GENERAL ELECTRIC

Monogram

DECEMBER 1970

Season's Greetings

Dear Reader:

Our cover says something to you and for you, we hope. We tried to depict in one colorful holiday wreath this simple and pleasant message: All our readers join in wishing one another all those good things of the world and the spirit which most of us are too shy and reserved to communicate about in, say, October.

In recent months the editors have moved ahead on their proposition that today's Monogram reader in General Electric, you, wants something more stimulating, lively and people-conscious than the reader of, say, ten years ago.

I think they are on the right track, and here are my impressions so far:

1. We aren't so egocentric as to imagine that you sit around nervously wondering what we may have to say every month or two. We think we need to deserve your attention. We aren't happy until we get some solid indication that you read our ideas and react. That's why we watch the mail every day to see evidence that we were read — and that you reacted. On this score, we are slightly happy — because, our "fan mail" is getting heavier. We are also finding out that we are moving into some areas of controversy or reality that stirs up some emotion in you readers. This telegraphs us that we are getting closer to our target — what you think about and care about.

2. We have an idea that you like some kind of evidence that what may be bothering or "bugging" you right now about your work environment is being thought about or worried about elsewhere. We sense that the Monogram does something positive when it tackles a sensitive or ticklish issue and gives a view or two. Usually we don't have a handy-dandy answer, but we get some satisfaction just from giving the problem an airing, thus moving a little closer to the solution.

3. So, in the last few months we opened up the dialogue — as they call it — on some issues where the questions are many and the answers are few. At first we wondered that some of our most faithful readers would feel that we had flipped.

This didn't bother us too much — and from our feedback we gather it didn't bother you. On the contrary, you seemed to have welcomed our lighter approach and our open invitation to worry a bit and work toward solving some of the bigger problems of our society inside our own plant and office walls. And we seemed to be on the right track. One reader from Maryland wrote us, "Congratulations on bringing some lightness into a usually stodgy house organ . . . . my overwhelming opinion is elation that a portion of GE may be allowed to take itself less than 100% seriously."

4. Finally, we hope you share with us a mixed feeling of humility and promise. Great as General Electric is — we sure don't have all the answers. And because General Electric is a collection of great people we are sure to be in the lead in finding good answers to lots of problems that challenge all of us and the whole country.

So, as we close out the first year of the Soaring, Sick, Silly and Significant Seventies our toast is to YOU. Shall we go for 1971?

With warmest regards for the holiday season ahead.

— Ed Kneeland —

IN THIS ISSUE

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Monogram is produced for managers, professional, and clerical employees of the General Electric Company and its affiliates, so that readers are kept informed on GE activities to help them do a better job including their relationships with the public. It is published monthly at New York by the Employee Communication Operation of Corporate Employee Relations and printed in the U.S.A. by Kalmbach Press.

GENERAL ELECTRIC

Story Genesis

Do you sometimes wonder how a *Monogram* story is born? The article on GE Broadcasting had an unusually indirect beginning. Part of the job of the editors is to look for the unusual in General Electric. We noticed the career background of two of the management team in the broadcasting operation. How did it come about that a graduate of the employee relations manager course, Reid Shaw, became vice president and general manager of GE Broadcasting? And how did a man, Jim Delmonico, who started out on a General Motors factory floor turn out to be manager of employee relations for GE Broadcasting? While investigating that, we ran into an even more intriguing story — about GE Broadcasting itself. So we pursued that on page 15. Here, we can report that Reid Shaw served in the Employee Communication Operation in New York for a while, moved on to become employee relations manager in Syracuse, then switched to GE Broadcasting (his family had long been involved in various phases of the broadcasting business, so in a sense he was "coming home" to it). Jim Delmonico moved from General Motors to General Electric where he became a superintendent in the television manufacturing operations in Syracuse. In 1953 he switched over to union relations in Syracuse where he remained for 14 years, moving with Reid Shaw to GE Broadcasting.

Art and Artists

One of the artists represented in this issue has recently had her work on display in the world-famous Parke-Bernet Galleries in New York. Mary Gauerke has done cartoons for us before. She illustrated our cover on women in the July-August issue. This time, her work illustrates our Christmas features beginning on page 17. Chartmakers Inc. prepared our Christmas Wreath cover. George Gloff did the art for the Resurgence story beginning on page 4. Then on page 20, you are bid Merry Christmas in Swahili, Chinese, and Portuguese, languages used in countries hosting three GE men who describe what it's like to celebrate the holidays overseas. Our resident expert, Brad Wilson, provided the linguistic know-how and calligraphy.

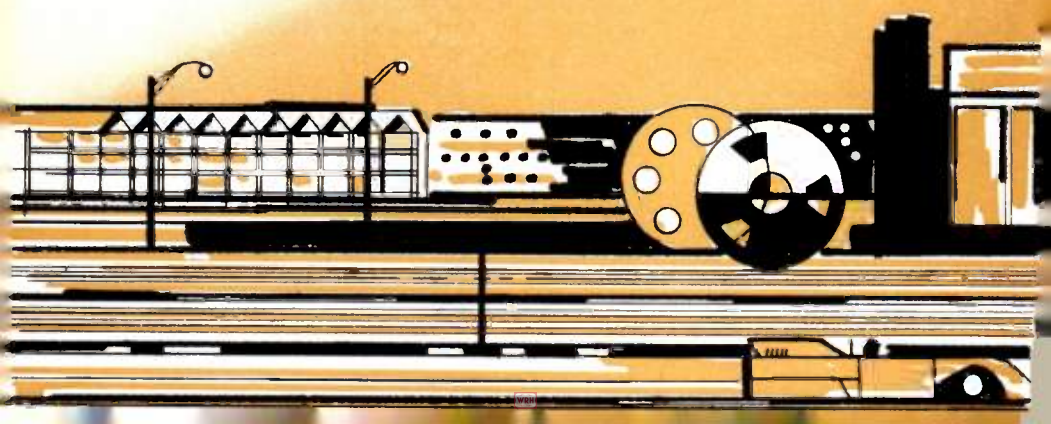
1970/RES

Escalating national electric power demands, corporate reorganization, transfer of computer operations, achievements in marketing and R&D set against a backdrop of mixed economic conditions triggered an accelerated business effort.

THE United States was described early this year as "anemic," power-wise. The most electrified nation on earth this year talked of "conserving" current. Lights and air conditioners were to be turned off, a phenomenon which would have driven the GE promotion men of a quarter century back up the wall. Electricity, they kept reminding us, was plentiful and cheap and we ought to be using it more and more.

But this year we had to save because a number of things happened simultaneously: consumption of electricity which has been doubling every decade, spurted to new highs; fossil fuels to drive the turbine generators are scarce now and will get scarcer as the years go by; atomic power, the real answer to plentiful power for years ahead, waits partly in the wings until the ecological issues involving its rapid proliferation can be resolved; General Electric, the world's largest manufacturer of electrical equipment, had a 101-day strike; last September in the East was hot, unseasonably hot.

Put them all together and what you get are two favorite management words: "challenge," and "opportunity." Translated into less olympian language, America's power anemia was a hotfoot experienced all during the strike, and when the strike was over, GE bounded into action, as perhaps never before in her history.



URGENCE

Discussing third quarter results, Chairman Fred Borch put it this way: "The sales gains were sparked by heavy capital goods shipments to utility and industrial customers, with particularly strong showings in power generation equipment."

Although the company got off the strike reef and into deep water in 1970, it was not necessarily smooth sailing. In fact, for some businesses, 1970 was rough and stormy. Others, and especially the power-generation and control businesses, were doing fine.

Summing up, we see the year as one of resurgence; a year in which recovery was led by our oldest and most established undertakings. We think it is going to go down in history as a year GE discovered, if we may be forgiven the familiarity, that she is "generally electric," and that all else hangs on that fact. We think it will be known as a year in which the company came into a new life for the brand new times

that are already here.

In the paragraphs below, *Monogram* attempts to review 1970 as it shaped up to the editors in the fall of the year. Our views may, or may not, coincide with the views of business analysts, or with those of operating management in the various departments, mentioned or unmentioned here, because we are editors and not analysts or managers. These then, are the stories *Monogram* considers to have been the top news-making events within the company during 1970.

●

The year of resurgence, as multi-faceted as it turned out to be, was overshadowed by two broad strokes of judgment, a corporate reorganization and the disposition of certain of our computer interests with Honeywell.

The organizational move, initiated at the onset of summer, was "made imperative by the continuing growth of General Electric," Chairman Fred J. Borch said. It was described as part of an evolving plan and sought to separate staff work for planning and shaping the future of the company from day-to-day operating work required at the highest levels.

It set the tone for other changes throughout the company. Within several months the new approach was being implemented in the Aircraft Engine and Appliance and Television Business Groups and the Components and Materials Group. Employees could see the course of new thinking taking hold. The management of the 70s was about to shape the future.

The agreement to transfer our computer operations was also to have a long-range positive effect on the GE scene. Consummated on Oct. 1, the agreement produced the second largest computer company competing in world markets. While GE would own 18½% of the firm, we no longer had the obligation to a business traditionally known for heavy reinvestment of capital. Meanwhile, our time-sharing services, computer communication equipment and process computer businesses were kept intact for nourishment and growth.

