In This Issue

THE END
WHOOSH!
CHALLENGE
How to start a heart that stops. An operating room is a quiet place, but you could hear a snowflake drop when a living heart stops. Sometimes only a single word is spoken, "epinephrine." The syringe is firmly placed in the surgeon's outstretched hand and he plunges the long needle deep into the chest—into the center of the heart itself. As soon as the life-giving chemical touches the muscle of the heart, this wondrous organ usually contracts violently and starts to beat again.

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United States Steel
what is entropy?

Heat lost except at absolute zero?
A measure of disorder?
A statistical probability of state?
The gradient of a scalar?
Macrocosmic phenomenon or microcosmic, too?

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For all the interesting facts and figures of recent Collins developments send for your free copies of Signal, published quarterly by the Collins Radio Company. Fill out and mail the attached coupon today. You’ll receive every issue published during this school year without obligation.
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Cover Note

This month’s abstract cover was drawn for the TECHNIC by Miss Carol Hutchinson, sophomore Indiana State art major from Rochester, Indiana.

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To the Editors of the ROSE TECHNIC and the Rose Student Body:

The Student Body has been privileged to watch a very interesting experiment during the Fall Semester of the 1959-60 school year: the establishment of a school newspaper on a campus with slightly under 400 students. This newspaper, dubbed the "Explorer", joined two existing publications on campus, the MODULUS yearbook, and the monthly magazine, the ROSE TECHNIC.

The experiment has certainly been interesting, but it has proved unquestionably that there is NO need for such a newspaper at Rose at the present time. The newspaper has done a poor job of reporting what the ROSE TECHNIC already covers.

Many specific examples can be stated. Campus Survey, a regular TECHNIC feature written capably by Jim Gates, presents the happenings on campus in a much more concise, more understandable, and more interesting format than the lengthy, rambling articles in the "Explorer" that are very noticeably padded to take up space in the paper.

In a like manner, Locker Rumors, another regular TECHNIC feature written by Bob Michael, covers the sports scene in a much more interesting light than the play-by-play accounts that cover the entire back page of the "Explorer."

A series of "Meet the Faculty" articles have appeared in the "Explorer", a feature which used to be regularly presented in the TECHNIC. The "B.M.O.C." series has turned into another farce, as any such selections of important men on campus by other students will turn out to be.

The editorial policy of the "Explorer" can also be compared in a poor light to that of the TECHNIC. The editorials of the "Explorer" have been characterized by lengthy, rambling writing evidently intended purely to take up space; even when worthwhile ideas were discussed, poor judgment was shown by the editors in using profane language, in mentioning only one side of a situation, and in using "scandal-sheet" type colored writing (How many blackened, charred bodies can you pack on one crowded staircase?). On the other hand, the editorials appearing in the TECHNIC can be held up as contributing to the solution of school problems. Ideas discussed in editorials are presented from both sides of the picture; facts and theories are presented concisely and clearly. The Editors of the TECHNIC can certainly be commended for their editorial policy in the past year.

After discussing the content of the "Explorer", my original conclusion certainly seems valid. The ROSE TECHNIC, a magazine with more than sixty years of experience and traditions behind it, presents the same material in a clearer, more concise manner. The "Explorer" is published only twice as often as the TECHNIC, so time delay in receiving news is no large criterion in determining a need for a newspaper. Thus the "Explorer" seems to be a waste of time, effort, and money. And this leads to the meat of this letter: that time, effort, and money can be used to good advantage other places at Rose.

The staff members of the "Explorer" are certainly to be commended for the enormous amount of work they have put into their publication. The entire staff, and in particular Jim Funk, the "founder" of the paper, have shown beyond any doubt that they have school spirit, and plenty of it! Now if that effort they have put into the paper can be channeled into other sagging organizations at Rose, a really worthwhile goal can be attained. We have too many more important organizations at Rose to waste time on a newspaper that isn't needed. The TECHNIC and MODULUS can always use good help; professional societies, the Glee Club, Radio Club, Rifle Club, Camera Club, and varsity athletic teams are always understrength in working participants.

Money can be mentioned, too; local business in Terre Haute is now asked to support 3 publications where only 2 existed in the past. Even though only one salesman sees each merchant, it still doesn't help relations with the school when the merchant knows he is helping support 3 publications at a school as small as Rose. Advertising in the "Explorer" has already made small inroads in TECHNIC and MODULUS advertising.

