

THE

westerner

WESTERN ELECTRIC COMPANY, INC.,
OMAHA, NEBRASKA

VOLUME 1 / NUMBER 3 / NOVEMBER, 1957



Attending University of Omaha accounting course are, l. to r., Ron Fuller, Ron Rezek, Ann Thorton and Dorothy Geihs.

Forty-five Employees Apply For Tuition Refund Plan

In January, 1957, Western Electric established a tuition refund plan to help with the cost of college study.

graduate level in courses related to their jobs.

The Westerner, interested in their

W. E. Product Set For Space Travel

Sometime next March, a three stage rocket will zoom into the stratosphere, putting the United States, and Western Electric, in the space race.

Inside the satellite, which will whirl around the earth collecting and transmitting data from outer space, will be a product of Bell System research and manufacture—the diffused base transistor.

Western Electric is providing tiny diffused base transistors for the satellite's miniature transmitter. The little sending station, weighing only 13 ounces, will be transmitting such vital technical data as pressure, temperatures and densities of matter in outer space, strength of the earth's magnetic field, ultraviolet spectrum of the sun and cosmic radiation information—all being gathered by the instruments inside the satellite. Scientists will monitor these broadcasts at special receiving stations located on earth.

The complete satellite will be a 20-inch diameter magnesium-skinned sphere carefully packed with 10½ pounds of pint-sized but very sensitive equipment. Because of the necessity for extremely small, lightweight, yet powerful operating components in the artificial moon, W.E.'s new diffused base transistors were selected. Manufactured at the Laureldale (Pa.) Shops, they have a high frequency performance surpassing that of any other transistor presently available, with a potential broadcast range of 4,000





Attending University of Omaha accounting course are, l. to r., Ron Fuller, Ron Rezek, Ann Thorton and Dorothy Geihs.

Forty-five Employees Apply For Tuition Refund Plan

In January, 1957, Western Electric established a tuition refund plan to help with the cost of college study. In offering this plan to qualified employees, the Company hopes to aid and encourage those who are interested in their own self-improvement and development.

At present 45 employees of the Omaha Shops have made application for tuition refunds. Enrolled at the University of Omaha and Creighton University, these student-employees are studying at undergraduate and

graduate level in courses related to their jobs.

The Westerner, interested in their opinions of the plan, one night dropped in on several of these students as they studied or attended classes.

Robert W. Hartung, a field construction clerk taking descriptive geometry, was studying in his living room, aided by his young son, Jeff. Asked if he liked the tuition plan, Bob answered: "Certainly, it's a good thing." Jeff seemed to agree.

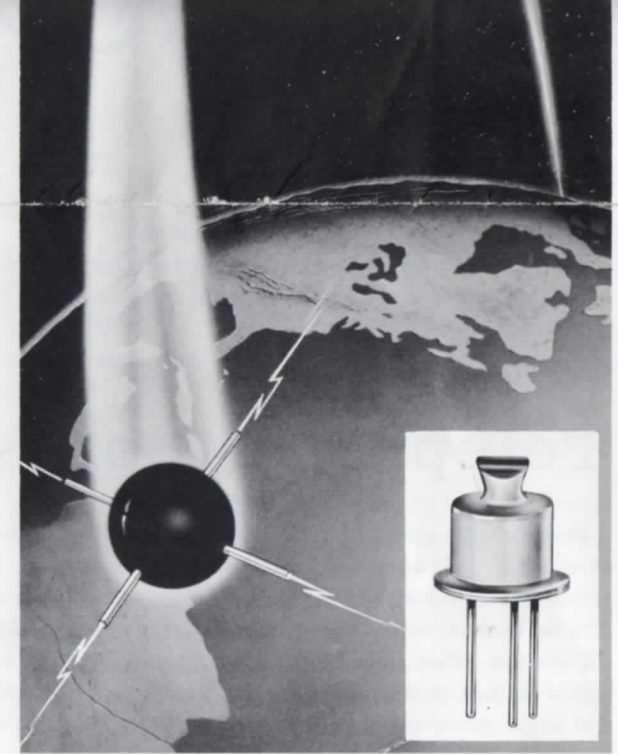
Bob went on: "And with the plan

Cont'd on Page 3

magnetic field, ultraviolet spectrum of the sun and cosmic radiation information, all being gathered by the instruments inside the satellite. Scientists will monitor these broadcasts at special receiving stations located on earth.