The 101-day strike that ended early in February had to be the Company's low point for 1970. It halted or curtailed output at plants where turbines, locomotives, motors, capacitors, lamps, television sets, appliances, and housewares are produced. But the rest of the company forged ahead in areas such as space, ocean systems and engineering plastics.

Restless customers around the country pressed us for delivery, and the end of the strike saw a surge in production that may be unsurpassed in GE history.

In little over 100 days, beginning last March, 14 new turbine-generators representing over seven million kilowatts were available to meet summer load demands.

1970 became a banner year for the sheer volume of GE power makers produced. It was the first time any turbine-generator manufacturer in the world eclipsed the 10-million-kilowatt-level of new installations for a

single year.

This year past was the year of a "beautiful bird", the GE-powered Douglas DC-10. So described by pilots on its successful maiden flight, the airliner brought the Aircraft Engine Business Group's long-range objective of becoming a major supplier of jet engines for commercial airliners much closer to full realization. Orders for the trijet swelled to 217 aircraft for 15 domestic and international airlines. Meanwhile, Air France placed the first order for the CF6 powered A300B European Airbus. Development of the powerful GE4 engine for the U. S. Supersonic Transport continued on schedule. On the military side, the group was selected to develop the F101 engine for the proposed USAF B-1 bomber and AEG military engine business continued in a strong position for the year. However, employment in the group declined by about 1000 jobs in losing the competition for the F-14B/F-15 fighter aircraft program combined with efforts to reduce unnecessary operating costs.

Company efforts below the sea were bouyed up considerably as Tektite II, a seven-month underwater research program and the most ambitious ever undertaken, was launched on April 4, 1970. The GE habitat or underseas living quarters for the aquanauts, the most advanced diving gear available, and a contingent of supporting employees were all contributing to a highly successful mission as final "splashup" took place in mid-October.

Racing into the news this year, practically indestructible Lexan® was used as ground-hugging skirts for the revolutionary Chaparral 2J race car. The engineering plastic also won favor in the auto industry as a robust new market for us. Lexan is used already in about a dozen applications on today's cars, including taillight lenses and bumpers.

GE deepened its nearly $100 million commitment to the time-sharing business by dedicating in September the first stage of an international information processing network. Operating from Cleveland, Ohio, the first stage of the network is currently providing local telephone access in 42 metropolitan areas. In 1971, all GE services will be available on a local call basis in 150 cities to thousands of major business firms throughout the U. S., Canada and abroad. The company also reported that its operation of an experimental network link to Europe via COMSAT satellite to London has been successfully field tested.

One of the company's "glamor" businesses, industrial diamonds, was among a number of those which felt the softness of the sagging economy in 1970. But this was viewed at most locations as a lull that would only last as

long as the nation's economic downturn lingered on.

Meanwhile, sparkling feats were being achieved in the laboratories of the company. For the first time, our scientists have learned nature's secrets for making clear, gem-quality diamonds. The gems, some weighing more than a carat, are considered invaluable to scientists for their industrial properties. High processing costs, however, keep scientists realistic about any commercial availability of the gems in the near future.

At the Lighting Research Laboratory in Nela Park, Ohio, man's dream of a small, compact electric light source whose spectrum matches the color of noonday sunlight was realized by our scientists. Research shows the light source is four times brighter than the popular 100-watt household lamp. Laboratory tests indicate the life of the new light source is 5000 hours or more. Known as a high-intensity discharge lamp, it will be suitable for general lighting applications.

In the international arena, exports from the United States set new records for orders in the past year. Most of these were for large, high-technology products such as gas turbines, nuclear power plants and jet engines. At the same time, sales from offshore manufacturing by GE affiliates were at an all-time high in 1970. Among other overseas activities, the company announced expansion plans in Singapore, opened a new service shop in South Africa, and dedicated a new plant to manufacture lamps and meters in Brazil. Meanwhile, there were some 300 GE licensees around the world, 65 of them in Japan alone, providing products ranging from hair dryers to turbine generators.

The IGE Export Division was reorganized and renamed the International Sales Division to better serve all international markets.

At a time when traffic congestion and the related pollution problems are a major national concern, the company has expanded its role in the land transportation industry by entering the rapid transit and commuter car building business. Traditionally, the Transit Systems Department has been a supplier of electrical propulsion and control systems to this industry.

The department received its first order as a prime contractor for 144 high-speed electric commuter cars from New York's Metropolitan Transportation Authority and the Connecticut Department of Transportation for New Haven commuter service.

1970 was not a "business as usual year" for more than some of the reasons cited above. It was a period of growing realization that the work force was changing — noticeably. People with different backgrounds and sharply new values sought employment with us in larger numbers than in the past. As they become part of the General Electric team, their energies may further spark our resurgence.

Dr. Tom Paine

NASA's Top Man Is Back At GE

Dr. Thomas O. Paine doesn't move much as he talks, nor is his face especially elastic in conversation. Dr. Paine is a voice man. He gets his shadings and his stress notes both from the pitch and metallic timbre of his voice and from a careful but swift selection of words.

"I think that anybody in our society today who is bored is the most insensitive clod that ever existed. I don't see how anybody can be bored, not in these times."

That's Dr. Paine at his forceful best. His face is calm, with the slight half-smile he always wears, but the voice rips.

When he talks about art, by way of contrast, and some of his ventures in welded sculpture, the pitch is soothing and the tone witty. "The ground rule a friend and I had for welded art was that it had to be what he called 'railroad art': All of the parts to be welded together had to be picked up along the railroad tracks (old brake shoes, broken springs and sections of switches). One of the first demands put on us was the stamina to lug all that iron home. We did one piece of sculpture that attracted some local attention, the title of which was 'The Pregnant Limbo Dancer.' I remember another one that was a fairly good likeness of William F. Buckley."

These two poles suggest but by no means proscribe the range of Dr. Paine's intellect, an intellect which he brought to bear with brilliant results from January 1968 until September 1970 as head of the National Aeronautics and Space Administration (NASA). He rejoined General Electric (he had been with us for 19 years in a variety of research, engineering and management positions, including the post of manager of TEMPO) as Vice President and Group Executive — Power Generation Group shortly after leaving NASA. It was Dr. Paine, of course, who was at the helm of the space agency during all the manned Apollo flights, and when American astronauts landed at Tranquility Base in July 1969.

His time with NASA demanded intense concentration which in turn brought on an unconscious sublimation of the furor going on in the more prosaic world outside NASA's walls. Looking back to the pre-Apollo 8 days, he says: "National self-doubt had set in, and the space program got very much out of phase with America because we were a long lead-time program. We had set bold and adventurous goals in one phase of our national existence, but by the time we were ready to go to the moon — and we were on schedule — the nation had gone off in another direction. 1968 was a year of recrimination and doubt, a time of anti-heroes rather than heroes. Apollo 8 went around the moon at Christmas at the end of a disastrous year that featured riots and assassinations and all kinds of problems. Frank Borman's triumph and reading of Genesis from space seemed to be completely out of context with the times."

The Apollo moon landing, he notes, "was one of the few positive programs America had left." And Dr. Paine is a zealous believer that organizations structured along the lines of NASA — which combine the best talents of government, industry and the universities — can be put together in a partnership to produce action-oriented programs to solve some of earth's more pressing dilemmas. "The public is absolutely right," he says,

"All of us should work together — not to study the problems, not to write treatises, but to pitch right in with our sleeves rolled up and solve these problems."

"it *is* ridiculous for a nation that can go to the moon to put up with some of the inefficiencies and nonsense we are putting up with." Like rising crime and worsening education in our major cities, or the generally miserable service to be found everywhere.

But before action-oriented programs can get off the ground, Dr. Paine says, we have to have goals. "Until our people can reach a national consensus on the directions and goals for America, it is pretty hard to set up results-oriented groups to tackle our problems." The first step then is the rational discussion in our democratic society of national goals and national priorities, which Dr. Paine believes will be done. "I think many people are tired of all this anarchy and ineffective talk. They are getting fed up with our inward-looking national hypochondria — excessive internal concern with minor ailments. The amount of progress we are making in this country, I would submit, is greater than that made in any epoch of the past. And we are on the threshold of making much more. As this happens, America is going to regain its sense of optimism, its sense of accomplishment."

And the same generally applies to Dr. Paine who finds himself already deeply involved in the demands of his new job (see business portion of the interview which follows below). His art interests, he thinks, will wither. He has recently taken an apartment in the East 50s in Manhattan, and has a good area for his hobby of oil painting. "But after talking to Fred Borch and Bill Dennler, the chances of my having time for any painting are zero. So any prospective purchasers of my art can be assured they are going to remain very rare."

Sailing, another of Dr. Paine's keen interests, is a different matter. Maybe during vacation, he says, he can get to the Virgin Islands and try his hand again.

He didn't say whether or not his interest in sailing stems from his experience in the Navy during World War II, but it seems likely. He spent the war in the Pacific as a submarine officer, and when the shooting stopped, he had the job of sailing a very large Japanese submarine (capable of launching three small aircraft) back to Pearl Harbor for study. "Yes, it was interesting," he says, "all the controls on the boat were in Japanese with American labels made by our crew dangling from them."

