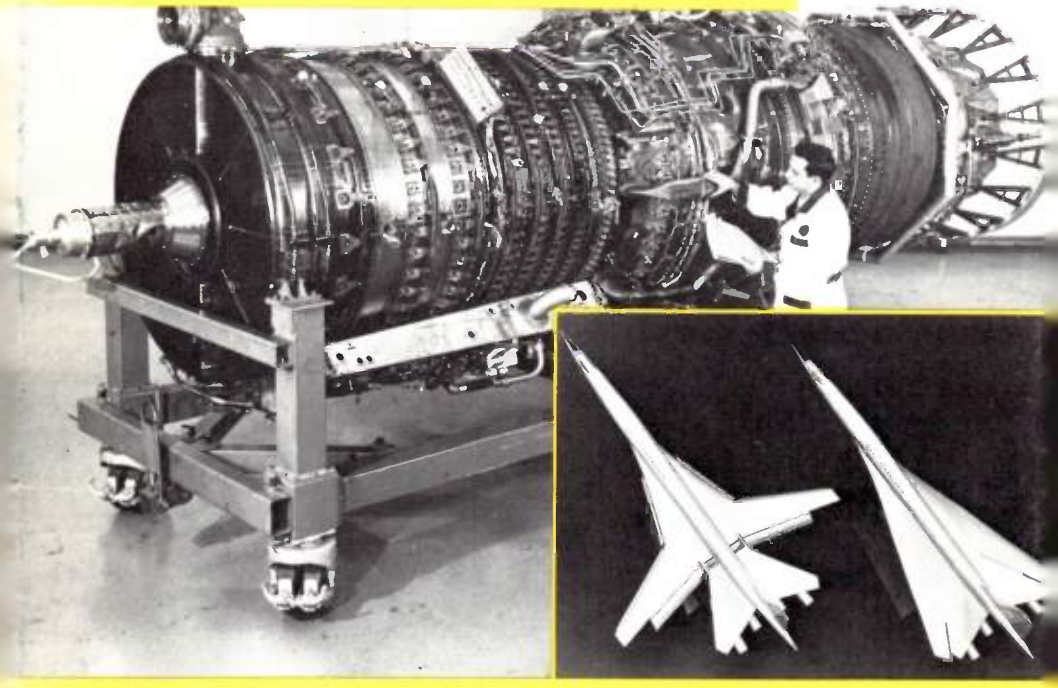
THE MONOGRAM

JANUARY
1967



GENERAL ELECTRIC ENGINE SELECTED FOR SUPERSONIC TRANSPORT . . . p. 1

AUTOMOTIVE ELECTRONICS

COMMENT ON CITIES

BIOSATELLITE

INSIDE: Strikes Settled...Fairs...Meeting in Dallas

LETTERS

That Road to 2000

EDITOR: Your editorial on "The Road to 2000" and the lesson learned in the good old days, "satisfying *today's* customer is a good way to have him around tomorrow," bears repeating again and again.

I have witnessed losing good customers and their refusal to buy again for many years.

One of the key ingredients in satisfying any customer is on time delivery. Work stoppages we have experienced the last ten weeks and those in Schenectady and elsewhere make situations wherein we will disappoint customers.

Needless to say—no customer—no business —no employees.

F. C. MCCLINTOCK
Power Transformer Department
Pittsfield, Mass.

The Last Word

EDITOR: I would like to add a word to the remarks on responsible creativity by Mr. K. A. Kesselring in the December, 1966 *Monogram*—Amen!

JAMES H. TERHUNE
Research and Development Center
Schenectady, N. Y.

Not Really

EDITOR: Could it be that the portion of Mr. Phillippe's speech reprinted in the November *Monogram* entitled "Manpower Development" was really written as the preface to Aldous Huxley's *Brave New World?*

FRED O. SHEPARD
Flight Propulsion Division
Dayton, Ohio

General Electric College Bowl

(NBC, Sundays, 5:30 p.m., EST)

Participants: Feb. 5 — Pre-emption; Feb. 12 — University of Texas (Austin, Tex.); Feb. 19 — University of Omaha (Omaha, Neb.); Feb. 26 — Mary Baldwin College (Staunton, Va.).

The object of *The Monogram* is to keep its readers informed on General Electric activities so they may contribute more effectively to General Electric progress on the job and better represent the Company in its relations with the public.

IN THIS ISSUE

EDITORS
Devere E. Logan
Lester W. Miller

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GENERAL ELECTRIC

VOL. 16, NO. 1

THE GENERAL ELECTRIC
MONOGRAM

JANUARY, 1967

JET ENGINES

Supersonic Selection

It was a cold Saturday, December 31st in Evendale, Ohio, but the man wearing the sportshirt had a warm smile as he answered one telephone call after another in his office.

The calls carried congratulations to Edward E. Hood, Jr. on the selection of the Company's GE4 turbojet engine to power the U.S. supersonic airliner, which could be the largest project in aviation history.

Mr. Hood, who is director of the Supersonic Transport (SST) Project for the Company's Flight Propulsion Division, said that the announcement was "extremely gratifying—particularly to all of the GE people who have dedicated the past three years to the design, development and testing of this engine."

The SST decision was made public by General William McKee, administrator of the Federal Aviation Agency, who also named the Boeing Company's air frame design over one proposed by Lockheed Aircraft Corporation. Competing with GE for the engine award was the Pratt and Whitney Division of United Aircraft Corporation.

Evaluation of the proposals reflected study by a team of 235 government evaluators plus 30 domestic and foreign airlines.

The Competition: The four-way competition covered an intense 30-month course that started in June of 1964. All four manufacturers were working under government cost-sharing design contracts.

The objective was to design an 1,800 mile-per-hour airliner capable of carrying some 300 passengers from New York to London in two hours and 40 minutes or New York to California in under two hours.

Boeing's winning design includes a variable or "swing wing" (see cover). Lockheed's design was for a fixed-wing delta type.

The General Electric engine selected for the supersonic transport is a turbojet type, while Pratt and Whitney had proposed a turbofan design.

EVENDALE'S MR. HOOD

A Happy New Year from the FAA.

Why Turbojet? The GE4 engine will produce more than 60,000 pounds of thrust. Four such engines will power the Boeing SST when it goes into commercial airline service in the mid 1970's. The 25-foot-long engines are the most powerful turbojets in the world.

The decision to design a turbojet type was made late in 1964 after Evendale had evaluated several possible engine types. That analysis — plus continuing investigations—convinced the Company that the augmented turbojet was the right choice.

Factors supporting this decision, points out the Flight Propulsion Division, include the lower risk effort of the augmented turbojet; that in many ways it is a simpler machine; that overall the engine will consume less fuel, will cost less to develop, manufacture, and operate; and that it will meet or beat the announced FAA noise requirements.

The Job Ahead: "The 27,000 employees of this Division," said Mr. Hood, "as well as the complete resources of the General Electric Company will be dedicated to the success of this truly international project.

"We welcome the opportunity to work with Boeing to assure this country's world leadership in supersonic commercial flight, which is a continuation of the U.S. leadership already established in subsonic civil aviation."

Continuing the design project and a production contract in the future could mean four to six billion dollars in business potential for the Flight Propulsion Division over the next 20 years if the production phase is as successful as Evendale hopes it to be.