Yes, the "Explorer" has been an interesting experiment. It has shown us that we at Rose have NO need for a school newspaper at present, but perhaps more important it has developed more school spirit. Now let's all go to work and get this spirit channeled into something worthwhile.
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Kokomo, Indiana
New products lead to better jobs at Du Pont

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If you would like to know more about career opportunities at Du Pont, ask your placement officer for literature. Or write E. I. du Pont de Nemours & Co. (Inc.), 2420 Nemours Building, Wilmington 98, Delaware.
ROSE POLYTECHNIC INSTITUTE
Terre Haute, Indiana

HIGH SCHOOL GRADUATES OF 1959

You are cordially invited to visit Rose Polytechnic Institute where you can earn a degree in:

CHEMICAL ENGINEERING
ELECTRICAL ENGINEERING
MECHANICAL ENGINEERING
CIVIL ENGINEERING
MATHEMATICS
PHYSICS
CHEMISTRY
There have been a great many changes in Rose during the past few years. The atmosphere, both inside and outside the classroom, has greatly changed. Even a member of one of the more recent graduating classes would be amazed, or even shocked, at the many changes which have taken place, and those which are now being contemplated. In order to help the alumni better understand what is actually happening, a few of the more important changes will be discussed here.

One of the first to come about was a new curriculum. In addition, several new courses of study were added. The main innovations were to eliminate several courses which were considered dead weight, and to speed up the whole curriculum.

Along the same line, a Master of Engineering Sciences degree is now proposed. This is in conjunction with the new president's favorable attitude towards research. In keeping with this program, a computer center and some new buildings are presently in the offering.

The policies stated above are generally agreed to be progress. The following are those which many people are inclined to question.

It has been stated that if varsity sports are not actively attended, there will be no sports. At least two definite stands have been taken on this question. The first is that a man should come to Rose for the one purpose of obtaining book learning. The other is that many fellows derive a great deal of satisfaction from participating. Therefore, they feel the program has merit. What would Rose be without the traditional Homecoming festivities?

Another addition is that of a campus newspaper. This makes a total of three publications serving 400 students. Whether it is necessary to have three publications with two of them having much the same interest might be questionable.

The most recent innovation is study halls for students having grades of D or F, if their advisors so desire. A man so assigned must report and sign in to the library for a certain number of hours each week. This policy has also brought forth many varied opinions. The favorable group says that this will keep many men from flunking out of school by forcing them to study. The opposing side raises several questions. Perhaps the most prominent is whether we are to be spoon-fed and coddled through our whole education, or whether we will be forced to face reality and begin to fend for ourselves, as we undoubtedly must do once we enter the business world. Other reasons voiced are that some people have a great deal of trouble studying in the library, that it is inconvenient for some, and that a person can not be forced to learn what he does not want to learn.

Certainly, a great number of changes have been effected. The editors would be most interested in receiving opinions on the questions raised from any interested party.

R. L. B.
MEN ...who are Engineers, look twice
at the many advantages
CONVAIR-POMONA offers

NEW PROGRAMS at Convair-Pomona, offer excellent opportunities today for Engineers. Convair-Pomona, created the Army's newest weapon, REDEYE, Shoulder Fired MISSILE and developed the Navy's ADVANCED TERRIER and TARTAR MISSILES. Many other, still highly classified programs, stimulating the imagination of the most progressive thinking scientist and engineer are presently at various stages of development.

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CONVAIR/POMONA
Division of
GENERAL DYNAMICS CORPORATION
POMONA, CALIFORNIA
One of the more rewarding experiences of the President’s job is to meet with various alumni and to see how they are progressing in their chosen fields. During the past month I had a very interesting visit with J. “Ed” Taylor of the Class of ’40 who is Manager of the New Devices Laboratory of Thompson-Ramo-Wooldridge. The New Devices Laboratory is producing items that are useful in space travel. When Ed was studying at Rose, less than twenty years ago, these devices existed only in the imagination of the comic book writers. For example they are building a power plant which is small enough to fit into a space the size of a football. The source of the energy that actuates the power plant is supplied by atomic fission. Another interesting study involves a space propulsion unit which operates by forcing ions to produce the motor power.

On the same day I had the privilege of visiting the Nela Park plant of General Electric as the guest of F. A. Schmidt, Class of ’49. Al’s job is in the Sales and Market Development Division of the Company. In this capacity he writes technical literature on the development of new lighting devices, particularly those involving fluorescent lighting. In order for fluorescent lighting to be effective, phosphorous and solid materials must be processed and applied to the tubes. This is an electrical process which depends for its success on an understanding of the chemistry of the rare earth materials which were laboratory curiosities twenty years ago. In addition the engineers must utilize the unit operation of crushing and grinding and understand the solid-state activity of materials.

The most interesting thing to me about these visits was that two Rose graduates in Mechanical Engineering engaged in two widely divergent businesses, one in the esoteric field of space travel and the other in the prosaic business of lighting, agreed on what is needed most in engineering education today. I can sum up their reactions in a very few words. “Give the boys all the basic science, mathematics and engineering sciences that they can stand while in college. The employers will train the young engineers in the techniques of their business. The weakest link in my education was a lack in Chemistry, particularly in the understanding of the principles of physical chemistry”.