Our interview time raced by because Thomas Paine is an engaging conversationalist, stimulating, yet relaxed and easy to talk to. He closed off with the quote which began this account on the subject of boredom. He said he agrees with the longshoreman-philosopher Eric Hoffer, who holds that boredom is the real source of revolution. But he thinks only a very small percentage of our people are so afflicted. Realists and thinkers in touch with the real world can't abide the luxury of boredom. He thinks the time has come when a great many people crave, as he does, effective action. "All of us should work together — not to study the problems, not to write treatises, but to pitch right

in with our sleeves rolled up and solve these problems. Some of the young people today who are concerned with the problems of our society have some justice on their side. We *should* be doing a better job than we are doing here on earth. We must continue our tremendous surge forward in space, but we can also use some of the same thrust forward to improve living conditions on earth."

And one comes out of an interview with Dr. Tom Paine believing he's just the man who can make it happen.

Power: In a State of Ferment

When Tom Paine's people at NASA were heading for the moon, the eyes of the nation and the world were upon them. Several years later and in another world altogether, Tom Paine's people at General Electric are again the focus of attention.

The pressing national need for more and more electric power capacity in a clean environment has led to a whirling sphere of continuing debate in the electric utility industry over the application and balance of steam, nuclear, and gas turbine technology. But we're not idly standing by. Tom Paine's assessment is: "I think we're seeing a whole new spurt of technology in this traditional power generation business and I've found it very exciting in my plant visits to see the progress we've made while I was away."

Still feeling the impact of his first round of visits to company plants in the Power Generation Group, he finds: "We're probably going to wind up with a period of several decades in which engineers will be finding novel ways to put together the advancing new products of nuclear, steam and gas turbine technology in greatly improved systems. Things are going to remain in quite a state of ferment."

Dr. Paine also sees profound change coming within technologies. He finds our Boiling Water Reactor approach to nuclear power generation "a hell of a powerful one which is going to bring major future benefits to our customers and to GE." But he notes it's a rapidly moving technology. This fact and the entrance of longer-range competing technologies, the great size of future generating plants, the scale of these operations and related nuclear fuel reprocessing opportunities, taken together, portends "there will be a lot of changes to be soundly managed in the next decade."

"GE's challenge is very clear," according to Dr. Paine. "We must continue to play our traditional role of technological leadership — the people who know how to translate a new technology like this into a sound business operation benefiting the nation."

Up to now, Dr. Paine views the nuclear business as "going through a transition from a high-risk technological venture over to a solidly based, rapidly moving GE core business."

All hands are needed to help develop broader public understanding and acceptance of nuclear power. Dr. Paine is certain that manufacturers as well as electric utilities have roles to play. "We have a job to do in assuring the public that we know what we're doing, and that the kind of plants we're building are the kind that should be built. Beyond that, it's up to the utilities to assure the community these plants are what's needed and that ancillary problems have been envisioned and overcome well in advance."

Among the major challenges facing the electrical industry is the one concerning the battle against pollution. Dr. Paine notes that the electrical industry has a "tremendous record of prog-

ress in the elimination of pollution by substituting clean electric energy for older forms." He says, "It seems to me that as we clean up our environment in the future, one of the major industries that will make this possible will indeed be the electric utility industry." The industry is already finding solutions to "short-range problems that have to be ironed out," Dr. Paine asserts. Our challenge is to provide the nation's much needed electric power while doing the best possible job to provide a good environment.

One great contribution by the electrical industry to a better environment, according to the executive, has gone virtually unnoticed. "Here is the industry that has done so much across the entire southern arc of this nation to remove that terrible summer heat and humidity with modern air conditioning. But no one ever talks about that real contribution to a better environment," Dr. Paine points out.

Dr. Paine likes to take the broadest perspective his activities will allow. He says he was particularly pleased with his recent visit to Lynn, Mass., because of the way our very rapidly growing gas turbine technology is approaching the entire world market. "They're not looking at this as a U.S. opportunity but as a global one to bring the new technology of gas turbines to places where it can be applied around the world. This is the kind of vision that's very encouraging to me and is another indication that General Electric and the United States both are poised at the beginning of another move forward. I think the nation as a whole is going to depend increasingly on companies like GE which can work effectively to solve national problems, including the soaring need for clean electric power."

As a college student who spent his summers as a welder in Navy shipyards, as a man who did submarine duty in World War II (see above), and as a mariner of a small sloop during rare leisure hours, Dr. Paine shares some kinship with his marine turbine and gear businesses centered in Lynn.

Here, too, the viewpoint of the group executive and the division take on world-wide implications for the business. Dr. Paine says the competition offshore is formidable. "As competitors, the Japanese have had a tremendous wisdom since the war to select the right fields for their industrial expansion. They went into big merchant ships, solid-state electronics, and all the rest."

Optimistically, Dr. Paine stresses that in this type of situation and "in this kind of work, we must do our very best. We've been doing an excellent job, but the challenge is increasing."

He adds, "With the worldwide competition we face, we'll have to sharpen our pencils and do our best possible job to keep the cost down too. It's a real business challenge. But the point is, it's an opportunity to get in there and do a first class job."

"...the nation as a whole is going to depend increasingly on companies like GE which can work effectively to solve national problems, including the soaring need for clean electric power."

Business grows and grows . . .

Saga Of Success

Seventeen years ago, the man who asked a native of Roanoke, Virginia, where he might find 1501 Roanoke Boulevard would have been met with, "Can't say I ever rightly heard of it."

And the local would have been correct. But had the visitor pressed further, "You know, the place where they're building the new GE plant," the native would have smiled and directed the man out into the country where he could gaze on fields and watch the cows watching the bulldozers in Roanoke's suburb, Salem, Va.

Oldtimers at the still new GE plant at 1501 Roanoke Boulevard can't get over what's happened in 17 years. They tick off their points:

- Industry Control Department, an old-line Schenectady business, selected the Roanoke Valley as its new home in 1953.
- Three years later, families, furniture and equipment were moving into the yet-to-be completed GE-green building, and the employee relations people were telling the press that maybe, just maybe, when the department got going, they *might* reach an employment of about 1800 people. Wow! said the native.
- Eight years later, it was pretty clear to everybody in the area that the Industry Control Department was off and running. The plant manufactured a range of automation control equipment that was just what burgeoning American industry needed to keep up with the times.
- By midsummer, 1970, a manager who had been with the department since it opened its doors in Salem said, "The place is bursting at the seams."
- On October 1, 1970, Louis E. Wengert, vice president and general manager of the Adjustable and Constant Speed Drives Division of GE, announced that the department had grown to the point where it made good business sense to split it and form two separate businesses: Drive Systems Department and Industry Control Department.
- From a cow pasture in 1953 to a business grown so large it had to be split in half, and all in 17 years. Better than 3500 employed, twice the original estimate.

The news is good in a year of uncertainty. The control business has been quietly booming for a decade and a half. Industry Control, at the time the split was announced, was operating at double the 1960 sales volume, and forecasting a 75% increase over the next five years.

The new Drive Systems Department will be the landlord at 1501 Roanoke Boulevard, which must mean that the Industry Control sign over the front door will come down. James R. Olin, formerly IC's general manager, will take the helm of the new department. James A. Baker will assume a similar role for Industry Control.

Vice President Wengert said that, "The two departments will have headquarters in Salem, Virginia, for the forseeable future" and that no personnel moves are planned for the same period of time.

The new Drive Systems Department combines the Control Systems Business Section in Salem with the Drive Systems Operation in Schenectady, to provide single management focus on the large custom drive systems business.

Industry Control will be assigned the starter and components product lines and the automation control systems for a variety of businesses.

GE Broadcasting: Still Pioneering

Production session at Schenectady's WRGB. In top photo, three GE cameras focus on model and GE Electrak® Garden Tractor. Bottom photo shows TV master control area during Electrak® session producing video taped commercials for television.

By Gordon Peil
GE Broadcasting Co.

TV comedian George Gobel commented recently during a television interview at a General Electric Broadcasting station: "I go back a long way. In fact, I'm so old I can remember when the air was clean, sex was dirty, and GE just made light bulbs. So now you guys are in broadcasting. . . ." Lonesome George was expressing what people in the broadcast industry have watched with increasing interest. Since 1966 GE has moved decisively into the radio-television business.

The roots go back to February 1922. GE put WGY radio on the air that month, and in the same decade performed the world's first TV remote broadcast. For the next 40-some years GE made broadcasting history at its Schenectady stations.

But GE's horizons lay beyond Schenectady. "We'd built a national reputation for technical pioneering and program innovation, but we had no national base from which to apply our ideas outside Schenectady," says Reid L. Shaw, vice president and general manager of General Electric Broadcasting, headquartered in Schenectady. "We formed GE Broadcasting back in 1964, convinced the industry would profit from our brand of broadcasting."