The SST is expected to be one of the mainstays of the Company's engine business in the 1970's when the production work is at its height.

THE COMPANY

Disappointing Last Quarter

The Company's strong performance during the first three quarters of the year has been marred by a "disappointing" fourth quarter.

President Fred J. Borch said during the Company's year-end press conference last month that it appears that "Our 1966 earnings may be somewhat below last year's record level as a result of the impact of local strikes and work stoppages." He said the strikes caused many delayed shipments and added costs in attempts to meet production schedules.

The work stoppages represent a temporary problem, pointed out Mr. Borch, "Because the excellent national agreements reached with the unions two months ago should provide a more stable labor situation for the next three years. Nevertheless, they are having a negative effect on our fourth quarter results."

The Economy: In 1967, Mr. Borch said that economists expect the economy to continue growing, "but at a more sustainable pace." This shifting of business growth into a lower gear, he said, calls for "alert and prudent management."

"As evidence of our continuing faith in the strength of the economy," he pointed out, "we expect our 1967 investment in plants and equipment to approach this year's record level of about $325 million."

Reviewing the status of General Electric businesses during the year, Mr. Borch said that in fiscal 1966 the Department of Defense and NASA had awarded the Company $1,423,000,000 in aerospace and defense contracts, "placing us high on the list of prime contractors."

(Continued on page four)

ORGANIZATION

Managing Data Processing

J. Stanford Smith, who has been the Company's Vice President for Marketing and Public Relations, has been named to head the Company's worldwide data processing business.

President Fred J. Borch announced that Mr. Smith has been appointed General Manager of the Information Systems Division of the Industrial and Information Group.

Mr. Smith was previously General Manager of the Outdoor Lighting Department, Hendersonville, N.C., before assuming the marketing vice presidency in 1961.

Mr. Smith's headquarters will be in the Company's New York offices at 570 Lexington Avenue.

J. STANFORD SMITH
Ahead: managing a worldwide business.

COLLECTIVE BARGAINING

A Look Ahead

Five leading labor-management experts, including Vice President Virgil B. Day, this month spoke out against any severe new legislation to cope with strikes affecting the national interest. The experts did agree, however, that modest changes in existing laws might be necessary to prevent strikes from causing national emergencies.

Speaking at a seminar sponsored by the Federal Mediation and Conciliation Service, Mr. Day said that "free collective bargaining is in trouble." He said, "It often seems as if hardly any settlements are reached today without a bitter confrontation, eleventh-hour crisis, need for government intervention, and perhaps local strikes after a national agreement is reached."

Misused Tool: Mr. Day questioned whether the parties "are really trying to use the process of free collective bargaining," or do they, in too many cases, find that their purposes may be better served by not finding agreement, and taking their chances on federal mediation help.

Private Policy: Mr. Day offered several suggestions as steps toward restoring responsible collective bargaining in the public interest: First, an honest attempt to open the channels for an understanding of real problems; next, full communication so the employees can better judge the issues at hand; third, more resolution and more responsibility by management in defending public interest solutions to disputes and willingness to take strong stands against excessive demands; and fourth, a broader level of public support for responsible positions.

Sales of consumer products "are well up over last year," he said, due to consumer demand stimulated by product innovation. He said that the fastest growth was in the Consumer Electronics Division, with Porta-Color TV and other portable sets "leading the way."

Utility Orders: New orders and backlogs have reached an alltime record in heavy apparatus for the electric utility industry. "1966 orders for large steam turbine-generators totalled over 20 million kilowatts—more than half again as much as the total generating capacity additions placed in operation in 1965 by U.S. utilities and power agencies," he said.

Nuclear power systems and gas turbine generating systems have both achieved major breakthroughs in 1966 according to Mr. Borch. "Nuclear power plants will account for more than half of the new generating capacity ordered this year, industry-wide, and this percentage in terms of General Electric orders will be higher than the industry figure—probably about 60 percent of our total," he said.

"In our fields of chemicals and metallurgy, 1966 has been an outstanding year, both for growth of the business and for the establishment of new ventures such as Carboloy-S.p.A. for Metallurgical Products in Europe, General Medical Balteau S.A. for x-ray equipment in Europe and the establishment of Computron, Inc. for magnetic materials."

Housing Market: Despite the fact that housing starts are down substantially this year, Mr. Borch pointed out that apartment, factory, and public works construction has held up.

"Our Components and Construction Materials Group did a good, healthy business this year and the people in that organization look for business to continue to be good in 1967."

The progress of overseas affiliates during the year has been encouraging, he noted, and the Company's export business continues to grow.

"In connection with the voluntary balance of payments program," he said, "we estimate that General Electric will have a surplus payments position in excess of $450 million in 1966, which tops our 1965 surplus of $428 million."

GE MEETS THE PRESS

Ahead: call for alert, prudent management.

UNION RELATIONS

Back to Work

On Sunday afternoon, January 8th, Schenectady employees represented by Local 128 of the Plumbers and Steamfitters union voted to accept a Company offer, thus ending one of the longest strikes in Company history.

The strike began October 17th and eventually involved some 12,500 represented employees, including members of local IUE, AFTE, and Teamsters unions. The local issues included modification of the 1964 Make Schenectady Competitive

agreement, plus discussions on work forces, seniority, and work jurisdiction.

Employees were reporting to their jobs as of the first shift Monday, January 9th. Schenectady was planning to resume operations "as quickly as possible."

Negotiations with the four unions had involved Federal mediators in meetings held in Schenectady, New York and Washington.

In Detroit, an eight-week strike at the Metallurgical Products Department by UAW Local 771 ended December 11th when represented employees voted to accept a new contract.

The UAW had been holding out for the return to work of two employees who had been discharged earlier for picketline violence.

ANNUAL MEETING

Destination Dallas

General Electric will hold its 75th annual meeting of share owners in Dallas, Texas next April 26th.

William B. Frogue, Southwestern Regional vice president, made the announcement late last month and said that the meeting would be the first Company annual meeting held in the Southwest.

Mr. Frogue outlined plans for the meeting during a press conference in which Dallas Mayor Erik Jonsson and Chamber of Commerce President E. O. Cartwright participated (see photo).

"We are delighted that the Company's opportunity to come to the Dallas-Fort Worth area gives many of the Company's owners their first chance to experience personally one of the most important annual business functions of General Electric," said Mr. Frogue.

IN DALLAS: Messrs. Cartwright, Jonsson, and Frogue (left to right) discuss scheduled annual meeting of the Company.

Major Market: The Company's decision to hold the meeting in Dallas was based upon the Southwest's "growing significance as a major market and major production center for electrical products," he pointed out.

The Company has expanded rapidly in terms of employment, payrolls and facilities in the Southwest. In the last four years, Company expansion in the area has doubled. Nearly 8,000 employees live in the five-state area, and receive annual pay and benefits of approximately $57 million.

In Texas alone, General Electric employment has grown from 2,300 employees to 4,000 in the last four years. Pay and benefits have increased from $17 million to $30 million annually.

The site of the meeting will be the great hall of the Apparel Mart. It will bring to Dallas the Board of Directors and the Company's approximately 50 officers and division general managers from operations around the world.

General Electric has more than 500,000 share owners who hold over 90 million shares of Company common stock. More than 15,000 Company share owners live in the Dallas-Fort Worth area.