I would hope that more of the alumni of Rose would speak up and tell us of their experiences and their needs. In this rapidly changing technological world we hope that Rose will continue to be the experimental leader in engineering education. The alumni can help by telling us what they considered the weak points and strong points of their education in the light of their own experiences.
It could be you...

(Author's Note: For some time there has been a tale circulating concerning the possibilities of a Third World War. In particular, I am speaking of the story concerning 21 January 1960. It has been stated in a prophesy that this conflict would last for eleven days and that it would take eleven months to bury the dead. This may sound gory, but war is gory. It is admitted that the following story is anything but tame, yet in order to tell what must be told, realism is a necessity.

This is fiction and should be read as such. After hearing all of the various ways in which the original story has been told, I decided to write this tale. Those of you who do believe in the prophesy will find that this story may take on realistic proportions, those who do not believe in it will not grasp the meaning. Both classes should read it and take heed.

We must remember the laughing that was done when Jules Verne wrote his book Twenty Thousand Leagues Under the Sea and then we should take a look and see the United States Navy Submarine Corps, which is headed by the Nautilus.)

The morning of 21 January 1960 had dawned clear and cold in Midcity, Illinois. The winter wind that had howled through the streets and buildings during the previous evening's snow storm had now subsided into a sharp, crisp breeze that bit into the faces of the people who walked down main street on their way to work and going about other tasks. Most of them, like I, had a purpose in their early morning travels, such as going to their chosen professions. A few, however, were just out for a morning stroll, and a smaller number of the populace was just returning from the previous evening's frivolities. Here and there small children wound their way through the fresh snow on their way to school, trying by any possible means to prevent the inevitable day at school. An old woman was walking her dog toward Wayne Park as I turned off of Main Street onto Middlebelt Road.

I, too, had a place to go and things to accomplish on this early January morning. It was 8:30 when I left my office in the Midcity Department Store to drive to Middlebelt. Being Sales Manager of the largest store in town had its advantages and disadvantages, one of which was traveling to surrounding towns to chase down stock mistakes in our branch stores. It seemed that the Middlebelt store had received a shipment of goods which actually belonged here in Midcity, so I was off to bring back the invoices and notify the manager that he must ship the goods to us.

Once I got through the early morning traffic and out onto the highway, I settled down for the forty mile drive which confronted me. I reached over and turned on the radio in hopes that I could catch the 9:00 news.

The static in the radio cleared and the announcer's voice came in, saying something about one of Midcity's banks and their three and a half percent. After the news was over, the local disc jockey came on with his favorite "platters" for all of the early morning risers. As the strains of the modern music came from the speaker, I wondered what the people who had just gotten up and turned on their radio thought of being awakened by such music.

I was about fifteen miles from town when I glanced in the rear view mirror and noticed that a State Trooper was behind me. Looking at the speedometer and finding that I was safely under the speed limit, I relaxed and tried to force myself to listen to the radio. The fact that the Trooper was behind me kept me glancing back in the mirror. The fourth or fifth time that I glanced back there was a blinding flash that blocked all of the road from view. I slammed on the brakes to stop the car, and the wheels locked and I spun off of the road and into the ditch, rolled over once, and came to an abrupt halt at a forty-five degree angle up a utility pole. Just then, the earth shook with a tremendous tremor, as though some huge hand had grabbed it like a baseball and thrown it up against a wall. The car shuddered and jolted, knocking my head forward against the steering wheel. Everything started to spin and turn into shades of grey, growing ever darker, until, finally, the black sleep enveloped me and I slumped into unconsciousness.

When the black fog started to lift,
I noticed that my eyes were blocked by a crimson cloud. My hand reached up involuntarily and as I touched my forehead, a sharp pain pierced through my body. My fingers traced the line of the deep gash in my forehead diagonally across it just below the hairline. Slowly I felt the dark sleep creeping up on me again, but I fought it off. The entire car felt warm, unseasonably so for this time of the year. I shook my head, trying to clear the drowsiness from it, and blood sprayed the windshield. It was then that I started to regain my faculties and realized that I must stop the bleeding before I bled to death.

As I reached to my back pocket for my handkerchief, my whole body ached and I knew that I had minor injuries in addition to the gaping gash on my head, but the cut presented the biggest problem at the present time and must be taken care of first.

After attaining the handkerchief, I pressed it to my head and in a few minutes the bleeding had subsided sufficiently for me to think and see clearly, although I still had a hell of a headache. As my eyes searched across the dash of the car I noticed that the radio was still on, but that only a faint hum was audible from the speaker. My mind flashed back to the cause of the wreck—the blinding light—and I tried to figure out a reason for such a thing happening. Definitely, the trooper that was behind me had not flashed his spotlight on because that would not shine so intensely. What could it have been?

I reached for the dial button and turned it, not knowing why or what I would gain by finding another station. As the dial traversed the band I still heard nothing but the hum until I reached a point on the band that was marked by a small delta.