In short order, Nashville's WSIX TV-AM-FM and Denver's KOA TV-AM-FM were added to the Schenectady stations. These first locations are strategic to the GE concept. Nashville is the center of the South, of the Nashville sound, and of the world recording industry; Denver is at the heart of the fast growing western United States, and Schenectady is two hours from downtown New York. GE Broadcasting regards its stations as production centers, and has placed them near the greatest number of potential clients.

Production is a cornerstone consideration. Convinced from the beginning of the importance of producing quality television programs, award-winning

public affairs and news presentations, and New York quality commercials. GE Broadcasting geared up to compete with the biggest markets. Today its list of electronic gear and studio facilities reads like a network inventory. At Schenectady, for example, there are 7000 square feet of studio space, a quarter of an acre of props, three of the latest GE PE 350 color cameras, a complete 16mm color processor, a full range special effects bank, a high and low band recording, chroma-key, and so the list reads. Denver and Nashville are just as formidable.

Located to good advantage, and geared for the toughest production assignments, the stations have been staffed with the best available talent. The result: in a few years' time GE Broadcasting has registered major achievements. WSIX-TV already produces more TV programming for syndication to more markets than any station in the country. Statewide organizations have bestowed honors like "Station of The Year" to WSIX, and "Best Commercial of The Year" to KOA-TV. The Associated Press awarded WRGB-TV first prize for having "the best regularly scheduled newscast" in New York State.

KOA radio in Denver is in the live sports coverage business in a big way, holding exclusive radio broadcast rights to the Denver Broncos' NFL football games. It feeds the games to a network of western radio stations, as well as the games of the Denver Rockets of the American Basketball Association.

Industry-wide recognition has drawn clients like Macy's and Marine Midland Banks from New York City to Schenectady to produce commercials at a fraction of the New York costs.

Major users of video tape for closed circuit television purposes, such as business meetings and dealer presentations, have begun to take advantage of these new centers of television-radio production.

Industry leadership in broadcast production is one of a spectrum of contemporary communications techniques under development at GE Broadcasting. Automated television switching and fully automated FM radio station operations are already operational. New traffic and billing techniques utilizing General Electric computers are under development, along with new programming concepts. The pioneering excitement of 1922 continues today in an expanding range of activities.

Left to right at WRGB-TV Schenectady: Jim Williams, host of news interview program; Reid L. Shaw, vice president of GE Broadcasting; Daniel Button and Sam Stratton, Congressional candidates. Shaw did not appear on the program which was taped before election day.

Christmas

Wishboard

JASPER: Littering, lass?

HORTENSE: Avaunt, brother. I am cutting, from pubs, ads for GE products suitable for Yuletide. General Electric is my favorite electric.

JASPER: Fancy that!

HORTENSE: Clip, clod, from this sea of paper those pronouncements that lift you out of stasis and into a fit of purchasing frenzy, to which, had you the wherewithal, you would succumb.

JASPER: And then?

HORTENSE: The clippings will be arranged on my bulletin board which appears immediately to the east of here. This pub is read by thousands. Some perusers may feel so strongly about our choices that they will buy a few for us. Call it a Christmas grift.

JASPER: You have faith, oh guru.

HORTENSE: Aroint thee, keep clipping.

Mickey Mouse has put the arm on GE, phonographs that is. Phono model RP 3122, especially for youngsters under 12, is $23.98.

Ever want to tw
grind, jounce, jig
gle, bruise or liqu
things to drink?
our deluxe
blenders. It's

Look how small they're making cassette recorders! It's pocket-size for traveling businessmen with dictation, plus all the other things one might do with it. Priced at $89.98.

Stay in bed and love it.
It's easy with our new clock radio that tunes out the world with the wave of your hand. Called "Magic Snooz," a special circuit will shut off either the FM/AM radio or alarm. Priced at $59.98.

Stamp out the "ki
blahs." Go bananas
our new can-opener/ice

st, jerk,
gle, jan-
efy good
Then try
utomatic
$44.98.

Ole! your friends will cry when they see this beauty, the GE El Matador, 25-inch color TV. Employee rebate on model M987EPN is $80.

Wrinkles, wrinkles, life is full of wrinkles — like in your suit. Iron out (oops) a few of those wrinkles with our wrinkle remover. WR-1 is $16.98.

chen
with
rusher priced at $24.98.

All prices are manufacturer's suggested retail

CHRISTMAS in a Makoti-roofed cottage

Editor's Note: For a greater appreciation of foreign service life as seen through the eyes of our employees, Monogram asked globetrotters Dick Scott with GE-Brazil, Area Sponsor Dick Carlson in Kenya, and military jet engine manager Jerry Linz in Thailand to describe the local customs and traditions they may observe this Christmas and New Year's in cities around the world. They write us as follows:

Dick Carlson, Area Sponsor, East Africa

Last year the Carlsons celebrated Christmas in a makuti-roofed cottage on the shore of the Indian Ocean just south of Mombasa, Kenya's principal seaport. On the 24th we had driven the 300 miles from highland Nairobi, where the GETSCO office and our home in Africa are located, to spend the year-end holiday on the tropical Kenya coast.

It was a quiet day of rest and renewal, a time for taking a deep collective breath after the adjustments and transition of our initial eight months in Africa. There were no demurrals from our four children when my wife decided earlier we would dispense with the usual decorations and trimmings of a stateside Christmas. They were content with the natural tinsel of brilliantly blue sky, gleaming sea, exquisitely delicate coral formations teeming with multi-hued sea-life, and the dazzling colored tropical flora.

Christmas dinner was in the evening, a simple candlelight meal. We sang carols to the accompaniment of guitars (which Kristen and Mark, our two teenagers, had somehow managed to strap on top the Peugeot despite all the other gear).

Later, a nocturnal visit by the bushbabies to accept gifts of nuts and ba-

nanas was as exciting to Karen and Lisa, the younger element, as a personal visit by Santa.

We knew of no Christian churches in the vicinity, but the next day we found a small mosque in a palm grove back from the beach. We were told it was built more than a thousand years before by Arab sailors. On local maps, the reef-sheltered lagoon is still marked as "Dhow Anchorage". The religion also survives and we were politely requested to removed our sandals before entering.

Our thoughts and prayers were different as we stood on the sand floor in the cool darkness, but the atmosphere of reverence was as great as I have sensed in the grandest cathedrals.

Nairobi is a modern city where everything is available for celebrating Christmas much as we do in the States. The Kenyan children were as delighted as those in other countries when, last year, Santa Claus helicoptered to the park in front of City Hall with the traditional North Pole shipment. This year we will also probably observe Christmas in a more traditional way in Nairobi. But from last year's experience all of us know that the meaning of Christmas is carried within and is the same regardless of place or circumstance.

Dick Scott, Commercial Director, GE — Brazil

Presents available for children here, especially those up to about ten years of age, differ quite a bit from the wild variety and high sophistication found in the U. S. stores. Local toys, except some plastic items,are relatively crude, and aside from balls, books, and tricycles they are not too interesting. Imported items such as small "Batman" cars of the matchbox sizes start at about $10 each, with battery-operated robots and the like at much higher costs. Thus the kids are very likely to get some items of clothing and books along with the plastic toys and cardboard parlor games.

Decorations for homes and public places are similar to those commonly used in North America and Europe, both places having contributed to Brazil's customs and culture. However, it seems slightly peculiar to see Christmas trees, either real or artificial, decorated with false snow and even more peculiar to see a well-padded Santa Claus obviously about to turn into a single blob of perspiration as he shuffles around in our summer temperatures of about 100 degrees. Gift distribution at home is not via children's stockings but rather by shoes. Each child puts his shoes under or at least nearby the Christmas tree for Santa to find and in which to leave gifts.

Gift-giving in no way is restricted to just one's own children. The household employees — frequently cook and maid — also really form part of the family and are entitled to be remembered. At Christmastime one will likely also be visited by some of the economically less fortunate persons living in nearby favellas (pronounced

Adventures In Eating

Connoisseur of fine foods? Adventurous when it comes to eating? Well, living overseas sometimes brings mixed blessings in this regard. Here's a rundown of what makes interesting feasts for GE employees at Christmastime: Dick Scott says, "Ham or roast pork is especially succulent in Brazil." Side dishes include avocado and boiled, fried, baked or sliced bananas in cake or pie; dessert might be mango which is "likened to a peach/orange mixture with a dash of turpentine for the very strong flavored varieties." Fruits range from dried figs and guava fruit to maracuja or passion fruit. In the Philippines, Jerry Linz says roast pig with the apple in its mouth is traditional, while side dishes include broiled monkey and in some remote areas "skewered meat roasted over open charcoal that looked suspiciously like dog."

fa-vell-as), who feel that they have some attachment with the family — their children usually will receive either inexpensive toys or candies and sweets that they normally do not get during the year.

New Year's eve is another event where our local customs are different from yours. Parties in private clubs, or hotels usually are planned as dances. The party starts at 11 p.m., has a pause in the music at midnight and from then until 4 or 5 a.m. the music never stops.

On New Year's eve, Rio has a ritual practiced on the beaches at midnight which is most unique. The ritual, which is comprised mainly of African voodoo elements, is to pay tribute to and ask favors in the future of Iemanja. Iemanja, goddess of the sea, is believed to have origins in Greek mythology, the myth then transmitted to Africa and implanted in Brazil via slave traffic. Midnight New Year's Eve is the high point of the year for the blond queen's followers who generally are descendants of slaves.