Noah's Space Ark

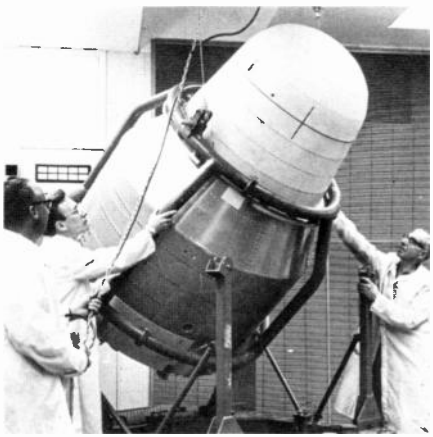
The 20th Century version of Noah's Ark was placed in orbit last month in an attempt to determine the effects of space environment on single-cell organisms.

The "ark" is the Biosatellite, built by the Company's Re-entry Systems Department. Because of the number of experiments that are being conducted inside the vehicle—with no one there to conduct them—the Biosatellite's operations are completely automated, making it as complicated as anything yet put into space when it comes to performance tasks.

Six Arks: The Re-entry Systems Department is building six Biosatellite vehicles under the direction of NASA's Ames Research Center. Two of the vehicles are designed for three-day orbits, two for 30-day orbits, and two for 21-days. A different set of experiments is conducted for each of the orbital times. The projected experiments include frog eggs, amoebae, and pepper plants in the three-day package, and a monkey (see cover) on the 30-day flight.

NEW ARK IN SPACE

Frog eggs — amoebae — two by two.



The three-day vehicle consists of more than 15,000 individual parts weighing a total of 940 pounds. The entire system is six feet, nine inches long and 57 inches in diameter.

About eight minutes after orbit has been achieved, and the attitude control system has slowed vehicle motion so that no more than one one-hundred thousandth of a gravity (G) is created, the experiments begin to be activated.

In one experiment, designed to determine the combined effects of radiation and zero-gravity, strontium 85 is exposed to send a controlled amount of gamma radiation into a group of experiments.

Identical experiments in the satellite which are shielded from the strontium 85 source, and additional identical groups on the ground, provide a complete combination of control groups for comparison.

In all, 13 experiments were performed onboard the Biosatellite A vehicle. Seven experiments were in the group set up to study the combined effects of weightlessness and radiation, and six were in the "general biology" group concerned with performance in weightlessness as compared with Earth's gravity.

But Then: On the third day of the flight, the re-entry/recovery portion of the Biosatellite is designed to break away from the rest of the vehicle, and via retro-rockets, be pushed into the re-entry trajectory. Unfortunately, this did not happen on Biosatellite A. According to NASA officials the retro-rocket probably failed to fire, leaving Noah's Space Ark to die in space.

Biosatellite "B" has been tentatively scheduled for lift-off in March.

TAXES

New Social Security Taxes

An increase in the Social Security tax will mean a bigger bite in the paychecks of employees starting the first of this month.

The Social Security tax goes from 4.2 percent of the first $6,600 of an employee's earnings to 4.4 percent. The Company matches the employee's tax dollar-for-dollar, making the combined total 8.8 percent on the first $6,600 of taxable wages in 1967.

This increase is the result of changes made in Social Security in 1965 which went into effect at the beginning of 1966, increasing the ceiling on wages taxed for the program from $4,800 per year to $6,600. In addition, a series of tax increases were authorized to pay for increased Social Security benefits and Medicare.

Now the maximum Social Security tax paid by an employee will be $290.40 compared with the $277.20 collected in 1966. Additional increases are scheduled in the future to pay for the Social Security benefits already passed by Congress.

NATIONAL ELECTRICAL WEEK

The Silent Butler

Nothing gets taken so much for granted as does the old silent butler—electricity. Flip a switch and he's there—lighting lights, powering motors of all shapes and sizes, even heating homes.

Again this year, the nation will pay homage to the silent butler during National Electrical Week, February 5th through the 11th. Around the Company the pace is beginning to quicken as plans to promote the week are being made.

Last year, Rhode Island Governor John Chafee issued a proclamation designating the dates for celebrating Electrical Week throughout the State at the suggestion of the Wiring Device Department.

North of the Border: Last year in Canadian General Electric-land, there were fourteen radio and television programs featuring interviews with CGE personnel as a part of National Electrical Week.

In Schenectady, local electrical appliance dealers were contacted and urged to tie in special sales with the Week's celebration. "Do-it-yourself" fuel cell and thermoelectric converter instructions were distributed to junior and senior high schools in the area.

This year many employee stores around the Company will be featuring special sales to celebrate the occasion. Plants will open their doors to student and community tours—window displays in stores, banks, and electric utility offices will talk about the biggest bargain the world has ever known, the silent butler called electricity, and about the 120th Anniversary of Thomas Alva Edison's birthday.

EDISON'S 120th BIRTHDAY
Electrical Week at Nela Park.

Eastern Addition

The Atomic Power Equipment Department will build a multi-million dollar plant in Wilmington, N. C. for manufacturing equipment components and nuclear fuel.

Thomas K. Edenfield, vice president for the Southeastern Region, said at a press conference in Wilmington last month that the Company will purchase a 1,600-acre site on the Northeast Cape Fear River, six miles north of the city.

Scheduled for operation in early 1969, the new facility is needed, Mr. Edenfield said, to meet the rapidly expanding needs for equipment and fuel production. The new plant will supplement existing facilities in San Jose, Calif.

Engineering, manufacturing, financial, legal, marketing, and project groups will continue to operate at San Jose.

Employment Plans: During its first full year of operation the plant will employ between 400 and 500 people at an estimated annual payroll of above $2 million. The Company will rely on the North Carolina State technical institutes to assist in training the necessary skilled work force. Hiring will begin in 1968.

This will be the fifth Company manufacturing plant in North Carolina. The others, which employ about 2,400 people, are the Housewares Division's Asheboro plant; the Lamp Division's Carolina Welds Plant in Goldsboro; the Outdoor Lighting Department in Hendersonville; and the Distribution Transformer Department's Hickory plant.

The new facility will be managed by William P. McIntosh, formerly manager of manufacturing at San Jose.

NEW PLANT ANNOUNCEMENT: (left to right) W. J. Griffin, Assistant Director, N. C. Department of Conservation and Development; Thomas K. Edenfield, Company Vice President; William P. McIntosh, Manager — Manufacturing, Atomic Power Equipment Department; and Dan E. Stewart, Director, N. C. Department of Conservation and Development.

Standard Sizes

The Company's line of Boiling Water Reactors for nuclear power generation has been standardized at three sizes: the 515-Mw size of Vermont Yankee and Northern States Power; the 762-Mw class of Quad Cities and Niagara Mohawk's second unit, and the 1075-Mw class of TVA and Philadelphia Electric.

According to Marketing Manager George J. Stathakis, "The standardization is necessary at this point in the nuclear boom in order to make best use of manufacturing facilities, provide the most economical and efficient production for the benefit of both vendor and customer, and to facilitate licensing."

The three basic system ratings were selected after an analysis of current utility size requirements, coupled with engineering optimization studies. During 1966, the Department received orders for 12 nuclear reactors totalling 9,320 megawatts of generating capacity.

How Fare the Fairs?

General Electric, which received the enthusiastic approval of New York World's Fair visitors, is moving ahead with plans to open three additional exhibits at major fairs in the hemisphere.