The complete satellite will be a 20-inch diameter magnesium-skinned sphere carefully packed with 10½ pounds of pint-sized but very sensitive equipment. Because of the necessity for extremely small, lightweight, yet powerful operating components in the artificial moon, W.E.'s new diffused base transistors were selected. Manufactured at the Laureldale (Pa.) Shops, they have a high frequency performance surpassing that of any other transistor presently available, with a potential broadcast range of 4,000 miles.

The satellite program is a joint effort of the U.S. National Committee for the International Geophysical Year, established by the National Academy of Sciences. The 1957-8 International Geophysical Year (IGY) is a great research enterprise involving more than 5,000 scientists from 57 nations which will subject the earth and its environment to the most sustained and concentrated scientific scrutiny ever attempted. Among the broad list of things which may come out of IGY, with the help of the earth satellite, are truer pictures of the earth's shape, improved methods of weather forecasting, and the causes of radio disturbances.



Artist's concept of satellite with transistor shown in inset.

Electricity Switched On At Millard Plant

Tuesday, October 29, was an important day at W. E.'s plant site at Millard as electricity began to flow into the construction area.

At 10 A.M. an electrician threw the switch which sent thousands of volts surging into the plant lines. Of course the principal power demand now is for lighting during construction. The usage will increase as cable manufacturing machines are installed and connected to power.

Supports for a huge 500 thousand gallon water tank are already in place and the curved steel plates of the tank itself are now being hoisted into position. When completed the water tank will be similar in size and

shape to the one at nearby Boy's Town. This steel giant will lie to the

north of the utility building.

With completion of the exterior

construction, interior work in the cable building is continuing. The

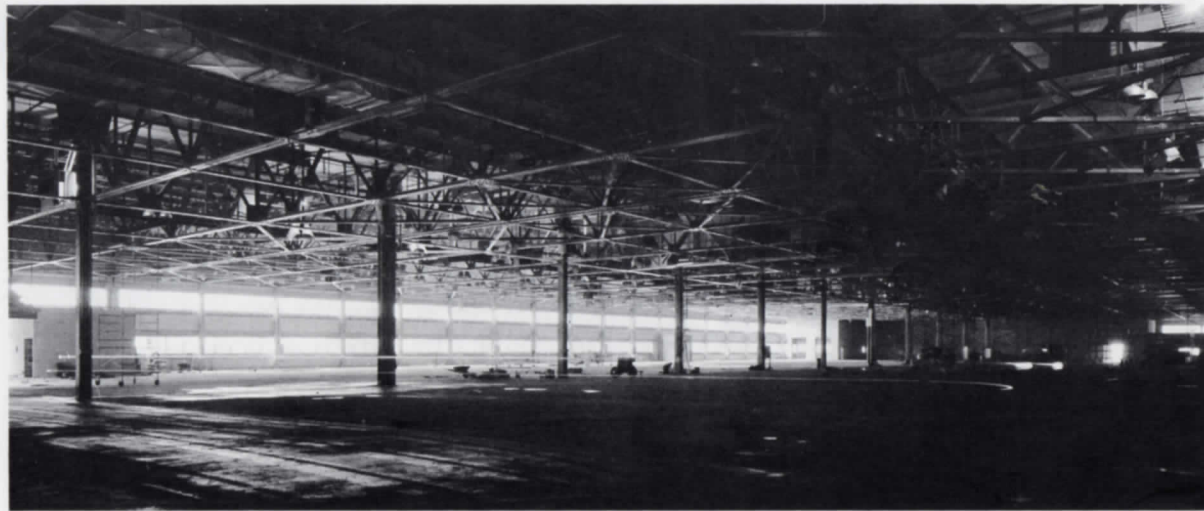
painters, plumbers and electricians are hard at work readying the building for its 1958 completion date. The first machines will be moved in shortly.

Masonry work on the administration building is 70% complete.

Six carloads of structural steel rolled into the construction area only a short time ago. The engineers and steelworkers quickly laid it out and began the task of putting the jigsaw of steel into place on the completed foundation of the crossbar building.

The east and west parking lots are completed, ready to handle the flood of cars expected when we move into our new quarters.

These parking lots will handle 4,000 cars.



Interior view of the 480,000 square foot cable enclosed building nearing completion at the Millard site.