These persons gather by the thousands on the beaches before midnight, the women mostly garbed in white and carrying white flowers. Prior to midnight, individuals and groups perform voodoo rites and at midnight all light candles — giving the beaches the appearance of star studded sky. Some of the practitioners seemingly fall into trances — receive information from spirits and then give forth with advice and predictions for the future. With the lighting of candles at midnight the gifts to Iemanja are then launched into the sea. These gifts could be flowers, bottles of champagne, personal belongings such as jewelry or other valuables which are dispatched on miniature boats or rafts to be carried out to sea by the tide.

When dawn comes on the first of January, the beach gets a clean-up to remove the tons of debris so it will once again serve tens of thousands of persons needing fresh air and sunshine to recover from the night before.

Jerry Linz, Manager, Southeast Asia, Bangkok

First I'd like to tell you about some of the experiences that we had in the Philippines during the Christmas season. The Filipinos are primarily a Christian nation; however, they have a bit of a different approach to the holiday season. Christmas itself is a day of reverence and is not associated primarily with gift-giving or merriment; it is reserved for religious activities.

But New Year's is a different story. Fireworks of every description, and the louder and flashier the better, are the order of the day. New Year's Eve celebrations begin at dark, with sky rockets. The Filipinos do not, as a general rule, imbibe too freely except on New Year's, and the result is many sky rockets are launched horizontally and the effect of a sky rocket careening down the street and the subsequent explosion is generally spectacular. New Year's day is the traditional day for family gatherings and the exchange of gifts.

It appears as though the Filipinos react a bit differently than we do in the States, insofar as gift-giving is concerned. The children, rather than being recipients, usually give gifts to their parents, and much respect and adulation is conferred on the elderly — grandparents especially.

Another tradition the Filipinos have is a procession to the local church with lighted candles and a creche for mid-

night mass. These processions, of course, follow the only road through the villages which happens to be the main road, and travel anywhere that evening is painfully slow.

Thailand presents an entirely different set of circumstances. The people are about 99% Buddhist, and Christmas, as such, means absolutely nothing to the Thais. Certain enterprising merchants do decorate windows and hang traditional greetings on their store fronts, but they are apt to keep these decorations up six months or more.

The tradition of gift-giving among the Thais also coincides with our New Year's Day, and naturally the non-Thais are expected to give gifts to their friends and employees. It is not unusual to see the traffic policeman at the various street corners with stacks of gaily wrapped packages on New Year's Day, most of which I suspect contain bottled spirits. This tradition stems from the beginning of the year and now coincides with the Julian calendar as opposed to the Buddhist calendar. Actually their Buddhist New Year begins on Songkran Day (April 13), but for various reasons that day has become one of family gathering and again respect for the aged and ancestors rather than a gift exchange day. One tradition that does remain, however, is the fact that much respect and alms giving for the Buddhist monks is observed on this day.

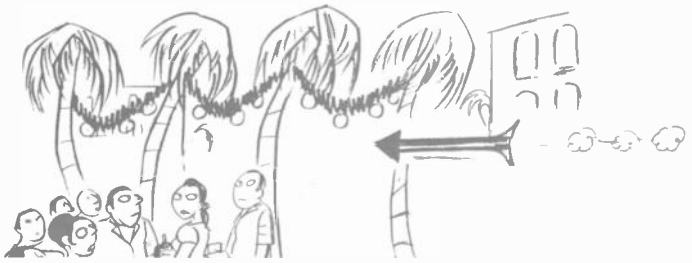
Christmas Day for our family is generally traditional except for the lack of cold weather and snow. Last year, however, the local newspapers issued cold weather warnings because the temperature was expected to drop to near 65 degrees. They admonished the people to keep dry and to dress warmly during the very unseasonable cold spell.

Another difficulty we have is procuring a Christmas tree. Last year we learned that a store would have live U. S. Christmas trees in limited quantities. We were first in line to get a tree and it was quite a beauty. I placed it in my automobile and left it there during working hours. When I got home the beautiful green tree had turned brown and when I removed it from the automobile all the needles stayed behind. We sprayed the tree liberally with white paint and hung many ornaments and other decorations and so it wasn't too bad.

Incidentally, in the Philippines, Christmas trees were not available. Instead we bought an artificial tree already decorated as a store display and installed it in the living room without a change.

The International School at Bangkok where my children attend does have traditional Christmas decorations and celebrations, but with a Thai flare. For example, the Thai Santa Claus has an elephant to pull his sleigh rather than the usual reindeer.

This year we plan nothing special for Christmas other than the usual turkey with all the trimmings and wishes for a Merry Christmas to all of our Thai, Filipino, and American friends.



The Great 10,000 Word Hangup

A picture, we are invariably reminded, is "worth 10,000 words." And that seems to end that. Well, we at *Monogram*, have grown feisty about this point. We wish the man who had uttered this 10,000 word nonsense had been told to hold his tongue. *Some* pictures (generally the presentation variety) are *not* worth 10,000 words; in fact, they eat 10,000 words to explain why they have been printed in the first place. And to prove that point, we had shot here in New York the numbers which appear on this page, as representative examples of the kind of material that clogs all industrial journalism. Why go crusading on this matter, you ask? Well sir, it may be a grinch-like thing to say at Christmastime but just the other day a guy came by and dropped a dud of a photo on our desks and said, "Hey, you know how it is. One picture is worth 10,000 words." That tore it for us. We herewith demonstrate beyond all reasonable doubt that 'tain't always so.

Honored: Jason S. Codmiller, left, Manager-Nickel-Plate Skinny-Dipping; Omar T. Finefellah, Manager-Digital Thermothrockling; C. J. T. N. F. "Buzz" Mudd, Manager-Basal Metabolism Shop Winding . . . . . and (counting?) zzzz . . . zz.z . . . . zzzz .. zzz . . .

Tom Jones explains his suggestion . . . . and — and — money — little off, see?

Our salesmen try harder. (Point obtuse? You better believe it.)

General Manager Fasbinder and staff announce cost-of-living increase.

Ever since we changed our format at *Monogram*, we have been asking readers to keep in touch and let us hear about their ideas for stories. That plea fell on the eyes of Frank H. Ittner, specialist for cost and appropriations accounting, Information Networks Department, Bethesda, Md., who sent us the story which follows, titled "Meditation."

Ittner was born in Minneapolis, served for a time as a traveling auditor, then settled down to finance assignments at our Pittsfield operations where he remained for 17 years. His transfer to Bethesda, as you will discover, was epic theater. And what the world needs now *is* epic theater as told by a man of drollery. We give you then, Frank Ittner.

Med · ita · tion

By Frank Ittner

David Frost has a number of trick questions he uses to draw out guests on his talk show. Such as, "If you were immobilized in a hospital bed for two months, who would you pick for a roommate?" I'd be torn between Peter Ustinov, Dave Marr, or Sophia Loren. Or he might ask, "If you had a fire and could save only one possession, what would it be?" I suppose I'd pick my fire insurance policy. Another one he sometimes uses is "What is one of your greatest faults?" If he ever had me on his program and asked that question, I'd be ready for him. My greatest fault is I have no generosity of spirit.

For example: Beginning Jan. 1, 1971 the company Vacation Plan will provide four weeks of vacation for employees with continuous service between 15 and 30 years. I had 20 years' service before I got four weeks. But the new plan doesn't take anything away from me and I should be happy that others are receiving in 15 years what it took me 20 years to achieve. Not me. I resent it. No generosity.

Or take the Insurance Plan. Beginning Jan. 1, 1971, the cost of root canal filling will be covered. To a dentist, performing a root canal filling is the chance to vacation in Europe instead of at Jones Beach. You know the feeling when he pauses while drilling for an ordinary filling and you sneak your tongue over to feel the size of the hole and it seems huge? That's nothing. When he excavates a tooth for root canal work and you send your tongue over to reconnoiter, it's never long enough to reach the bottom. The dentist's instruments no longer make a clinking noise but give off muffled, echoing sounds which seem to come from a mine shaft. The job can't be finished in one visit and you can't go out with that abyss in your tooth or your whole dinner would disappear without a trace. Now you learn why that gas jet is always burning. The dentist takes a piece of hard plastic, cooks it over the fire until it's ductile, and then drops it into your tooth. Afterwards he blows on his fingers saying, "Boy, that was hot!" It's not all that painful and it does save the tooth. But, I had to pay for my root canal job and others are going to have it paid for by insurance (after Jan. 1, 1971). Mean spirit, that's me.

Then there are little things such as the life insurance an employee can buy through the Savings and Security Program. Have you ever looked at the schedule of benefits? The beneficiary of a young fellow receives 60% of his annual earnings for 30 or 40 years while the beat-up old wife of the vet-

eran employee would get only 30% for a couple of years. Everything for the rookies. Why they're too young to recognize that death is nature's way of telling you to slow down.