At Expo '67, opening April 28th in Montreal, Canadian General Electric is participating with a GE 625 installation that will provide services for the administration of Expo. The unit will handle payroll, sales records and control of gate passes plus forecasts of crowd volume. A GE unit will also help visitors via the Log-Expo system serving the expected 100,000 persons seeking accommodations during peak periods.

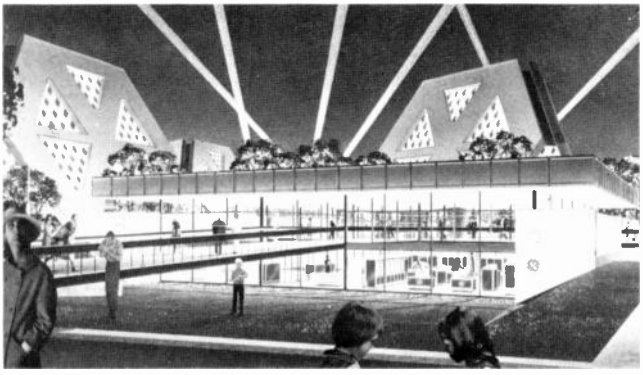
While the display will house a hard-working computer, it will also be open for visitors from 10 a.m. to 9:30 p.m. A staff of 40 CGE employees will occupy the building, including VIP hostesses, programmers, systems personnel, and product service technicians. Admission is free.

Carousel West: The hit of the recent New York World's Fair, the Carousel of Progress, opens June 1st of this year for a five-year run at Disneyland in Anaheim, California. An estimated four million persons will see the new pavilion in Tomorrowland.

Also to be featured is the City of Progress, showing the advances that are available to communities in the areas of transportation, housing, and environment. (The new Progressland appears on the July section of the GE 1967 calendar.)

HemisFair '68, opening in San Antonio, Texas, on April 6th of next year, will also include a General Electric pavilion. The circular structure will house a two-act live-and-film program showing the progress and benefits of electrical living from "the good old days" to the present—all with the flavor of the Southwest.

James G. Rebeta, manager of special projects, Marketing and Public Relations Services, points out that while such fairs are a powerful medium for presenting GE as the Company that cares, they also represent an excellent market for Company products. Lighting, power distribution, transportation, computers, motors, controls, mobile radio, closed circuit television and air conditioners are usually needed. Sales of GE products at the New York World's Fair totalled $9 million.



GE AT EXPO: This exhibit area will provide a close-up look at how a GE computer operates. Expo '67 will be open from April 28th to October 27th with 70 nations participating with the theme "Man and his World."

THE CHALLENGE OF THE CITY

By the year 2000, approximately 80 percent of the U.S. population, or an estimated 264 million people, will be living in urban areas. The nation's urban areas are already faced with a myriad of strains —air and water pollution, congestion, slums and chronic unemployment, and rising crime rates. The problems of urbanization will grow steadily worse, compounded by new city dwellers, unless something is done now.

Testifying before the U.S. Senate Subcommittee on Executive Reorganization, headed by Senator Abraham Ribicoff, (D., Conn.) in Washington, D.C. last month, Board Chairman Gerald L. Phillippe described the Company's role in the cities and said, "In years past our cities developed dry rot while too few seemed to care. Now this is not so. We have a national commitment, shared by public and private leaders as well, to erase our slums and give all our city dwellers equal and rewarding opportunities for clean, healthy, and productive living . . . for the General Electric Company, let me assure you and this distinguished committee that we are earnestly seeking to do our part in this great crusade for an urban renaissance all across America."

Mr. Phillippe's testimony was the first from an industrialist. Participating in the hour-long question-and-answer session following the prepared testimony was Vice President J. Stanford Smith, and Senator Robert F. Kennedy (D., N.Y.).

Company's Concern: "The fact that most of our thousands of employees and their families live and work in cities," Mr. Phillippe told the Committee, "means that we must be, and we are, deeply concerned

for the well-being of cities and the people who live and work in them—for their job opportunities, for their housing, their educational facilities, for their cultural facilities, their transportation facilities, the cleanliness of their air, and the adequacy of their water supplies."

Mr. Phillippe's testimony was in two parts: the first demonstrating what is being done by private industry, in particular the General Electric Company, and the second offering suggestions that might broaden and enhance the successful solution to the problems of the nation's growing urbanization.

Current Contributions

Balanced Transportation: There are some 80 million registered motor vehicles on the roads today, and automakers pour about nine million more onto the highways each year. Mr. Phillippe said the nation's highways are becoming choked—even with the huge freeway construction programs around the country. Many urban freeways, he said, are becoming giant, jammed parking lots at daily rush hours.

Several groups in the Company are devoting their energies to the problem of increasing transportation capacity, and at the same time making it better coordinated and safer.

The Transportation Systems Division, for example, is developing electrical propulsion equipment for high-speed rapid transit systems capable of moving 30,000 seated passengers per hour at speeds up to 80 miles per hour, such as the Bay Area Rapid Transit System in San Francisco.

The Division, according to Robert D. Weeks, manager of metropolitan sales, has targeted 36 cities around the country where old transit systems should be replaced, or where totally new systems are needed. Working with the Budd Company and the Pennsylvania Rail Road, the Division will supply electric propulsion systems for 25 new multi-unit passenger cars that will travel the great megalopolis between Washington, D.C. and New York at speeds up to 160 miles per hour.

A new information systems concept called "Metro-Dynamics," conceived by the Defense Programs Division's Defense Resources Application operation in Washington, D.C., would command and control traffic flow within a metropolitan area. The system could determine the fastest, safest routing for police cars, firefighting and rescue equipment, and ambulances during rush hour conditions. The system would tell a delivery service whether time economics would be better by starting deliveries at the closest point from headquarters and working out, or starting at the outskirts and working in. Manager Harold T. Hokanson says his group is currently working with a major mid-Western city on the application of the "Metro-Dynamics" concept.

Cleaner Air: Smog, said Mr. Phillippe, is no longer a West Coast phenomenon. Nationwide, an estimated 150 million tons of pollutants are dumped into the atmosphere each year.

One major source of this pollution, said Mr. Phillippe, is the combustion of fossil fuels used in electric power generation. Unlike fossil-fuel burning systems, nuclear fuels emit "virtually no contaminants of any kind to the air," Mr. Phillippe added.

Nuclear power orders for 1966 represented approximately 60 percent of the total thermal power generation orders placed by utilities. Although nuclear power generation currently accounts for less than one-percent of total power generation, some feel that it will represent

SENATOR RIBICOFF: "... we are plagued with an immediate problem of rebuilding and stopping the fantastic decay of our older cities of America today."

SENATOR KENNEDY: "I am all in favor of creating (the) new cities ... there must be an effort to try to save the cities that are already in existence."

MR. PHILLIPPE: "The remedies we seek must come through the creative joinder of public and private resources to achieve what neither can do alone."

about 20 percent of total power generation by 1980.

New ways are being developed to extract pollutants from our air, such as the electrostatic air filteration equipment being manufactured by the Air Conditioning Department.

Reduced Crime: Mr. Phillippe pointed to outdoor lighting's contribution in assisting cities in the fight against crime. Mr. Phillippe said an Indiana city reduced criminal assaults by 70 percent and robberies by 60 percent over a two year period after installing 5000 street lights.