THE **westerner**

Published monthly for the information of Omaha Shops employees by the

NOVEMBER

1957

Western Electric Company
INCORPORATED

Donald Shafer, Editor

YOU'RE THE KEY TO SAFETY

Nobody ever saw a work schedule or blueprint that said: "Stop! Time for an accident." The idea is preposterous—nobody deliberately plans an accident. Nor are accidents predictable.

Yet, anyone with the ability to predict when accidents should happen would make accident prevention easy. And, that forecasting ability would be worth a fortune.

Unfortunately, however, no such person exists. But there is one important key to accident prevention . . . You.

Western Electric does many things to protect you. Safety glasses are provided, safety shoes are available, and guards are put on machines. Even corners are



posted with bright orange and black signs. But safety is not merely a matter of mechanical safeguards, safety bulletins and safety films. It is also a matter of careful personal habits and safe working methods.

Carelessness, chance taking and failure to observe safe practices, or failure to use safe-guards provided, are factors that only you can control. Safety in personal habits is your responsibility . . . you are the key to safety. Don't take chances, and remember, thinking before hand might save a major accident.



Shown above, A. F. (Bud) Fanckboner, center, Omaha Shops chemical engineer, is presented the American Red Cross Gold Service Medal for his 500 hours volunteer first aid instruction at the Indianapolis, Ind., Works prior to his transfer to Omaha.

Bud was presented the Medal, shown at right, by Dr



Carl Potthoff, left, author of the new Red Cross first aid book, and William G. Murphy, at right, chairman of the Douglas County first aid committee.

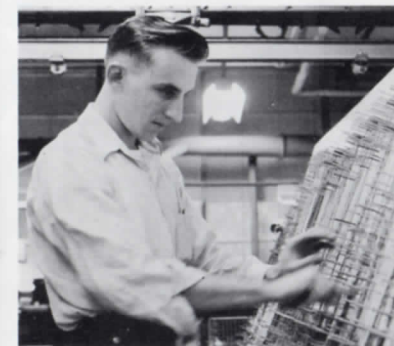
Mr. Murphy also presented Bud with a letter of commendation for his 100 hours as volunteer first aid instructor at the Omaha Shops.

Wire Telegraphs Dot-Dash Code

The employees in the cable forming sections are not old-time Morse telegraphers, but they all feel right at home with the new wire being used by the Omaha Shops. The new wire, which will be turned out at the Omaha plant, employs a dot and dash system of color coding to make it possible to identify and connect the various combinations of wires.

Dot and dash wire is being used initially for local cable in No. 5 Crossbar central office equipment, but will ultimately be used in switchboard cable as well.

According to Ed Swanson, frame and unit cable forming section chief, the color coding of the new wire is far simpler than that employed with the textile insulated wire. In switchboard cable, for example, which may



Louis Swoboda examines dot-dash wire which Elmer Bouc uses to form cable.

include from 12 to 312 conductors in combinations of pairs and singles, 24 different color combinations of pairs and 24 different color combinations of singles are necessary.

By the new dot-and-dash method, all three wires of a pair and its associated single can be the same color—the first

wire in the pair identified by a series of single dots and the second by a series of double dots. The single in the combination is marked by repeated dashes. With eight different colors of plastic coating and four different colors of inks available, many code combinations are possible.



posted with bright orange and black signs. But safety is not merely a matter of mechanical safeguards, safety bulletins and safety films. It is also a matter of careful personal habits and safe working methods.

Carelessness, chance taking and failure to observe safe practices, or failure to use safe-guards provided, are factors that only you can control. Safety in personal habits is your responsibility . . . you are the key to safety. Don't take chances, and remember, thinking before hand might save a major accident.

Telephone Cords *Snappiest* Ever

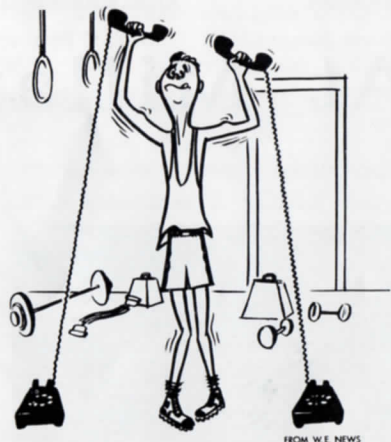
Breathes there a man with curiosity so dead he has never watched the *spring cord* on a telephone glide back into its original curlicue and mused: "Works nice. How do they do it?"