I was transferred in December, 1969. The worst part was the exodus by auto. If you have ever driven for eight hours in a hot car crammed with baggage, an unhappy wife, three bickering children, a nervous dog, and an uptight cat, you know that it wasn't a pleasure trip. The veterinarian (my dentist's brother) prescribed tranquilizers for each of them. Finally, he conned us into buying a heavy cardboard carrier for the cat. He assured us that the pussy would be stoned out of its mind and would sleep like a baby, freaked out to the world. Evidently the cat's tranquilizer was not at the proper strength because he had a bad trip. After four of us stuffed him in the box, he took about three minutes to claw his way out. That old cat came through the side like Boog Powell with a buzz saw in each hand. The dog wasn't in much better shape, and at pit stops both animals threatened to disappear into the aromatic swamps of New Jersey. We owned a leash, but it was packed in a box marked "Junk from under the girl's bed." So we were forced to walk the critters with a camera strap wrapped around their throats which caused the dog to roll her eyes back into her head and transformed the cat into a full-fledged manic-depressive. What really hurt was finding out later that most other transferees had shipped their pets by air. I thought of all those other bassett hounds, persian cats, mynah birds, guinea pigs, pets of all description . . . all flying through friendly skies, watching their choice of movies, being fussed over by stewardesses (or stewardi), and I compared it with our trip. And I resented it. Know why? Remember, I was transferred in December, 1969. The transfer allowance was revised to a much more generous policy in, you guessed it, January, 1970. No generosity of spirit, see what I mean?

OIC Awards GE Its Top Honor

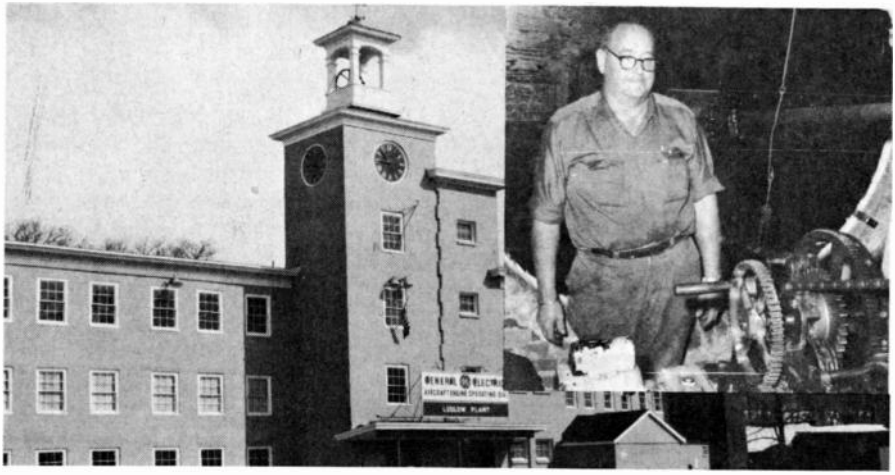
The Opportunities Industrialization Center recently awarded General Electric its highest recognition at the organization's annual dinner meeting in Philadelphia.

The OIC Key Award, presented by Rev. Leon Sullivan, founder of the OIC which is now in 90 cities throughout the country, was in recognition of the nationwide support General Electric has given to the movement over the past several years. It was accepted by Virgil B. Day, GE's vice president of business environment and a member of OIC's national industrial advisory board.

In accepting the award for General Electric, Day paid tribute to Rev. Sullivan's personal contribution to OIC's self-help concept, saying that in the area of community responsibility, it "has given industry the ideal avenue through which it can channel its considerable energies."

Recently, General Electric Board Chairman Fred J. Borch toured OIC facilities in Philadelphia and reaffirmed the company's enthusiastic support for the organization's work.

Reverend Sullivan (left), Chairman Borch (right), and others view class in English.



Clock and Fred Pelkey (inset) provide unique community service as. . .

Ludlow Keeps on Time

When General Electric leased a woolen mill in Ludlow, Vt., back in 1951, nobody expected to become the town's timekeeper. But Fred Pelkey has, as well as performing as a plant maintenance man at the facility which produces jet engine parts for the Aircraft Engine Business Group facilities at both Lynn and Evendale.

Part of the old mill is a clock in a tower at the front of the plant, estimated to be about a century old, built by the long-departed Howard Clock Co. of Boston. The 2,600 people who live in Ludlow soon made it clear that they hoped GE would continue to maintain the clock because Ludlowites had been setting their own watches and clocks by it since horse and buggy days, as old pictures attest.

Fortunately, it was in good working order in 1951, but unfortunately, not a scrap of maintenance information survived either in written or oral form with the departure of the woolen mill's people. But from among the 250 GE employees at the Ludlow plant enough Yankee ingenuity surfaced to master the clock's intricacies, to make replacement parts for it, and to repaint its three six-foot faces periodically.

Fred Pelkey was one of these who surfaced "to kind of volunteer" to take over the maintenance job — in the words of Gil Ray, plant manager.

Fred has faced some challenges as timekeeper. He replaced the hand crank, which lifted the 1000-pound ballast, with an electric motor. That, plus some adjustments to the mechanism, eliminated the disconcerting 13th chime which occasionally sounded at 12 o'clock. But one problem remains: Aging universal joints allow time to travel faster on one face than on the other two.

Yet Ludlow citizens take that in their stride, and have expressed thanks for GE's unique community service.

RECRUITING FOR VISTA: Management and Technical Services Department in Bay St. Louis, Miss., has begun a year-long contract to recruit skilled personnel for VISTA (Volunteers in Service to America, sometimes called the "domestic Peace Corps").

The contract of slightly more than $1 million requires MTSD to recruit 5000 volunteers, using new techniques and those it has already developed in its own recruiting. Emphasis will be placed on obtaining people skilled in law, business, teaching, nursing, architecture, and city planning. Recruitment won't be limited to college graduates or young people, but will extend to older and retired citizens. Richard A. Allen, headquartered in Washington, is program manager.

SCHOLARSHIP FOR DISADVANTAGED: Schenectady GE has established a $4000 annual scholarship fund to Schenectady Community College to give financial aid to culturally and economically disadvantaged persons, primarily of minority groups. The scholarships are aimed at students majoring in accounting, technology, or secretarial science and will be awarded to several each year, based on need. Selection of recipients will be the joint responsibility of the college and GE representatives.

INCREASED OUTPUT FOR IPO: New facilities at the company's Irradiation Processing Operation in Pleasanton, Calif., will increase production capabilities of pure beta-emitting isotopes. The isotope nickel-63, for instance, is used to ionize individual compounds in industry, permitting them to be separated and identified. Another use is an ionization source for fire detection devices. Sulfur-35 is a tracer compound used in medicine and agriculture. Other isotopes are used as tracers in organic compounds and for biochemical purposes. A separate facility is under construction to produce xenon-133, a chemically inert gas used in clinical radiopharmaceutical applications. It is one of the few radioisotopes which may be safely inhaled, exhaled, or injected into the bloodstream.

NEW CHOPPER HOVERING SYSTEM: Aircraft Equipment Division in Utica has developed a unique, low-cost electronic system which permits a helicopter pilot to hover his craft directly over a fixed point with pinpoint accuracy. It will facilitate pickup of heavy loads or passengers, and will aid helicopter operations during poor visibility. The system consists of a signal-emitting device on the ground, a detector on the helicopter, and an indicator in the cockpit. The ground unit is highly reliable and compact — about the size of a flashlight. The helicopter equipment is also small and inexpensive, weighing only six pounds in the simplest configuration. The ground unit makes no noise and cannot be detected without specialized equipment. Besides the helicopter use, it has application with derricks or overhead cranes.

LARGEST REGULATOR: Voltage Regulator Business Section, Pittsfield, has shipped its largest single regulator order ever. The three-part customer order, from Brazil, totaled $2¼ million.

INCINERATOR: Industrial Heating Department has the "green light" to begin second phase of a two-year, $414,680, federally supported development program to demonstrate an efficient high-temperature vortex solid-waste incinerator for cities. Under this phase, a six-ton per hour capacity incinerator, Vortex II, will be built and installed in Shelbyville to handle the disposal needs of Shelby County, Ind.

Reading Meters By Phone — Automatically

Reading meters — gas, water, and electric — may soon be as easy as, well, dialing a telephone.