"CONELRAD," I muttered aloud. I turned up the volume and listened. The announcer was saying, "—not a test. I repeat, this is not a test. The United States has just suffered a sneak attack from an unknown aggressor." There was a sound of tears in his voice as he continued. "We are receiving news from the larger cities and will keep everyone posted as soon as we receive information. Please keep your radio tuned to this frequency. I repeat, this is not a test. The United States has just suffered a sneak attack from an unknown aggressor." The ground was cold and the snow felt good on my face. It cooled me enough to shock me back into a calm state at which I could rationalize the situation and plan what I was going to do next.

The first thought that entered my mind was of my wife and children. The kids were in school on the east side of town near the aircraft plant—"My God," I shouted, "the aircraft plant was probably the target for the bomb."

A cold chill, not caused by the snow that I was laying in, ran down the back of my spine. If the bomb had been on target the entire area, in fact, the entire town, would have been wiped clean. But was it on target?

With this thought uppermost in my mind, I got up and started to climb out of the ditch. My legs felt as if they were made of rubber and my head started to spin. The wound on my forehead started to bleed again, the crimson fluid flowing once more into my eyes. Almost unconsciously I wiped my hand across my eyes and started walking down the road toward Midcity.

Fifty yards down the road I came upon the wreckage of the State Trooper's car; the same car that had been behind me just before the bomb had hit. I went down into the ditch to see if he was still alive, but as I neared the car I knew that he couldn't be. The car had burned upon hitting the ditch and was now a mass of twisted, charred metal. I looked in the front window. He was definitely dead! He sat behind the

(Continued on Page 22)
By the time this issue reaches the distribution stand, the Christmas and New Year's celebration season will have passed. However, the Rose Technic hopes that you had a very Merry Christmas and a most Happy New Year. Let's see now if we can remain observant of those New Year's resolutions for all of 1960.

If the following months of 1960 prove to be as progressive for the school as the last few months of 1959, Rose should have a most successful year.

President's Inauguration

Friday, November 20, 1959 was a most important day in the history of Rose Polytechnic Institute. On this day, Dr. Ralph Alexander Morgan was officially inaugurated as the ninth president of Rose.

Many distinguished guests and dignitaries were seen arriving on the campus early that morning. At 9:30 A.M. the Procession formed and began to proceed toward the field-house under the leadership of the Grand Marshall of the Procession, Mr. Gustav Zader. Immediately following Mr. Zader, in the following order, were the Board of Managers: official delegates from universities, colleges, and other learned societies and associations; officers of the Alumni Association, Rose Tech clubs, and present class officers. The faculty, Dean of Engineering, new president, and speakers finished the procession group.

As the procession entered the field-house, Professor Alfred Schmidt, acting as organist for the ceremony, played "Pomp and Circumstance". The Institute's Chaplain, Rev. Leroy Brown, gave the invocation. Governor Harold Handley greeted delegates, guests, and students and wished Dr. Morgen success in his new position. Mr. Donald B. Prentice, President of Rose from 1931-1949, presented a brief history of Rose Poly and its achievements.

Mr. Carl W. Borgmann, Program Director of the Ford Foundation, presented the convocation address, "The Task Ahead". In his address, Mr. Borgmann outlined the important role of such colleges as Rose in moulding the future of our nation.

Dr. Morgan's Inaugural Address, "What the Future Holds for Rose", was a most impressive and informative presentation. He outlined some of his major policies for Rose's future. Dr. Morgan also spoke of particular importance of some changes to be made to keep Rose abreast of the scientific progress and ideas of the world.

Later in the afternoon, Dr. Morgan was honored at an Inaugural Luncheon in the Mayflower Room of the Terre Haute House and a reception in the Rose student center.
This day was one of the most important days in the history of Rose Polytechnic Institute because a very capable man became the “pilot” to guide our institute to a bright future.

Job Interviews

One of the many important activities this month spotlights the seniors in their efforts to establish themselves in their chosen fields after graduation.

Although the seniors were previously worried about the decrease in the number of companies interviewing this year, they now feel that, in spite of this, opportunities for graduate engineers have increased. Many seniors are getting more invitations for plant trips on the average than last year’s seniors.

Also, the salaries have seen a 4% to 5% increase, with the average starting salary being about $520 a month. Many companies are also found to be extending a more liberal policy for graduate school assistance programs.

Many companies have also expressed their desire for students in the mathematics and physics departments. The prospects for these majors are exceptionally bright.

Department Activities

The Mechanical Engineering department scheduled a plant trip for some of its students on November 24 to visit the Caterpillar Tractor plant in Peoria, Illinois. The activities were divided into talks by company engineers, a panel discussion, and tours through the plant. These students got a chance to question about job opportunities, types of work, and working conditions.