How *do* they do it? What puts the curl in the spring cord—and keeps it there? The best possible place to get the answer is at Western Electric's Point Breeze Works in Baltimore, where these neat, efficient telephone appurtenances are formed and finished for the Bell System.

Three simple words offer the key to what happens in the process: twist, coil and heat. These give the coiled effect to spring cords. Actually there are no metal springs or elastic bands inside the rubber or plastic covering.

Our story begins with a reel of telephone cordage—the same type from which Western Electric makes conventional cords. The loose end of the cordage on the reel is clamped in a vise which rides in a slide on a long table. When the operator releases this vise, a counterweight pulls the vise and cordage out to a distance of seven and one-half feet (the standard spring cord length.) Then the operator snips the length of cord from the reel and places it in another vise that

spins counter-clockwise putting twists in the taut cord. This readies it for easy winding on a steel rod known as a "mandrel." After twisting, the operator releases one end, clamps it to the mandrel which he then starts revolving and the twisted cord winds around it snugly.



"1-2-3-4, 1-2..."

When the cord is completely wound, it is ready for heat treatment to "set" the curl. Neoprene is treated with pressurized moist heat in a special oven. Plastic covered cords undergo a "dry" heat treatment without pressure. After cooling, where once we had straight cords, we now

have the curliest cords ever. Dot and dash wire is being used initially for local cable in No. 5 Crossbar central office equipment, but will ultimately be used in switchboard cable as well.

According to Ed Swanson, frame and unit cable forming section chief, the color coding of the new wire is far simpler than that employed with the textile insulated wire. In switchboard cable, for example, which may

include from 12 to 312 conductors in combinations of pairs and singles, 24 different color combinations of pairs and 24 different color combinations of singles are necessary.

By the new dot-and-dash method, all three wires of a pair and its associated single can be the same color—the first

Of course, before they can be used on telephones, the cords must be equipped with the necessary hardware that all telephone cords need. And they must withstand the usual tests—and some tests devised just for spring cords.

The outer covering is stripped from the end to expose the insulated tinsel conductors. Then tips and brass bands with hooks are attached after which come the tests: first, a visual examination to be sure there are no breaks in the insulation, then a test for "continuity" in which an electric current is passed through the cord.

Naturally it shouldn't take an almighty pull to uncurl the cord, yet it must have enough resistance to make it spring back into its original shape after being extended, so each one is tried out. Then the tips and bands are given pull tests. The forces applied are considerably greater than those normally experienced in actual service.



Louis Swoboda examines dot-dash wire which Elmer Bouc uses to form cable.

When the spring cord passes all tests, it is drafted into Bell telephone service. For shipment, a wooden dowel is inserted to help the cord retain its top condition and shape.

TRANSFERS

R. B. Burton, department chief from the Hawthorne Works, transferred in October to department chief, factory engineering.

D. A. Hunter, engineer from the Hawthorne Works, transferred in October to machinery procurement engineer.

J. R. White, engineer from the Hawthorne Works, transferred in October to machinery procurement engineer.

F. C. Sladek, department chief from the Lincoln Shops, transferred in October to department chief of accounting.

J. Smith Jr., department chief from the Hawthorne Works, transferred in October to department chief, development engineering.

J. D. McLaughlin, time study man assistant from the Duluth Shops, transferred in October to wage incentive engineer.

R. Moulis, group chief from the Hawthorne Works, transferred in October to section chief, plastic insulating.

A. R. Johnson, department chief from the Montgomery Shops, transferred in November to department chief of engineering.

W. J. Rea, engineer from the Montgomery Shops, transferred in November to engineering.

wire in the pair identified by a series of single dots and the second by a series of double dots. The single in the combination is marked by repeated dashes. With eight different colors of plastic coating and four different colors of inks available, many code combinations are possible.

H. L. Wagner, engineer from the Hawthorne Works, transferred in November to engineering.

O. J. Johnson, engineer from the Montgomery Shops, transferred in November to engineering.

J. Burke, engineer from the Montgomery Shops, transferred in November to engineering.

W. Zorko, section chief from the Hawthorne Works, transferred in November to section chief, machine construction and maintenance.