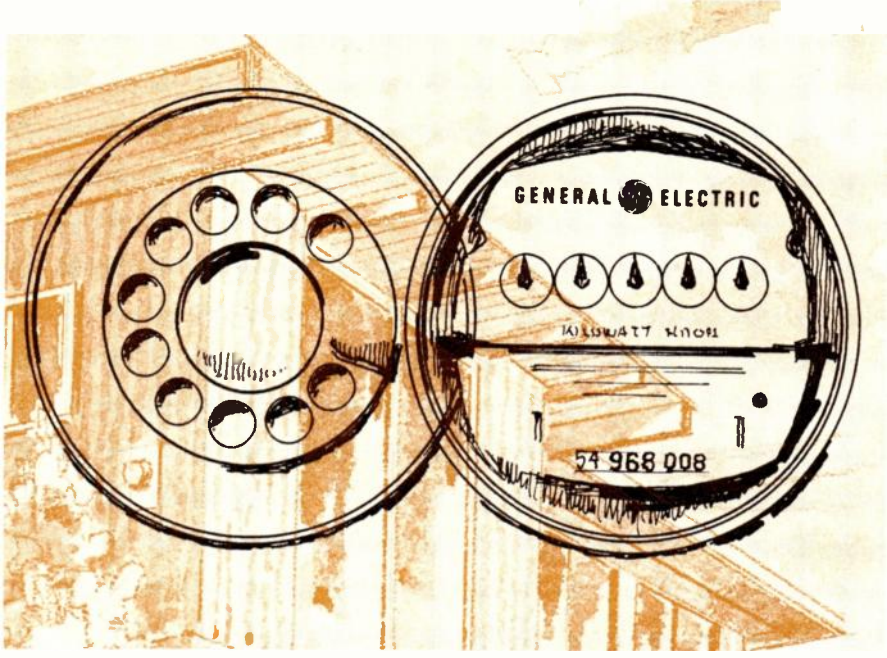
That's the word from the Meter Department of Somersworth, N. H. General Manager William B. Lynn says single-phase meters with automatic meter reading encoders were installed in series with existing meters in 10 New Jersey homes and coupled to American Telephone and Telegraph data sets.

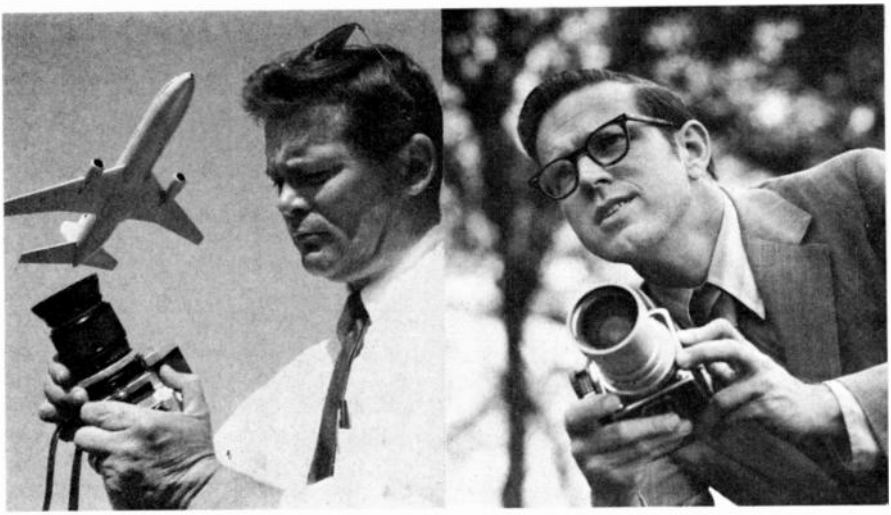
The Jersey test is a part of Bell Telephone System's Automatic Meter Reading Test Series being conducted by AT&T, GE and other equipment manufacturers, along with several utility companies, to examine the feasibility of using existing telephone facilities to operate an automatic meter reading system.

A third and final phase of testing, now underway, "may well provide some of the key economic answers to the future of automatic meter reading," according to Lynn.

A Giga-What?

A new term — gigawatt — is used more and more in describing the production of electric power. A gigawatt is 1 billion watts. Because of the growth of new units and transmission facilities to gargantuan size, the concept of the kilowatt (1000 watts) and megawatt (1000 kilowatts or 1 million watts) does not represent enough dimensions to describe them.





GE cameramen, Wiesman (left) and Halstead help . . .

Company Calendars Go Photographic for '71

General Electric's calendar for 1971 is a break-away from past calendars, and in a number of directions. Some "firsts" include:

- Concentration on one theme, i.e., "Energy and Environment." It offers a dozen examples of the work of GE people to reconcile man's energy needs with new ecological concerns.
- For the first time in its 40-year history, the calendar is all photographic.
- GE photographers were used for the first time. John Wiesman of Evendale did the March photo and Walter Halstead of the Research and Development Center produced the June illustration.

The new calendar's "pad" features the current month in bold, readable type, legible up to 20 feet, the average viewing distance in offices. Before and after months have been given the traditional treatment, and this is in response to the main criticism of the 1970 calendar — that the bar treatment for before and after months was not legible, even from a few feet away.

Back cover space has been utilized to expand, in footnote form, the one line message beneath each month's photo.

Dave Martin of Corporate Editorial Communications planned the 1971 calendar. Dave comes to us after a 12-year stint on *Life's* editorial staff. Paul Jensen and Leonard Wolfe were the designers. Both are veteran Time-Life books designers. Their objective was to produce an attractive product without being "far out" — progressive in format without sacrificing functional values.

Some of the many dramatic photos used in the new calendar are Churchill Falls, Labrador, whose pollution-free power will be harnessed by Canadian GE waterwheel generators; smokeless, quiet DC-10 Trijets; safer driving with GE high-intensity lighting of Salt Lake City's freeways; and monitoring pollution from New York City expressways.

Very Involved People

Honor Roll

Rolling up their sleeves for the 42nd Bloodmobile visit to the Salem, Va., General Electric plant are six employees (the numbers following their names refer to the pints they have already donated): Hugh Taylor, 48; Rowland MacFarland, 44; Norris Thompson, 43; Sidney St. Clair, 51; Bill Howley, 66; and Don Laustrup, 46. Forming a backdrop are thirty 55-gallon drums representing nearly 1650 gallons of blood which GE employees have donated during the past 14 years. Thirteen consecutive Kinsley McWhorter Blood Donor Awards have been received by Salem employees for their outstanding contributions to the Blood Program. Other plants may top the Salem figures, but *Monogram* thought the story newsworthy because of the imagination used in the photograph to promote the story of their contributions to the cause of blood-giving.

Heart and Imaginations

Dan Returns

Dan Chick, a young engineer with Aerospace Electronic Systems in Utica, is back on the job after spending time in the Newark ghettos earlier this year under a special vacation/absence/work arrangement with GE. The genesis of the sojourn began in 1965 when Dan was pursuing his BSEE degree at Brooklyn Polytechnic Institute where he met the Rev. Bill Iverson.

Dan became interested in the Iverson ministry to slum areas and devoted much of his spare time while at BPI helping him. But he wanted to devote full time for a while, and he was finally able to manage it — with the help of GE — five years later. The Iverson ministry is year-round, but he beefs up his staff with volunteers during the hot summers. Dan Chick volunteered himself, his wife and infant son for work in Newark. He believes he was selected so that he could contribute his GE business training to develop a more systematic approach to teaching and the ministry in the ghetto. The Chicks were the only volunteer family group in the program, and 18-month-old Darren "would open up a common talking point with other family groups where the opening conversation was particularly difficult," said Dan. "I learned more in Newark than I gave," he adds. "I never failed so many times in my life. I learned a man has to be encouraged by hope and humbled by failure before he can give himself to any task."

ANONYMOUS FAME: Al Goodwin is famous in Washington, although his name was never mentioned by Bill Gold, conductor of the widely read "District Line" in the *Washington Post*. Hear the columnist's story about his experience getting a clock radio fixed

PEOPLE

at the Servicenter in Washington: " 'The clock runs, so the set is getting juice, but it doesn't play,' I said to the man behind the counter. 'Do you suppose you could fix it for something less than I paid for it originally?' 'Oh, I think so,' he said soothingly. With practiced fingers, he wedged open the back, removed one tube, put in a new tube, indulged himself in the flicker of a smile when the music came on, then handed the set back to me. 'No charge,' he said. 'Compliments of GE.' Just in case you're wondering whether this was really another example of GE's excellent service policy or something special done for a guy who writes a column, be advised that: I had never been in the place before, I do not know the man who waited on me, he doesn't know me, I never identified myself. . . ." To give Al Goodwin his due, we identify him here, with picture.

THE $4600 GETTOGETHER: "The morning we got together on it, we just decided we didn't like the old system. And then one thing led to another." What it led to for Robert Cureton and Robert Reynolds of Home Laundry Washer Evaluation Laboratory in Louisville, was $2300 each through the Suggestion Plan. The $4600 award is the largest single one at Appliance Park to date this year. The pair recommended welding the two brackets of the self-level base assembly on the 24-inch and 27-inch automatic washers. The suggestion eliminates using six drive screws per base assembly, leading to cost reduction, quality improvement, elimination of the need for rework during manufacturing, and reduction in the amount of service required. Both winners plan to use the money for their children's education and to pay a few bills.

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2 GE EXECUTIVES HONORED: Jack S. Parker and Gerhard Neumann were among 29 men honored as new fellows by the American Institute of Aeronautics and Astronautics recently. Vice Chairman Parker was honored for "his contributions in the development of jet engines of lightweight construction, more efficient aerodynamic cycles and higher operating temperatures. Vice President and Group Executive Neumann was recognized for "his pioneer work in the development of subsonic and supersonic jet engines and his contributions in the field of project management."

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50 PITTSFIELD YEARS: Edward J. Caine, a tools and supplies specialist in the Commercial Distribution Transformer Department in Pittsfield, reached his 50th year of GE service in October. He retired on Nov. 1. Ed Caine started as an office boy in 1920 at about $3.50 a week. He has since held a wide range of jobs — from foreman to methods specialist to manufacturing operations technician.