The Civil Department presented a panel discussion on Thursday, December 4, to students in the department and prospective freshmen. Guest speakers discussed topics of types of work for civil engineering graduates and problems encountered in obtaining a professional engineering license.

Another new campus organization makes its appearance this month—the Chemistry Club. Officers elected at the initial meeting were as follows: Jerry Nika, president; Larry Pitt, vice president; Jim Montgomery, secretary-treasurer.

The Mathematics Department, through the Math Club, sponsored a meeting December 9 open to high school students and teachers in the surrounding vicinity. Jim Gates presented a lecture a spherical trigonometry and some of its applications to celestial navigation.

Steelmobile

On December 2 the Armo Drain—

(Continued on Page 33)
Alumni News

By Louis Roehm, sr., c.e.

For this first issue of the new year, the editors have decided to vary the format of this article. During the year the editors have spotlighted a particular alumni for recognition in the TECHNIC. This issue will be used to point out some of the advancements of Rose Poly graduates. There are many alumni who deserve this recognition, and the only way the TECHNIC can print such news is for these alumni or their companies to let the editors know about these achievements. These achievements are a great inspiration to the students of the institute. Therefore, alumni, this is your chance to help educate the future engineers of America, while at the same time, boast about your own accomplishments.

F. Dayle Price has been appointed Manager, Southwest Operations, with headquarters in Houston, Texas, for Stanley Building Specialties, it was announced by Charles B. Alvord, general manager of Stanley Building Specialties, Miami, Florida.

Mr. Price will headquarter in Houston and will be in charge of that plant and sales to Texas, Oklahoma and New Mexico. Formerly of Chicago, Illinois, and Terre Haute, Indiana, Mr. Price has been in the building material industry since 1948 and was associated with United States Gypsum Company for eight years as a salesman, architect service representative and various positions in sales management. For the past three years, he has been district manager of Sweet's Catalog, a service for the building industry.

He attended public schools in Terre Haute, Indiana, and was graduated with a B.S. degree in mechanical engineering from Rose Polytechnic Institute in 1944. He also did graduate work at Northwestern. He served as an officer in the Navy and following World War II worked as an engineer in the factory planning department at Western Electric Company in Chicago, Illinois.

Donald Allen McCune has joined the staff of the Knolls Atomic Power Laboratory (KAPL) in Schenectady, New York, as an engineer in the reactor engineering group of the DIG Project.

McCune, a native of Terre Haute, Indiana, received his bachelor of science degree in electrical engineering from Rose Polytechnic Institute in 1954.

He joined General Electric Company that same year on the Creative Engineering Program and held various positions in Company components in Syracuse and Schenectady, New York, Lynn, Mass. Evendale, Ohio, and San Jose, Calif.

From October 1957 until last month he served with the United States Army Reactors Group at Fort Belvoir, Va. While in the Army, he attended the Oak Ridge School of Reactor Technology.

Mr. McCune now resides with his wife, Joan, and sons Timothy and Gregory, in Sheridan Village, Schenectady, New York.

H. C. Barnes, Relay Section Head, was moved up to Assistant Division Head for the American Electric Power Service Corporation.

Mr. Barnes, of Westbury, Long Island, has 19 years' service. He started with the Ohio Power Company in 1939 as an assistant engineer and joined the Service Corporation in 1944 as an engineer. He became head of the Relay Section in 1950 and acting head of the Electrical Equipment Section in September. A graduate of Rose Polytechnic Institute in 1934, he holds a BS degree in electrical engineering.

F. Dayle Price

Page 16 THE ROSE TECHNIC
Imagine yourself the owner of a neat little jet airplane. You go out to the airport, wheel the trim ship out of the hanger, give it a preflight check, climb in, switch on the energizer, and listen to the compressor wind up in a high pitched whine. You flick the fuel switch, then the ignition, and the engine begins its low, muffled rumble. You release the brakes and roll out to the end of the runway. With a take off clearance from the tower, you push the throttle to full power and begin to roll. Within seconds you leave the ground, retract the wheels, then haul back on the stick and climb quickly to cruising altitude—23,000 feet. Your destination: 800 miles across the country; your estimated flight time an easy two hours and fifteen minutes.

When can you have that personal jet? Just about any day now ... maybe. But two cautions must accompany that answer: One, the availability of a jet for your personal needs will depend upon military requirements; and two, when the personal jet does arrive on the line, it will be expensive.

Were it not for present day military needs, the personal jet sales would be open to the public—at least those who were millionaires. Paradoxically, although military production currently is keeping us from having our own turbine powered airplane, it is that same military demand that has resulted in the development of the small jet engine that soon will power most of our private planes.

There already are a few small turbine engines that could be used to power personal planes. One is the Continental J-69; the other is the Fairchild J-44.