C. F. Olenberger, section chief from the Lincoln Shops, transferred in November to section chief, college relations section.

K. Olson, time study man from the Duluth Shops, transferred in November to wage incentive engineer.

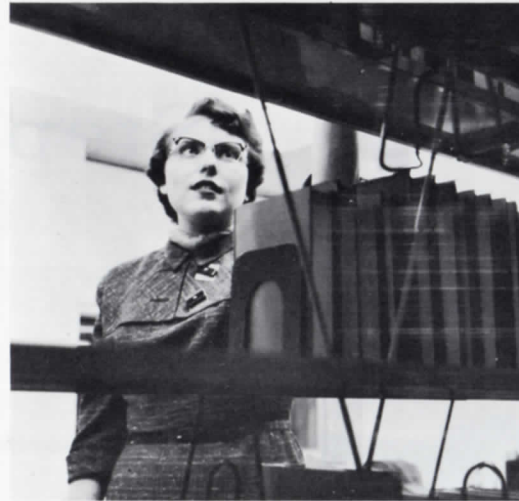
A. J. Bayerl, maintenance man from the Tonawanda Plant, transferred in November to engineer, field representative.

L. B. Timmerman, department chief from the Decatur Shops, transferred in November to department chief, financial, business methods, and payroll department.

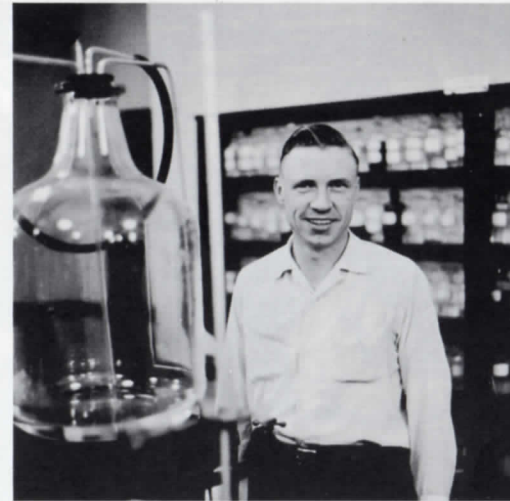
G. J. Kucera, machine construction maintenance man from the Hawthorne Works, transferred in November to training class leader.



Bob Hartung's homework on descriptive geometry appears to greatly impress young Jeff.



Reaching for more knowledge is Mari Ann Feiler who studies college economics.



At home amidst the glassware of a laboratory is chemistry student, Glenn Lund.

Karraker Advances To Assistant Supt.

Effective November 1, I. O. Karraker, formerly department chief, quality assurance, was promoted to assistant superintendent, quality assurance, with the Omaha, Kansas City, and Oklahoma City quality assurance department reporting to him. Mr. Karraker joined Western Electric in 1944 as product engineer at the Lincoln Shops. After promotion to section chief, he was transferred to the Hawthorne works in 1953 and promoted to department chief, quality assurance in March, 1955.



TUITION REFUND (Cont. from Front Page)

I seem to be getting more out of school now. In 1947, when I got out of the service, I found it hard to pick up school again." We asked him if he had trouble studying? "Well," came his answer, "sometimes I have to shoo the kids into another room, but usually I don't have any trouble at all."

The five people in the Hartung household seemed well satisfied with the plan, even Jeff.

To get a feminine opinion, we located Mari Ann Feiler in the University of Omaha library. Her opinion was well expressed in one word: "Great!" She went on: "I think the plan is one of the finest things a company can do. It's both to the Company's and the employee's advantage."

As we helped Mari Ann hunt for an economics book we learned that she is earning a degree in business and is right now taking a course in introduction to economics. "It's in line with my job as bookkeeper," she said.

When we had located the book and she got ready to study, she gave us a parting observation: "I don't see why everyone who can doesn't take advantage of this opportunity to study under the plan." We had to agree with her.

We found Glenn Lund amid the glass apparatus of the chemical lab on the top floor of the University's main building. He gave us this opinion: "Yes, I think the tuition plan gives us a good opportunity. This is my first college course, and it wouldn't have been so easy to go without the plan."

Glenn seemed to find the general

chemistry course was a help in his job as raw material inspector, "But," he said, "the going was rough at first. I was away from school a long time."

Did his two children hinder his studies? "No," he said, with a smile "I usually study after they're in bed."