Chicago's major alley relighting program (*The Monogram*, Oct. 1966) is still another example of how cities are using street lighting programs to combat nighttime crimes.

Better Education: "Lifting the quality and efficiency of education in our cities, and our urban ghettos especially, is well recognized as being of crucial concern." Mr. Phillippe told the Ribicoff Subcommittee. He pointed to the General Learning Corporation, a joint venture of the Company and Time, Inc. and its operation of the Clinton Job Corps Center, as one way "to help meet the challenge of better education for more people."

Mr. Phillippe said, "We hope and believe that methods and techniques which we and other Job Corps contractors learn may become of broad application and usefulness in raising the educational level of our disadvantaged citizens."

Cleaner Water: Mr. Phillippe pointed out that in the last fifteen years at Company locations, 35 water treatment plants have been built at an approximate cost of $6 million. "In some cases," Mr. Phillippe said, "the water leaving our plants is cleaner than when it came in." He also said that the Company launched a nationwide community-action program called "Clean Waters," with the Public Health Service, to "help stem the rising tide of pollution of our streams and lakes and harbors." (*The Monogram*, Dec. 1966)

Whole New Cities: One of the major highlights of Mr. Phillippe's testimony was the discussion of the Community Systems Development Division's plans to create entire new cities.

The Division, headed by George T. Bogard, is studying ways of introducing changes in the building process through the application of research and engineering to design electro-mechanical components that deliver better performance and lower in-place costs. Mr. Phillippe said the Division will utilize a systems planning approach to develop new prototype communities—with a balance of commerce, industry and housing — large enough to support a full complement of municipal services.

Mr. Phillippe said the new cities would help accommodate our fast-expanding population in an environment totally conceived, designed and created for the highest quality of living. "But more than this," he said, "we contemplate that development of these cities will lead to knowledge and know-how in planning and technologies that will be of direct application to the rehabilitation of existing cities." He added that the Company has not yet launched the first of its new cities. *(A full description of the new Community Systems Development Division and its goals will appear in the February, 1967 issue of The Monogram.)*

Four Suggestions

Mr. Phillippe offered four suggestions that he said "might help to speed our progress toward our national goal of lifting the quality of urban living to a level of which we can all be proud."

Government-Industry Cooperation: There is a need for more and better communication between business and political leaders. He cited several examples where such communication has been of benefit. New York City's Mayor John Lindsay has enlisted the support of a group of business leaders, including Company President Fred J. Borch, to help solve the City's management problems. Mr. Phillippe is one of a number of businessmen working with Sargent Shriver's Business Leadership Advisory Council.

Mr. Phillippe said the Company's cooperation with Rev. Leon Sullivan's Opportunities Industrialization Center in Philadelphia, and Television Receiver Department's pre-employment training programs were excellent examples of what happens when industry and the public get together.

Institutional Inhibitors: Mr. Phillippe suggested that a new look, on both a national and local level, should be taken at what may be institutional inhibitors to efficiency in rebuilding urban centers. Are housing and building codes, electrical or plumbing codes giving a dollar's worth for a dollar spent, or a dollar received for two spent? Mr. Phillippe said that union practices, especially in the construction trades, may be inflating costs without reason or justification.

Patent Rights: Mr. Phillippe's third suggestion was for a new approach to the continuing discussions on the distribution of patent rights for inventions rising out of research and development carried on by private industry but financed in whole or in part by the Government.

"Here," Mr. Phillippe said, "encouragement of private effort requires, among other things, Government acceptance of a policy approach to the allocation of patent rights which is sufficiently flexible to accommodate the varying needs and equities of the Government and the contractor as they appear in each situation."

New Institutions: "A fourth area that lends itself to fruitful exploration is that of forming new types of combined public and private corporations geared to meeting urban needs," Mr. Phillippe noted.

Mr. Phillippe briefly described a proposed Comsat-type enterprise for urban rehabilitation. Dr. Thomas O. Paine, general manager of TEMPO, was one of the idea's originators.

The Urban Development Corporation, as it is formally called, would purchase rundown housing in slum areas, and invite private industry to rehabilitate it. Management of the housing would either remain with the Corporation or would be transferred to a non-profit or limited profit group. The new corporation would build five million new housing units over the next decade at a cost of some $50 billion.

TEMPO, incidentally, has an experimental program with the City of Detroit to introduce program packaging and budgeting techniques learned through their cost/effectiveness work with Defense Department programs. It is also working with the University of Minnesota on a program for an experimental city to be built near Minneapolis.

Senator Ribicoff told the two Company executives, "I think it is very encouraging to find so much constructive thinking, forward-looking thinking, by the business community. There is no question that we are going to have to work out these problems together."

Said Senator Kennedy, ". . . I think the statement is extremely helpful, and I think what your company has done in many of these areas is most helpful. I think that you have frequently led industry in trying to make some progress in some of these fields, and I am most impressed, and I congratulate you."

"I expect to spend the rest of my life in the future, so I want to be reasonably sure of what kind of future it's going to be. That is my reason for planning."

Charles Kettering

RECRUITING

GE's College Book Store

On the campuses of Purdue, Wooster, MIT, Kent State, Yale and dozens of other colleges across the country, faculty members have been studying a 25-page limited edition from General Electric.

The object of their attention is the 1966-67 edition of GE's "Publication List for Universities," a pocket-sized catalog bursting its binding with over 100 titles promising good reading: A Review of Non-Linear Optics (check E-118); Testing Large A-C Motors and Generators (E-138); Techniques in Financial Management (E-208); New Dimensions of the Executive Environment (E-307).

For variety, there's also a moon map, GE Annual Report, or chart of the elements—all sent free to the educator who simply fills out and returns the attached postcard.

Under Cover Agents: While the publications listed originate with about 40 Company components, the "publisher" is actually Engineering Services' information operation. It mails the book to some 25,000 educators (including many suggested by Company recruiters), and receives requests for publications from about 8,000 of them.

Early in the year, Company components are invited to submit professional presentations, trade press reprints, charts, reports, and other published material to an advisory board of professors retained by Engineering Services to select the material to be included. The criteria includes timeliness, appropriateness for college interests, and relationship to recruiting interests of the Company.

The result is a hand-picked group of papers by various GE authors. About 75

percent of these are in the technical area, but others span finance, accounting, marketing, management, industrial relations and communications.

The purpose of the book is to provide "selected papers and booklets generated by General Electric people in the course of business which are thought to be of use to educators as teaching aids and reference material." It also does a good job of climate building for the Company and its recruiters.

Facts of Business Life: Donald E. Irwin, who manages engineering recruiting for the Company, says that many professors—especially those with no industrial experience — seek this kind of information "to better prepare their students for the realities of engineering practices."

Mr. Irwin also points out that from a corporate viewpoint, the material "gives a receptive audience realistic accounts of how technical know-how is applied by an industrial enterprise to yield practical progress for society."

How do Company components feel about the activity? At the Research and Development Center, the Publication List is seen as "a proven method of providing useful educational material that reminds students and teachers of the challenging work undertaken in industrial laboratories."

John F. Hurley, manager of the Industrial Sales Division's technical marketing program, says: "Many faculty members are unaware of the top-flight engineering effort required to successfully market, apply and operate today's consumer and industrial products. The Publication List is a way to get this story told on campus."

