appearance; more recently, when agricultural society was transformed into industrial society. Now we are on the brink of becoming a form of society that the world has not seen before. In this sense, this country is truly pioneering, the really revolutionary society in the world today.

This transition, from an industrial to a so-called "post-industrial society," manifests itself most clearly in the economic arena—in the relative decline of manufacturing, and the corresponding rise of services, as the central focus of our economic activity. By 1985 nearly three-quarters of the work force will be engaged in supplying services—communications, transportation, utilities, banking, wholesale and retail trade, education, personal services, and government. Or, to put it more dramatically, only one-quarter of our work force will be needed to supply all the "things" our society produces—all the food, fibers, and ores; all the buildings; all the machines and other products.

This changing *character* of work—from being essentially "things-oriented" to "services-oriented"—accounts, to a large extent, for some of the changing *attitudes* toward work. We might say that people want to be regarded, not as "hands" (an industrial era term), but as "brains" (a post-industrial term). This attitudinal change is rooted, not in the view of a narrow college elite, but in a broad structural change in our economy.

A further characteristic of this new society—and one that bears directly on our changing value systems—is the interaction among high and increasing levels of affluence, education, and technology. These three trends have been features of our society for many years. However, they seem now, like a nuclear reactor, to be approaching a point of "criticality" at which a new chain reaction of attitudes and trends is likely to be started.

In this decade alone affluence (measured by incomes over \$15,000) will double. Such changing income levels bring changing patterns of consumption and saving; but they also lead to changes in ways of thinking about one's self and one's world. We can see this most noticeably perhaps in the increasing emphasis that is

being placed on quality rather than mere quantity—the switch from “more” to “better.” We can also trace some of the changing views of work and leisure back to this root, for there is no longer, in an affluent society, quite the same grinding necessity to strive just for survival and security. We seem to be raising our sights to a higher level at which we can begin to choose among types of work (selecting those that seem most personally rewarding), and to consider leisure as a valid activity in its own right. Finally, it is this sense of affluence and choice that contributes, in part, to a growing sense of impatience with the progress we have so far made in resolving our social problems—a “lower frustration tolerance” with all forms of economic hardships, social injustice, and inequity.

As with affluence, so with education, the significance of this trend lies only partly in the physical manifestations of more schools, higher expenditures, and changing curricula and methodology. Of at least equal importance are the attitudinal changes triggered by higher levels of education. The better-educated person will, for instance, have more self-respect; will want to be treated more as an individual; will be far less tolerant of authoritarianism and organizational restraints; will have different and higher expectations of what our social institutions can, and should, do.

Finally, there is the trend to technology. Probably nothing has been more characteristic of the U.S. economy than the application of technology to industrial systems. The general expectation is that it will continue to be a distinguishing characteristic of the post-industrial society, so much so that one scholar has coined the alternative title of the “technetronic age.” However, almost certainly the future does not hold simply “more of the same” in this regard. One might say that the high-water mark of the “old” technology occurred in 1969 with the landing on the moon. We are now convinced that nothing is now *technically* impossible.

Yet, starting at almost precisely the same time as this celebration of a supreme technical victory, there has been, as never before, a widespread questioning of the value, the pace, and the extent of technological progress. At one level we are developing a heightened awareness of the negative environmental and societal consequences of some technical developments, and insisting that, in this field too, “better” replaces

“more” as our motto. At another level there is a question raised that asks “Do we *have* to do it simply because we *can* do it? Does ‘can’ imply ‘ought’?”, in effect substituting a moral imperative for a technological imperative.

There are other forces at work, but these are the main ones—not “the kids.” These are the broad societal forces that will, in the next decade, be shaping a major reformation or re-ordering of our value systems that will include a shift in emphasis:

- from considerations of quantity (“more”), toward considerations of quality (“better”);
- from the concept of independence, toward the concept of interdependence;
- from the primacy of technical efficiency, toward considerations of human scale, social justice, equity;
- from the dictates of organizational convenience, toward the aspirations of self-realization among an organization’s members;
- from authoritarianism, toward participation;
- from uniformity and centralization, toward pluralism and diversity.

For society as a whole, a major implication of these trends is that the Seventies will be a decade of questioning, uncertainty, potential turmoil, and confrontation. There will be substantial restructuring of many institutions; an effort to rethink their social purpose and objectives, and reshape their operations and relationships.

For business in particular this rise in qualitative expectations of the public is likely to mean increasing questioning, and some redefinition, of basic business values—among them, growth; technology; profit maximization; managerial authority. It is important for businessmen to realize that these challenges stem not so much from failure as from success. We might even term it “a crisis of success.”

Business has succeeded magnificently—some would say, too well—in meeting society’s *quantitative* expectations. In the process it has set in motion three of the forces (change in economic activity; affluence; technology) which have helped to re-shape our value systems. Whether it can now succeed equally in meeting the new *qualitative* expectations (while still satisfying the old needs) depends, in part, on our ability to foresee the changes early enough to develop constructive, responsive strategies. ❧



Night Lights: More than 30,000 GE bulbs, enough to light 1,000 average American homes, give sparkle to this 15-story ferris wheel at Cedar Point, Ohio. The red, yellow, and white 15-watt bulbs, coated with transparent Lexan® for greater brightness and more brilliant color, flash on and off, creating ever-changing, flower-like designs.