Happy with our results, we left these students to their studies, satisfied that if anyone could benefit from the tuition refund plan these Omahans could, would and are.

BASKETBALL CALL

Pete Petermann has issued a call to all employees interested in playing basketball. Sufficient interest, Pete says, will lead to formation of a W.E. basketball League. All interested men can contact Pete Petermann in department 223.

Western Stars Are League Champions

The Western Stars, who finished the season undefeated, won the championship of the W.E. Men's softball League.

Members of the champion team are: Tom Doyle, Orv Jensen, John Doxan, Dave Richman, Paul Peters, Edward Arnone, Bruce Bowman, Jim Fox, Ralph Finstuen, Don Sefren, Ron Rezek, Milt Almquist, Bob Paine, Larry Butters and team captain, Larry Roche.

TEAM	WON	LOSS
Western Stars.....	4	0
Engineers.....	4	1
Yankees.....	3	2
Fumblers.....	1	3
Bombers.....	1	3
Blue Boys.....	0	5

149 ENROLLED FOR FIRST AID CLASS

One hundred and forty-nine employees have been enrolled in the *Standard* first aid course which began last Tuesday. The five-week course is sponsored by the Company under the direction of the local chapter of the American Red Cross. An A.R.C. first aid card will be presented to those who complete the two-hour-a-week sessions.

Two qualified Western employees, Bud Fanckboner and Bob Bevington, have volunteered their time as instructors, and, because of the high enrollment, the services of a third instructor have been enlisted.

Omaha Shops Strut Forth at First Ball



WEATHER IS TOPIC OF SECOND SCIENCE SHOW

"The Strange Case of the Cosmic Rays" shown on Friday, October 25, began the 1957-58 Ball System Sci-

Mari Ann Feiler in the University of Omaha library. Her opinion was well expressed in one word: "Great!" She went on: "I think the plan is one of the finest things a company can do. It's both to the Company's and the employee's advantage."

the top of the University's main building. He gave us this opinion: "Yes, I think the tuition plan gives us a good opportunity. This is my first college course, and it wouldn't have been so easy to go without the plan."

Glenn seemed to find the general

Pete Petermann has issued a call to all employees interested in playing basketball. Sufficient interest, Pete says, will lead to formation of a W.E. basketball League. All interested men can contact Pete Petermann in department 223.

Western Stars.....	4	0
Engineers.....	4	1
Yankees.....	3	2
Fumblers.....	1	3
Bombers.....	1	3
Blue Boys.....	0	5

Two qualified Western employees, Bud Fanckboner and Bob Bevington, have volunteered their time as instructors, and, because of the high enrollment, the services of a third instructor have been enlisted.

Omaha Shops Strut Forth at First Ball

Swinging partners and swirling skirts patterned the Ballroom of the Stockyards Exchange Building during the Omaha Shops' employees dance. Nearly eight hundred persons attended the dance which filled two ballrooms. Beating rhythm for the dancing feet was Omaha Shops Joe L. Sinkule (right, center), who also emceed the dance.