Lecture Notes: Among the many college professors who requested materials, a Rutgers faculty member commented: "In most cases this material was not published elsewhere. I had an inside track on what GE was doing. In one case, I called up the author to find out about the status—he helped out a great deal."

The materials do help out. They're used in lectures, passed to students, supply "refresher" study for instructors, and most importantly, bridge the gap between theory and practice.

C. A. Church, manager of Engineering Services' information operation, (at right in photo with associate Jack K. Bryan), says of the Publication List: "Our big interest is in its quality and in covering those campuses where the Company is actively recruiting."

Mr. Church is particularly pleased with the number of professors who use Company papers and articles in preparing lecture notes. "I can think of no better context in which to display one's technical work to students."

What are the most-requested numbers? The 1965-66 best-seller was the wall chart of the nuclides, followed by an astrosolar map, and the books Techniques of High Vacuum and You and the Computer.

REQUESTS PILE UP IN SCHENECTADY

The mailbags bring up to 600 daily.

New Market on Wheels

Armed with equal quantities of electronic components and enthusiasm, a group of GE representatives went calling on Detroit's major car manufacturers last month and announced that the Company is entering the automotive electronics market.

The new venture will involve the Semiconductor Products Department and the Electronic Components Sales operation which has formed a new automotive electronics sales region to serve the market.

Regional Vice President Charles J. Miller (see photo) told a press conference that the Company would focus its research facilities, engineering talent and electronic production facilities on automotive electronics. He emphasized the Company's position as a supplier of "electronic building blocks" rather than complete systems.

Wired Wheels: There are currently some 78 million registered vehicles chugging over the country's highways, each equipped with some electronic components. There could be up to 138 of these transistors, resistors, capacitors, magnets, etc., doing everything from powering a transistorized auto radio to spitting out potent blue sparks in a capacitor discharge ignition system.

The Company will be selling in a $250-million automotive electronics market that is bound to grow as Detroit expands its use of solid-state components to perform a greater variety of tasks.

"Many of the functions offered by electronics have been desired for a long time," points out Mr. Miller, "and it has been new device technology and, most important, low-cost production techniques that placed these sub-miniature devices within reach of the automotive user."

William Gutzwiller, manager of application engineering for the Semiconductor Products Department, said that "some interesting things" are bound to result from solid-state, which he called "the science of using the behavior of electricity in solid materials (semiconductors).

"As the term implies, no moving parts are involved; no filaments need be heated; solid-state has no sensitivity to position and such environmental factors as shock, vibration, and corrosive or explosive atmospheres," he said.

"If our experience in working with many other industries is any indication, solid-state's main contribution lies not so much in doing old jobs better and at lower cost, but in doing radically new jobs that just couldn't have been done at all before."

For Instance: Mr. Gutzwiller and his associates were prepared to demonstrate to the press how solid-state components

FLASHER FOR CYCLISTS

Messrs. Miller (left) and Gutzwiller light up.

can go to work on automotive functions.

"The radio is the first place in an automobile where solid-state electronics found a place," pointed out Mr. Gutzwiller. "Today, more plastic type silicon transistors of GE's original type design are found in automobile radios than any other transistor type.

"In time, many of these individual transistors will be replaced by integrated circuits in new radio designs." GE made the first commercially available type for portable radio use (*The Monogram*, July-Aug. '66).

Mr. Gutzwiller directed attention to a sputtering row of eight sparkplugs lit up with a blue glow.

"Several companies now have marketed capacitor-discharge ignition systems which depend on SCR's (silicon-controlled rectifiers) as the main switching and timing element," he said.

John E. Mungenast (see cover), manager of market development for Semiconductor Products Department, pointed out that the capacitor-discharge ignition supplied improved ignition characteristics, better cold weather starts, reduced sparkplug fouling and maintenance, and was being supplied to the "aftermarket" with prices from $29 to $100.

A windshield wiper, also controlled by a GE SCR, was swishing away nearby. The circuit being offered to the automotive industry allows motorists to select a wide range of wiper speeds and pauses between strokes.

Flashy Taillights: Also demonstrated was a solid-state sequential flasher that is being marketed for under $20 via major automotive retailers. It can replace the mechanical system currently used to control sequentially-flashing taillights on some 1966 and 1967 cars.

In a unique application of the device,

LASER FOR THE ROAD

Driver safety in nano-seconds.

a motorcyclist's helmet was shown that carried a row of directional lights across the back, enabling the rider to signal left or right turns or trigger a blinking danger signal. Mr. Mungenast said that the Department was working with auto accessory manufacturers to develop a consumer product for the market in 1967.

E. Keith Howell, manager of light industrial and consumer controls application engineering for the Department (at left in photo with ECSO District Sales Manager Robert C. Oliver), added that another electronic component being groomed for the automotive market was a transducer, which can convert electrical current into light or near-light infrared radiation.

He turned to a rather dramatic application of the principle: An infrared LASER.

Zap for Safety: Using a demonstration unit, Mr. Howell showed how the LASER fires an infrared beam at one foot per nano-second (one-billionth of a second) that is reflected by an object ahead. This

could be an automobile.

"If a pulse returns in 100 nano-seconds," he explained, "the radiation has travelled a total distance of 100 feet, hence the object was 50 feet away. So, by measuring the time difference between the transmitted and the received pulses we can measure distance.

"At present, we can only speculate about some of the potentialities," said Mr. Howell. "For example, the incident of rear-end collisions on superhighways could be reduced by a LASER range-finder coupled to the speedometer, to warn the driver of tail-gating. Supplementing a visual warning could be increased back-pressure of the accelerator pedal, and perhaps eventually, automatic braking."

While no commercial automotive LASER exists at the moment, the Department said it was ready to work with automotive engineers to get the idea off the drawing board and on the highway.

SOLID STATESMEN: ECSO General Manager William D. Lee, left, checks solid state wiper control with Gilbert E. Ormson, center, manager of the automotive electronics sales region, and Andy Adem, SPD application engineer.

Out of the Trunk: The job of selling GE components to the automotive industry is up to the Electronic Components Sales operation. William D. Lee, general manager of the operation, said that it will pursue an all-out effort to put electronics to work in automobile operation and control.

Gilbert E. Ormson (see photo) has been appointed manager of the newly-created automotive electronics sales region, which includes GE representatives in Chicago and Indianapolis as well as Detroit.

QUALITY CONTROL

ZD Double-Header

Two of the highest zero-defects awards have been awarded to Company employees by the U.S. Air Force.

The Zero Defects Craftsmanship award was presented last month to the Evendale and Lynn plants of the Flight Propulsion Division. Only eight such awards were presented nationally.

A special pennant was raised outside the Evendale plant by Air Force Major General Gerald F. Keeling, for "sustained superior performance" in the manufacture of jet aircraft engines at both plants of the Division.

The award requires excellence throughout a plant—including engineering, manufacturing, and administration.

In the period since the Target Zero Defects program was adopted three years ago, Evendale has dropped faults in engines 75 percent, met monthly production schedules, and lowered prices on specific J79 engines 29 percent.