The Continental J-69 is the American version of the French Marbore engine. This engine was developed in France in 1951. It is of centrifugal-flow design, and is rated at 880 pounds of thrust. Under a license agreement, Continental Motors Corporation in the United States developed an American version rated at 920 pounds thrust. This engine is now in production for several military jet training planes.

The Fairchild J-44 was designed in 1947 to power a Navy missile, and in 1953, it was tested as the power unit for the Bell VTOL vertical rising and landing aircraft. Following these tests, it became a leader in a new family of engines to power manned aircraft. Although this engine is not used to power any conventional aircraft, there is no mechanical or technical reason why it could not. The J-44 will probably be used for private planes when the military makes the engine available for civil use. It is rated at 1000 pounds thrust and is of the axial-flow type design.

Lycoming, long-time builder of engines for personal or private aircraft, also has a jet engine in the production hopper. This one, however, is a small turboprop unit destined for military use. Like the other powerplants, it too, could be adapted for civil use.

Just as the jet air transports were developments of the jet bombers, so will the tomorrow's jet personal planes be a development of today's jet trainers. And just as personal plane builders are having to await the release of suitable jet engines for civil aircraft, so are we having to wait for the development of those aircraft.

There are several possibilities in the so-called light plane field, each of which is classified as a military plane today, but could be adapted for private use.

Cessna Aircraft has its Model 318, the first basic jet trainer to be designed and built in the United States. It is a military two-placer powered by two Continental J-69's. These gave the trainer a cruising speed of 310 miles per hour and a range of about 900 miles. Although only a two-place plane now, the design is one that could be stretched to a four place design to meet civilian needs, if more thrust could be built into the present J-69's, or these could be replaced by two more powerful engines. The Model 318 has a rate of climb of 3000 feet per minute.

(Continued on Page 24)
Automatic systems developed by instrumentation engineers allow rapid simultaneous recording of data from many information points.

Frequent informal discussions among analytical engineers assure continuous exchange of ideas on related research projects.

Under the close supervision of an engineer, final adjustments are made on a rig for testing an advanced liquid metal system.

The field has never been broader
The challenge has never been greater

Engineers at Pratt & Whitney Aircraft today are concerned with the development of all forms of flight propulsion systems—air breathing, rocket, nuclear and other advanced types for propulsion in space. Many of these systems are so entirely new in concept that their design and development, and allied research programs, require technical personnel not previously associated with the development of aircraft engines. Where the company was once primarily interested in graduates with degrees in mechanical and aeronautical engineering, it now also requires men with degrees in electrical, chemical, and nuclear engineering, and in physics, chemistry, and metallurgy.

Included in a wide range of engineering activities open to technically trained graduates at all levels are these four basic fields:

ANALYTICAL ENGINEERING  Men engaged in this activity are concerned with fundamental investigations in the fields of science or engineering related to the conception of new products. They carry out detailed analyses of advanced flight and space systems and interpret results in terms of practical design applications. They provide basic information which is essential in determining the types of systems that have development potential.

DESIGN ENGINEERING  The prime requisite here is an active interest in the application of aerodynamics, thermodynamics, stress analysis, and principles of machine design to the creation of new flight propulsion systems. Men engaged in this activity at P&WA establish the specific performance and structural requirements of the new product and design it as a complete working mechanism.

EXPERIMENTAL ENGINEERING  Here men supervise and coordinate fabrication, assembly and laboratory testing of experimental apparatus, system components, and development engines. They devise test rigs and laboratory setups, specify instrumentation and direct execution of the actual test programs. Responsibility in this phase of the development program also includes analysis of test data, reporting of results and recommendations for future effort.

MATERIALS ENGINEERING  Men active in this field at P&WA investigate metals, alloys and other materials under various environmental conditions to determine their usefulness as applied to advanced flight propulsion systems. They devise material testing methods and design special test equipment. They are also responsible for the determination of new fabrication techniques and causes of failures or manufacturing difficulties.
Exhaustive testing of full-scale rocket engine thrust chambers is carried on at the Florida Research and Development Center.

For further information regarding an engineering career at Pratt & Whitney Aircraft, consult your college placement officer or write to Mr. R. P. Azinger, Engineering Department, Pratt & Whitney Aircraft, East Hartford 8, Connecticut.
It is truly amazing how vastly the engineering profession has changed in the past ten or so years. One used to hear mainly of the classical engineering fields, electrical, chemical, civil, and mechanical, but now one is confronted with a host of specializations and interrelated fields, in example — Electronic, Communication, and Systems Engineering; Airframe, Structural, and Highway Engineering; Transistor, Computer, and now Space Engineering. To be sure, in part, these can all be thought of as springing from the seeds sown by the classical fields through years of usage. However, the point need hardly be emphasized that by far the majority of such member-specialties composing the modern complex of engineering were born from the theories of modern physics and exist by virtue of the practical impact of those theories upon our society. Hence, the modern engineer, in cross section, is often required to bridge the widening gap between physical theory and practical application in evaluating some new physical fact in the light of his particular problem and fitting it if necessary to his purpose. In effect, as the need requires, he must be both applied physicist and practicing engineer.