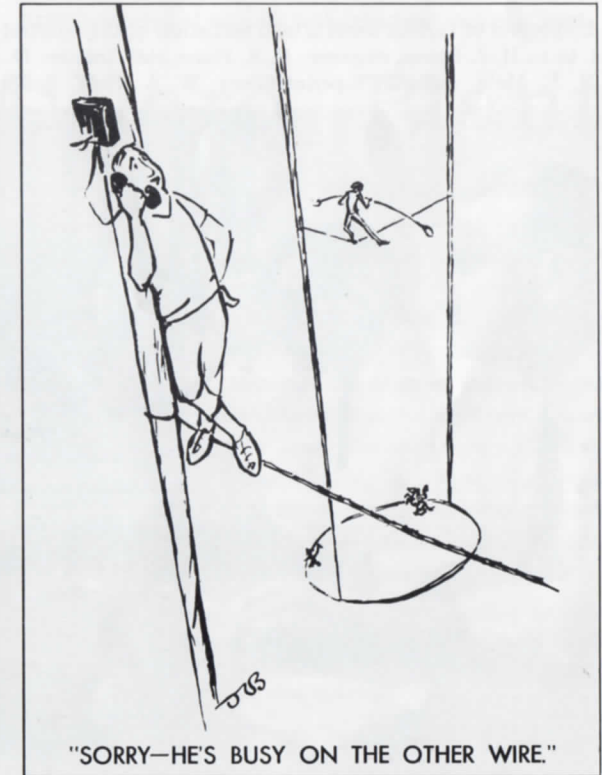


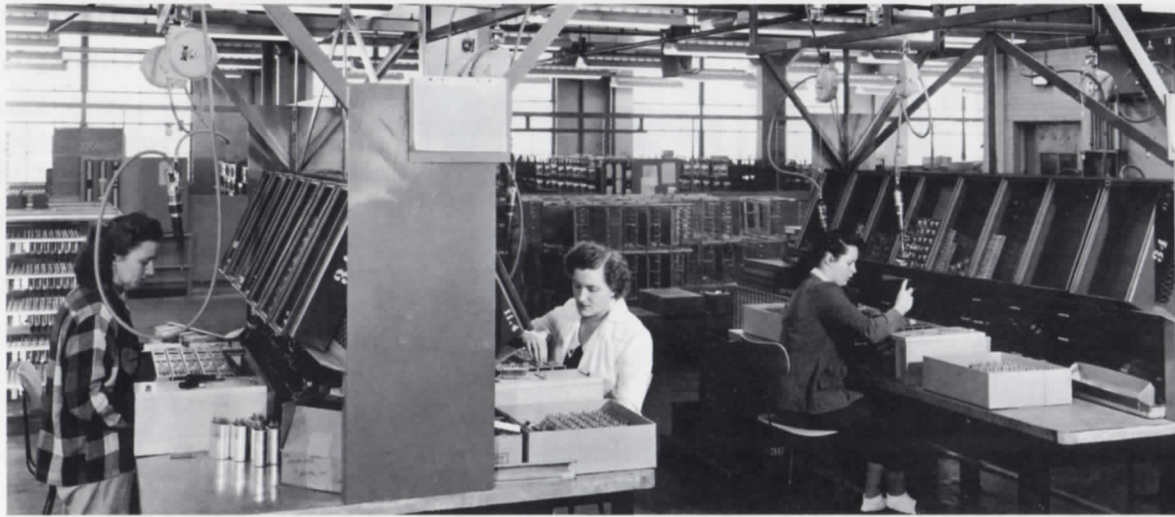
WEATHER IS TOPIC OF SECOND SCIENCE SHOW

"The Strange Case of the Cosmic Rays" shown on Friday, October 25, began the 1957-58 Bell System Science Series of color and black-and-white telecasts over the NBC network.

"The Unchained Goddess," a scientific explanation of what makes weather, will have its television debut on Wednesday, February 12, 1958. This is the fourth of the Frank Capra productions made for the new series that first went on the air a year ago.

Four new one-hour Science Series color films are to be produced by Warner Brothers. They are expected to be ready for telecast in 1958 and 1959.





Statistical quality control methods were applied at the Omaha Shops in the early stages of production. Photo above, taken in January of this year, shows Evelyn Marr, Betty Harding and Alberta Richter in the mounting section working with the guidance of a statistical quality chart (top, center).



Supervisors and employees worked closely together during the introductory stages of the quality control system. Photo above, taken early this year, shows R. W. Jafek, O. W. Schroen and P. F. Smith checking over quality chart with Leia Brown and Don Wells in stamping section.



Steps to Quality

- March, 1956*..... Western Electric Comes to Omaha.
- May, 1956*..... Quality program introduced. Training begun on an informal basis.
Several employees begin inspecting relays and coils.
- October, 1956*..... Inspection performed on first concentrator-identifier unit.
- January, 1957*..... Ten employees attend first statistical quality control and sampling techniques class.
Individual statistical process charts over 18 work positions.
Formal training in quality control begun.
- February, 1957*..... 54 employees have completed statistical control and sampling techniques course.
65 statistical process charts are in use.
- Present*..... Quality control classes continuing. 135 graduates on roll.
Over 400 quality control charts in use.
An excellent quality rate is being produced.
141,560 solder connections completed without a discovered defect. (Allowance—maximum 1 defect per 10,000.)
Quality on concentrator-identifier unit is excellent. (0 is expected level. November rate is +2.0.)