ON CAMERA

IN-PLANT PAPAYAS: In Chinchwad, India, GE licensee Elpro International, Ltd. is conducting a unique experiment that has turned its plant grounds into a verdant area of gardens, kitchen farms and orchards. Employees—who live in a country facing grave food shortages — planted and cultivated the crops and used plant waste water for irrigation. The voluntary program has produced enough food to meet employee needs. Shown in the photograph are (from left) S. S. Kalbag, employee relations manager, Jal A. Meher-Homji, director and plant manager, James H. Goss, vice president and group executive, International Group, and M. Chitnis.

COVER GUY: William H. Atcheson, proposals and graphic arts planner at the Ordnance Department, is the man behind the December cover of *Our Navy* magazine. The cover pictures a guided missile frigate equipped with Ordnance Department Mk 73 gun and missile directors and was painted by Mr. Atcheson, whose hobbies include both the painting and sailing of ships.

PRETTY POW-WOW: Through a cloud of dust came 300 chiefs (who are distributors of GE General Purpose Controls when not riding the trail) to a management meeting in Bloomington, Ill. The pow-wow made plenty of noise over increasing sales of GPC products with sage advice from GE "medicine men." Pictured (from left) are Princess Connie; Bob Buffinton, Graybar national sales manager; Kert Kuhlman, General Purpose Control marketing manager; Princess Ana; Kris Christiansen, ADSO general manager.

MRS. CALVERT AND "SANTAS"
Help for a frightened little girl.

PEOPLE

Heart Line: Mrs. Winona Calvert, a secretary at the Evendale, Ohio plant, answered her phone last month and heard a little voice say: "My name is Tina Marie. My mommy is asleep and I can't wake her up." The voice was that of five-year-old Tina Triplette of suburban Cincinnati. She had found her mother—who has a history of heart ailments—unconscious on the floor. Tina, who was alone with her younger brother and sister, knew she needed help. Tina picked up the telephone and dialed, reaching Mrs. Calvert, who managed to find out Tina's last name and dispatch the Sheriff to the house. Fortunately, Mrs. Triplette was alright except for bruises on her head and arm. Mrs. Calvert and her office associates, who told Tina they were "Santa's helpers," took up a collection to buy presents to live up to their assumed roles.

Exclusive Fifty: When Mrs. Florence E. Carlson retired from the Company recently, she became the fourth woman to have achieved a 50-year GE service record. Mrs. Carlson was a Schenectady employee in the Industrial Drives Systems sales and engineering operation's spare and renewal parts section before her retirement. Mrs. Carlson is described by her supervisor H. D. Beale as "knowing what must be done and how to do it best."

Standard Bearer: Vice President Francis K. McCune was elected president of the United States of America Standards Institute during its 48th annual meeting last month. The Institute is successor to the American Standards Association and is a federation of professional and scientific societies and trade associations, in addition to members from industry, organized as the national coordinating body for voluntary engineering, industrial, safety, and consumer standards in the U.S.

Camera in the Kitchen: Mrs. Barbara Crawshaw of Phoenix, who has a "computer in her kitchen" (*The Monogram*, March '66), now also has a CBS television crew there. The wife of Computer's Charles Crawshaw, manager of advanced manufacturing engineering, is being filmed by the program "21st Century" for telecast this month. Mrs. Crawshaw will talk about her experiences for the program segment on "Computers and Communications."

Science Fellow: The New York Academy of Sciences has elected Dr. Richard W. Porter, Engineering Service's consultant on Aerospace and Defense, a Fellow of the Academy in recognition of his achievements in science. Election to Fellowship is a "distinguished honor, conferred upon a limited number of Members who have done outstanding work toward the advancement of Science," according to an announcement by the Academy.

AROUND THE COMPANY

Hot Water: General Electric last month received an order for 775 aircraft lavatory water heaters from the Boeing Company. Manufactured by the Flight Propulsion Division's Aerospace Heating Devices operation in Seattle, Washington, the water heaters will be used in Boeing's 727 and 737 jet airliners. Boeing's 707 airliner has a heating blanket also made by the Company that is used on the cabin floor to keep tired traveler's toes warm.

Political Analyst: Former Congressman Leo O'Brien joined the news staff of the Company's TV station in Schenectady as a political analyst this month. Mr. O'Brien retired from Congress this month after having served as a representative for 15 years. He authored and was floor manager for the Alaska and Hawaii statehood bills. A veteran politician and journalist, Mr. O'Brien will report on political developments in New York State on a biweekly basis.

Vulcan — Italian Style: The U.S. Army Weapons Command has ordered $631,270 worth of the 6,000-shot-per-minute M61, 20mm Vulcan guns, built by the Missile and Armament Department for installation on Lockheed F-104 "Starfighter" aircraft made in Italy under a Lockheed Aircraft Corporation license for the Italian air force.

The 1967 Calendar: "Progress for Worldwide Customers" is the theme for the 41st annual General Electric calendar. This year the oft-heralded calendar has been sent to more than 400,000 customers, prospects, and others in the U.S. and 40 countries. Of special interest to employees is the July painting, which features General Electric Progressland at Disneyland in Anaheim, Calif.

Helping Hand: The Missile and Space Division is beginning a new vocational training program for amputee veterans of the Vietnam war that are now patients of the Philadelphia Naval Hospital. The program, taught by Company job counselors and training instructors, is designed to acquaint the amputees with job opportunities and requirements so that they may plan a useful post-hospital career.

Fast ACE: The Missile and Space Division's Apollo Support Department beat both the calendar and a NASA delivery date by installing and operating its 12th and last Automatic Checkout Equipment system eleven weeks early. Originally due on November 11th, NASA officials, admitting it was only "marginally possible," asked for the equipment by September 12th and got it August 25th. One NASA official called it an "outstanding professional achievement." Personal commendation went to ASD's Fred Winslow and Saul Feldman.

Pour Performance: Now is the time to come to the aid of the customer. And that's exactly what four Company Departments did recently when a fire halted production of the U.S. Steel Corporation's Gary, Indiana basic oxygen furnace plant. The Service Shops' Chicago plant, I&SE, the Industry Control and Switchgear Department, worked night and day for two weeks to replace damaged equipment and get the vessels pouring steel again.

In a letter to Board Chairman Gerald L. Phillippe, U.S. Steel's president L. B. Worthington expressed his gratitude and congratulations for the "outstanding performance." "Especially noted was their personal interest in getting the shop back in operation, and I am sure this speeded the job," Mr. Worthington added.

EVENDALE'S DIGGINGS

Instant archeology from the jet set.

TALKING POINTS

Evendale's Ice Age

Some routine excavating at the Flight Propulsion Division's SST engine test site turned into an archaeological event last month. Construction workers unearthed several large bones, including a 30-pound femur (thigh bone) of a mastodon and tibula (leg bone) of a horse. A paleontologist from Cincinnati's Natural History Museum looked over the treasures and placed them at between 7,000 and 20,000 years old—the Pleistocene Age—when the great Wisconsin Glacier covered what is now the General Electric plant. The museum will add the bones to an exhibit on the glacial age this month.

Found in Translation?

At Waterford, home of GE's Silicone Sealant, indefatigable publicist Larry Mahar emphasizes that even when translated, their product, by any other name, performs the same. In the French, it's "Super Colle Universelle;" in Hebrew, "Devek Chazak Lakol." The topper is probably the German "Allround Superkleber," which, roughly translated, means Superglue for Everything.