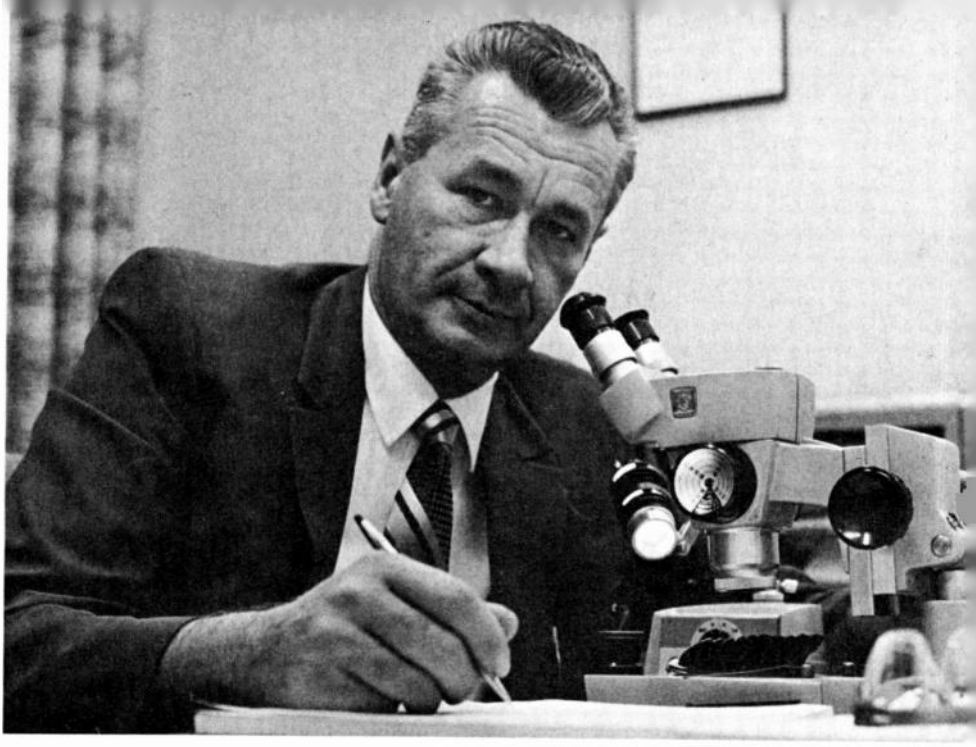

Photo by Dick Miller

Safety

The Art of Mr. Smith

When the airplane landed in the interior of Sweden, a judge met the man from GE. "I feel I know you, Mr. Smith. I took the course in the States. I read your book."

Book? Swedish judge? What's the relationship? Well, the man with one of the most common surnames in the English language is something of a celebrity to aviation safety men, and Swedish judges sometimes act as aviation safety men.

Smith, Art, is "Consulting Engineer-Flight Safety," for commercial engines. He works out of the Evendale, Ohio, plant. Safety is Smith's passion. He'd dearly like to do himself out of his job which is the unpleasant one of investigating airplane accidents should they involve GE commercial jet engines, and should the cause of the accident be less than obvious.

Now the mere mention of airplane crashes brings on palpitations for aviation people. Many in the industry believe they should never be discussed, much less written about.

But hold the phone a minute. Art Smith's story has a positive upbeat. He reports that *never since GE introduced commercial jet engines in 1960 has a fatal crash been attributable to a GE commercial jet engine.*

A portion of the reason why is that Smith is on the job, and on it with a single-mindedness to prevent accidents. Both he and his job exist, he says, to make good and sure that GE jet engines are ultra-reliable, and that no effort is spared to keep them that way indefinitely.

But in striving for safety, Smith has become one of the world's acknowledged experts on the causes of airplane

accidents. Last winter, he was summoned to Sweden for his expertise. Smith along with Bill Jamison, also of Evendale, supplied much of the inputs for the standard text on airplane accident investigations which is in use throughout the world.

In his personal manner, Smith is mild and shy. A friend says of him, "he is so humble, I'm not even sure his wife knows what he does for a living."

Art grew into his special niche via World War II, where he served as a crew chief on duty in the Aleutians, "fighting williwas," or their wind equivalent in the northern hemisphere. When the Korean thing broke out, he was recalled for 21 months, after which he completed his education at the University of Southern California with a BS in aeronautical engineering, augmented with mechanical engineering. He came to GE for jet action in 1954, and shortly thereafter was asked to lend a hand in the investigation of a military aircraft accident. The assignment proved a turning point in his career. He's been at the grim business ever since.

"But," says his friend Hank Butkiewicz, "don't get the idea that Art's work is negative. In my opinion, he has done more for flight safety than any one individual I can think of. One good example of what I mean is his work in sound analysis."

What this comes down to is that Smith has learned how to "read" engine sounds from recordings made via an open mike feeding the flight recorder, which is operated from the cockpit.

"I developed the concept," he says, "a couple of years ago. I use the background noise from the open mike, and by interpreting the frequencies in the background, I can pick up the engine's signature and know with extreme accuracy how it performed."

Smith took his concept to our Research and Development Center in Schenectady. There, scientists, using sophisticated equipment, can turn these background engine sounds into a film strip so that Smith can interpret engine speed, he says, to within 0.1%. When this technique is used in the investigation of an accident, Smith can be absolutely positive the engines performed as designed.

Over the years since 1954, Art Smith estimates that he has investigated about 150 airplane crashes, some of which involved engines produced by other manufacturers. The company complies with these requests because Smith's considerable body of knowledge may help others to better understand the often complex combination of factors that lead to the tragedy of a crash. So by spreading this knowledge, the cause of safety is promoted. And it needs no emphasis that his presence on the payroll is proof-positive of GE's continual striving for perfect flight safety.

From Memory

One W. S. Culver, engineer for the Cincinnati District, wrote the following lines which appeared in the November 1923 issue of *Monogram*:

> Who is the man that dreams of steam and heat and water rate,
> And buckets, nozzles, valves and shafts, and then does concentrate,
> Who is it from his brain ejects a product somewhat queer?
> 'Tis the wheel designing, node defining, TURBINE ENGINEER.

The production of power generating equipment was the key activity of General Electric in the early 1920s. In *Monogram's* recap of 1970 (Year of Resurgence, p. 4) the production of power generating equipment (turbines, etc.) was still a key activity, despite the great growth and diversification of the company in the past half-century.

★ We were proud of the pluck of the people producing the Greenville, S. C., plant paper when they printed this sour epistle from an employee on a potential pricing pickle: "Two weeks ago the new machine in the cafeteria had pickles for 15¢ each. Then on Monday the machine started dispensing pickle halves for the same 15¢. This is a 100% increase in the cost of pickles overnight. Doesn't this plant have some veto power over outrageous price increases in the plant cafeteria?" Surely the pickle eater was pacified with this potent explanation: "When we called Atlas, they said they received a shipment of double-weight pickles instead of the regular ones and therefore cut them in half, with the resulting weight the same as the regular pickles." Phew!

★ ERMA has retired, after 11 years of epochal service. ERMA is the Electronic Recording Method for Accounting, GE's first commercial venture into information systems. The contract, for $60 million, was awarded to GE in 1956 by Bank of America. The bank introduced the system in San Jose, Calif., in 1959. Bank of America later expanded ERMA to 12 other centers in California. At its height, the operation involved more than 30 computers which processed more than 5 billion items over an eight-year stretch. In 1967, Bank of America switched to a new generation of computers, and ERMA became almost obsolete. Only the original San Jose installation remained, to process travelers checks. Now she has been unplugged, to become a showpiece in an exhibit at Bank of America's new San Francisco main office.

The old time mariners laughed at Robert Fulton when he steamed out of New York on the *Clermont*; Copernicus and Galileo were persecuted for their views on astronomy; and Pasteur was threatened with expulsion from medicine. Yes, the world is changing; the radical engineering thought of today is the progressive thought of tomorrow; and one interesting thing about it is that engineers and scientists are in the forefront in revolutionizing ideas and demonstrating why people should adopt the new devices and different modes of work and living conditions, which they have made possible with inventions and discoveries. . . . A thought for today? Certainly, but the foregoing appeared in *Monogram* in 1923.

★ While we're in this nostalgic mood, here are a couple of additional notes:

Item: Frank Burmester, a laboratory specialist with the Industry Control Department in Salem, Va., has the first pair of prescription safety glasses ever ground for General Electric. His father, H. F. Burmester, suggested them in 1925 at Schenectady and won a $25 award.

Item: Ron Olsen, a product performance specialist in Tyler, Texas, opened the mail to find a picture of himself made 37 years ago. The envelope also contained a letter from a Baltimore man asking for help to correct a minor problem in an oil-fired GE steam boiler, the forerunner product of the Central Air Conditioning Department, purchased in 1933. The owner described the problem and sent a promotional photo of the unit made when the boiler was introduced. There in the picture was Ron Olsen shown doing developmental testing on the boiler. Help is on the way to Baltimore, but the picture stays in Tyler.

Season's Greetings