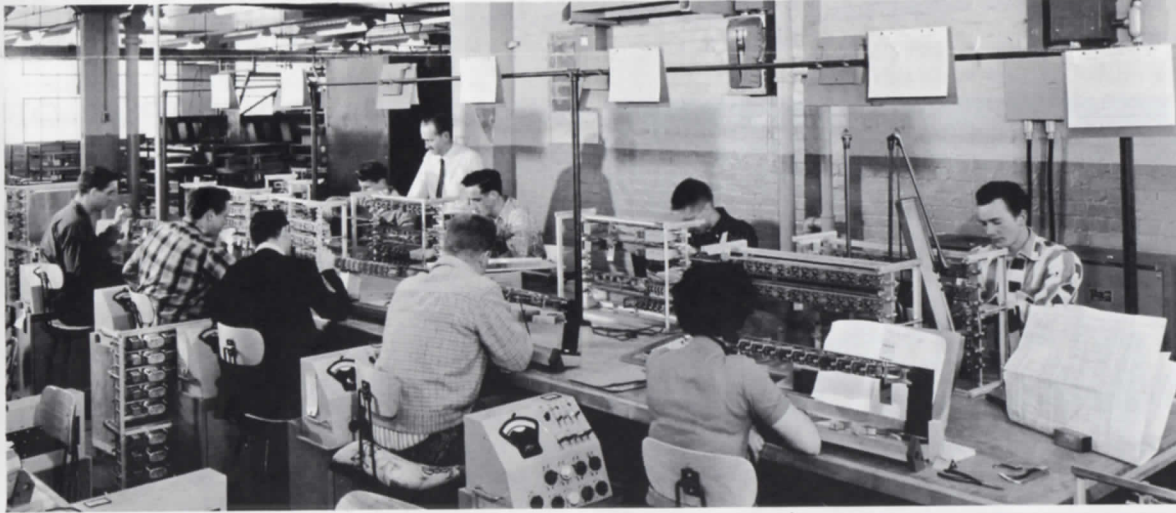
This diary is one of progress—the progress of quality which is so vital to Western Electric. But why is quality so vital?

Because quality is as necessary to our health as a perfectly functioning heart is to man. The only possible way to insure economic good health in the Bell System is to keep operating costs at a minimum. We at Western Electric contribute to this continued good health by keeping the quality of our products high, and thereby keeping maintenance costs low.

We at Western recognize the fact that making a product right—the first time—to meet high quality standards is the economical way to do things.

When we make a good product we eliminate the necessity of spending time to sort bad from good and to rework defects.

Supervisors and employees worked closely together during the introductory stages of the quality control system. Photo above, taken early this year, shows R. W. Jafek, O. W. Schroen and P. F. Smith checking over quality chart with Leia Brown and Don Wells in stamping section.



Graphically showing workers in relay adjusting section the quality of their production are control charts placed above their positions. More than 400 similar charts are controlling quality of production in the Omaha Shops.

Employees of various levels attend statistical quality control class given at the Omaha Shops. Below, l. to r., H. J. Peters, engineer; R. S. Paine, staff trainee; D. E. Henggeler, tester; E. T. Saab, tester; H. R. Metz, assistant superintendent; W. A. Judd, quality checker; L. C. Parrish, product eng-



ineer; and L. R. Roche, engineer, listen intently as instructor Arthur W. Pendray (below) explains how statistical quality control applies to production. More than 90 per cent of the Omaha Shops' supervisors have taken the quality control course here or at other W.E. locations.



This diary is one of progress—the progress of quality which is so vital to Western Electric. But why is quality so vital?

Because quality is as necessary to our health as a perfectly functioning heart is to man. The only possible way to insure economic good health in the Bell System is to keep operating costs at a minimum. We at Western Electric contribute to this continued good health by keeping the quality of our products high, and thereby keeping maintenance costs low.

We at Western recognize the fact that making a product right—the first time—to meet high quality standards is the economical way to do things.

When we make a good product we eliminate the necessity of spending time to sort bad from good and to rework defects.

Essentially this is why the quality program was introduced, and why a tool called statistical quality control is in use in the Omaha Shops.

Quality control offers us a way to prevent a defective product from coming into existence. By graphically showing a worker how he's doing, it enables the worker to improve his technique or correct his machine if it becomes necessary. He can make the product "right" the first time.

As our quality program has progressed, so has the realization that quality is not the job of one man or of one department. Quality is the job of all of us and cooperation is the key to that job.