Computers: Kid Stuff

Among recent visitors to the Detroit Information Processing Center was a group of fifth graders who came, and saw, and commented later in letters to host M. A. Chonoles. Some excerpts:

- "It was nice of you to bring computer understanding down to a fifth grade level."
- "I liked when you said the computer was stupid."
- "It was so interesting and exciting my head was spinning around half the time."
- "It was fun to work the computers. It helps a lot in the New Math."
- "You made us feel like the computers were not complicated but I think they really are!"
- "You have pretty secretaries!"

Mr. Chonoles told the class teacher that the letters further proved the theory that computers "are not really as difficult as they appear to be."

Bouquets for Smokey

"The Ballad of Smokey the Bear," sponsored by the Housewares Division last November, won praise from Secretary of Agriculture Orville Freeman, "We think it carries an excellent message and may well become a classic in its field. I know the Forest Service people join me in wishing the film outstanding success."

THERMISTOR-PREYING MANTIS
Now, a hot-and-cold running sensor.

PRODUCTS

Diamond Thermometer: A new diamond thermistor temperature sensing device that can sense temperatures ranging from cryogenic (minus 200° C) to red heat (plus 650° C) is being marketed by the Company's Diamond business section, Detroit, and Magnetic Materials section, Edmore, Michigan. The device uses a specially-processed Man-Made* diamond crystal as the electrical resistance temperature sensing element. It is the only thermistor known today that can sense over such a wide range of temperatures "without discontinuities," according to its developers. Major applications are expected to be in cryogenic and heat sensing and/or control equipment of the industrial or consumer types and in temperature control systems in aerospace or other fields.

Stereo Library: Audio Products Department has introduced a new Stereo Library which will record, store, and play back more than 27 hours of continuous tape programming—that's like all of Wagner's operas or 540 Beatle records. The new Stereo Library, styled as a sleek, low, walnut veneered console, has 81 tape channels and 162 tracks for recording and playback. Each channel plays for 22 minutes. For "do-it-yourself" musicians, two dynamic microphones can be used to record stereo sounds at home. The unit also has an FM/AM/FM stereo tuner and GE's jam-proof Tonal 1 changer with a heavy-duty 11-inch turntable and counterbalanced tone arm. The suggested retail price for the new Stereo Library is $1300.

Modest Mercury: The Lamp Department last month introduced a 50-watt Deluxe White mercury vapor lamp for use in "modest" commercial, residential and industrial lighting applications. It's the smallest mercury lamp yet developed. The new lamp produces two times the light of a 50-watt incandescent lamp and lasts ten times as long.

Pressing Business: Vice President Willard H. Sahloff has predicted a sales increase of ten percent in 1967 for the electrical housewares industry. Speaking at the National Housewares Manufacturers Association Show in Chicago last month, Mr. Sahloff introduced two new electric irons, an electric kettle, and two decorative wall clocks. Speaking of irons, he said that the industry sold 10,500,000 units in 1966 with a retail value of $150,000,000. Nine out of ten homes in the U.S. now own an iron.

** Trademark of General Electric Co.*

FRANCIS K. McCUNE

FRED H. HOLT

ORGANIZATION

Business Studies

After more than 38 years of service, Francis K. McCune, Vice President, Business Studies Service, is retiring February 1, 1967 under the provisions of the Company's Pension Plan.

Component Products

Fred H. Holt is appointed Deputy Division General Manager—Component Products Division.

Construction Industries

The Register Control product line of the Specialty Control Department is transferred to the Construction Industries Division, and assigned to the General Purpose Control Department.

The personnel, facilities, and functions of the Agency and Distributor Sales Operation of the Industrial Sales Division are transferred to the Construction Industries Division.

William W. Smith is appointed General Manager of the Commercial Equipment Department.

Robert J. Rodwell is appointed General Manager of the General Purpose Control Department.

Consumer Electronics

The name of the Television Receiver Department is changed to the Major Television Department.

A Personal Television Department is established and Wesley A. Estabrook is appointed General Manager. The personnel, facilities, and functions of the Personal Television Business Section are transferred to the Personal Television Department.

Defense Electronics

The personnel, facilities, and functions of the Missile and Armament Department are transferred to the Defense Electronics Division.

WILLIAM W. SMITH

ROBERT J. RODWELL

ROBERT B. KURTZ

WESLEY A. ESTABROOK

THOMAS P. SEGERSON

PAUL R. LEADLEY

Electronic Components

Robert B. Kurtz is appointed General Manager of the Electronic Components Division.

The Appliance Control Department and the Ballast Control Department are transferred to the Electronic Components Division.

Industrial Process Control

The name of the Process Systems Sales and Engineering Operation is changed to Process Systems Operation, with Dr. Louis T. Rader continuing as Acting Manager.

General Electric Supply

Thomas P. Segerson is appointed Counsel of the General Electric Supply Company Division.

IGE Export

The Export Sales Department is discontinued and the various components are restructured into operations reporting directly to the Vice President and General Manager. George B. Doughman is appointed a Consultant to the Vice President and General Manager until his retirement on February 1, 1967.

Information Systems

Paul R. Leadley has been appointed General Manager of the General Electric Information Service Department.

Legal

An International Legal Service is established and Gerard Swope, Jr. is appointed International Counsel.

Power Distribution

Robert W. Lewis is appointed General Manager of the Power Distribution Division.

Power Transmission

Christy W. Bell is appointed General Manager of the Switchgear Department.

Robert J. Doxtader is appointed General Manager of the Power Circuit Breaker Department.

GERARD SWOPE

ROBERT W. LEWIS

ROBERT J. DOXTADER

CHRISTY W. BELL

EDITORIAL

The Supersonic Era

THE WORLD will be looking over our shoulder as General Electric develops the engine to power the U.S. Supersonic Transport.

Selection of the Company's GE4 turbojet engine represents both a continuation of the Company's leadership in flight propulsion and the dawn of a new era of commercial transport at supersonic speeds.

General Electric has pioneered in flight propulsion since early in the century. This substantial foundation of experience should be a source of confidence and pride to the men and women of the Flight Propulsion Division. The Company has made its mark in aviation, and the SST engine is a logical extension of this leadership.

It was 1903 when GE scientist Dr. Sanford Moss operated the first gas-driven turbine wheel in the United States — an experiment contributing directly to the first flight, in 1919, of an airplane with a turbine-powered supercharger. By 1939, this GE propulsion innovation was in wide use, helping the Boeing B-17 set the cross-country flight record of nine hours and 14 minutes.

A tip of the pilot's cap must also go to England's Sir Frank Whittle, who produced an operating jet engine by the late 30's. His design made possible the jet age that followed. In 1941, the Government gave the Company the challenge of producing America's first jet engine. The GE 1-A engine was assembled and successfully tested in only six months. Two of these engines powered the first jet aircraft in the United States.

Later, General Electric recorded additional firsts: supplied the engine for the first operational jet fighter — the Lockheed Shooting Star; built and tested the world's first turboprop engine; produced the first jet engine certificated in the United States for commercial use; and powered various jets to world records for altitude and speed.

General Electric engines are no strangers to commercial aviation. GE jets power the Convair 880, and the later 990. GE jets are also used in the business aircraft such as the Fan Jet Falcon, Jet Commander and Lear Jet.

In the words of Evendale's SST project director Edward E. Hood: "We accept the newest challenge optimistically, fully recognizing the importance to the country and to the world of the task ahead of us."