The demands of both industrial and government laboratories for this modern engineer are particularly pertinent, and enough so that today approximately one-third of the engineers in this country are at work in some one of those laboratories. With the demands for adequately trained engineers so high, it is to be expected that any inherent shortcomings in the heretofore “standard” procedures in engineering education would immediately become apparent. As Dr. J. R. Killian has stated, “So far our chief reliance has been on an undergraduate professional preparation — a system which has not universally risen above the training of technicians... We need more programs that are less vocationalized at the undergraduate level and fundamental enough in their basic science and humanities to educate a breed of engineer more adaptable to our rapidly advancing technology.” So it has been; and for this reason so many of the more progressive colleges and universities have instituted what might be termed a radically new standard of undergraduate engineering. Today the list of such institutions is impressive, but even more so is the new concept which they stress.

To meet the challenges of modern science in general and the demands of the industrial laboratories in particular, many schools have grasped and held to the concept of a unified engineering program, one which lies somewhere between physics and classical engineering. Old departmental barriers have been broken down and new courses developed as needed in order that the new program may retain the best from the fields of both classical engineering and modern physics. We cite in example the stressing of radiation effects in structural, strength of materials, and metallurgical courses; the use of Quantum Mechanics in electronics courses, kinetic theory as a part of Thermodynamics courses, and the use of vector techniques wherever possible. Thus the primary goal has been to provide a solid undergraduate foundation for subsequent work in applied research and development, and secondly to imbue the graduating engineer, whatever may be his final specialization, with a feeling for the fundamental of his science rather than a mere acceptance of their practical results.

Although the finer details of these unified programs may vary somewhat from school to school, they are meticulously alike in their affirmation that advanced mathematics and modern physics are, above all, basic, and as such every engineering subject, departmental and interdepartmental, is approached with these concepts foremost.

Make no mistake, however. The material is not intended to be presented in dry categorized, equational form and left for the individual to decipher as best he can. Rather, its general implications in engineering and basic science as a whole are

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MEET BURNELL RICHARDSON AND DICK MASLOWSKI

They're transmission engineers with Michigan Bell Telephone Company in Detroit. Burnell graduated from Western Michigan in 1951 with a B.S. in Physics, spent four years in the Navy, then joined the telephone company. His present work is with carrier systems, as they relate to Direct Distance Dialing facilities.

Dick got his B.S.E.E. degree from Michigan in 1956 and came straight to Michigan Bell. He is currently engineering and administering a program to utilize new, transistorized repeater (amplifier) equipment.

Both men are well qualified to answer a question you might well be asking yourself: "What's in telephone company engineering for me?"

**SAYS DICK:**

"There's an interesting day's work for you every day. You really have to use your engineering training and you're always working with new developments. Every time Bell Laboratories designs a new and more efficient piece of equipment, you are challenged to incorporate it in our system effectively and economically. For example, I have been working on projects utilizing a newly developed voice frequency amplifier. It's a plug-in type—transistorized—and consumes only two watts, so it has lots of advantages. But I have to figure out where and how it can be used in our sprawling network to provide new and improved service. Technological developments like this really put spice in the job."

**SAYS BURNELL:**

"Training helps, too—and you get the best. Through an interdepartmental training program, you learn how company-wide operations dovetail. You also get a broad background by rotation of assignments. I'm now working with carrier systems, but previously worked on repeater (amplifier) projects as Dick is doing now. Most important, I think you always learn 'practical engineering.' You constantly search for the solution that will be most economical in the long run."

There's more, of course—but you can get the whole story from the Bell interviewer. He'll be visiting your campus before long. Be sure to sit down and talk with him.

BELL TELEPHONE COMPANIES
THE END

(Continued from Page 13)

wheel, his entire body black and charred from the heat of the fire. I turned away from the car and vomitted.

When my stomach stopped wretching and I gained back some of my composure, I climbed back up the bank of the ditch. I turned and looked back. I wondered if he had a family, too; I started on my way to Midcity.

How long I travelled or how far I walked I have no idea. When it started to get dark I realized that I was hungry. Another thought came to my mind as I walked along—I had to get warmer clothes or I would surely freeze in the night air. The suit which I had been wearing in the car had been torn in the wreck and the evening wind had a sharp edge of chill to it.

After walking for another fifteen or twenty minutes, I came to a cross-road by which stood what was left of a tavern and restaurant. The building was leaning heavily to one side, and, as I approached, I noticed that the windows were void of glass. I walked closer to the building, fearing what I may find inside and yet not being able to turn around and walk away.

My hand hesitated and trembled as I reached for the door knob that would admit me to the tavern. There was an air of death and destruction about the place that I could not shake off. Finally, my fingers closed around the knob and turned until the latch clicked, released, and the door swung open. I walked into the room, straining my eyes in the growing dusk, and called out, "Anyone here?" No answer. "Is there anybody here," I called again. Still no answer. My eyes circled the room and in the waning light I could see overturned chairs and tables, mirrors that had crashed to the floor behind the now overturned bar. Pictures and lamps were scattered about the room as though some giant hand had swept across the room in a fit of anger. I reached for the light switch beside the door and flicked it on. No response. Of course, I thought, the power lines are down. Reaching in my pocket I took out my cigarette lighter, lit a Lucky, and crossed the room, using the faint light from the lighter to guide my way. As I reached the bar, I noticed a hand sticking out from underneath one of the fallen mirrors. The body was about five feet away. From what I could see, he had been about fifty with greying hair and a pleasant look about him. His sightless eyes were now staring up at the ceiling as though they didn't quite believe what had happened. Once more I was sick.

I turned and went into the kitchen, my desire for food gone, but the cold in my body still pressing me to find more clothing. The kitchen was in the same degree of disorder as the barroom had been — dishes and furniture scattered to the four winds. There was no one in here. Evidently the old man had been alone, perhaps opening up for the day's business, when the bomb hit.

I started to look through the room and found an old coat and a flashlight, the latter of which I put in a pocket of the former after I had put it on. The smell of food reached my nostrils and, although my stomach did a complete flip every-

time I thought of the old man in the other room, I reached into the overturned refrigerator, found some sandwich meat and a carton of milk, and proceeded to devour it rapidly. After I had consumed my meager meal, I went back into the barroom and appropriated a carton of Luckys from the cigarette case and then left.

Out on the road once more, the cold air cleared my mind and I turned in the direction of town once more, in hope that I could reach it before dawn. My main thought was getting back to my family. I couldn't quite comprehend the fact that they may all be dead. My whole life seemed to be devoted to reaching Midcity and my wife and children.

On through the night I walked, noticing in detail all of the things that had changed since I had last passed this way. The snow had been melted, evidently from the heat of the explosion, and had now refrozen into a layer of ice that made walking extremely difficult.

My head was aching almost to an unbearable extent as I reached the outskirts, or what had been the outskirts, of town. The residential sections were strewn out across the area as though a force had uprooted the houses, splintered every board in them, and then proceeded to me-

(Continued on Page 32)
Ever since Russia put up her first satellite, there has been a cry in the United States for more engineers. Possibly one fact that hasn't been recognized is that before the nation's engineering schools can produce more engineers, they must have larger faculties. Nearly 10,000 new engineering teachers will be needed in 1967—more than the total number on engineering faculties in 1956.

Most engineers and engineering students never consider teaching as a career. Many probably do not have a real picture of a teacher's life, of what he actually does. Perhaps an awareness is present about a few teachers at one alma mater, but the overall picture may be very vague. An engineering student who has not at least considered the possibility of teaching risks failing to make a "discovery" which would immeasurably enrich his life.

Of course teaching is not for every engineering graduate. Its more important rewards are intangible. A sincere consideration of what one's values and goals in life are must be made. Only the happy teacher is a good teacher. The case of the unhappy teacher is doubly unfortunate, first for himself; but far more important, for the young people who will be denied his inspiration which they have the right to expect from every college teacher, but for a person with the ability and temperament to meet it's considerable demands with enthusiasm, teaching is a great and rewarding experience.

The decision for or against teaching need not be made during undergraduate days. It will be made gradually and naturally while doing graduate work. The immediate decision faced by the college senior is simply the choice between resident graduate work and immediate employment. Of course graduate work is equally valuable in preparation for teaching and for technical work in industry. Therefore, every young man should seriously consider graduate work.

Although the idea of going on into industry for a few years and then returning to graduate work is theoretically good, very few men who start in industry return to the campus for full-time graduate work. The built-in advantages of industry-level salary, retirement arrangements, seniority status, and possible promotions—make it very difficult for a man to break away from industry. Most engineering educators believe that the greatest value of graduate study comes when it is taken in full-time residence at a graduate school.

Lack of funds need not be a problem until all sources of support have been thoroughly investigated. Fellowships are available both from institutions and national sources such as the National Science Foundation. Teaching and research assistantships not only provide financial assistance, but hold educational opportunities as well. Loan funds at low interest rates are increasingly available. Very few well-qualified applicants who really want residential graduate work are deprived of it for lack of financial support.

Most of today's engineering teachers first discovered the joy of teaching as teaching assistants; when they completed graduate study, they progressed naturally into fulltime teaching. The important point is this career choice remains open for a number of years if one goes on to graduate school.

One of the most appealing features of the engineering teacher's career is the opportunity it offers for combining teaching with creative professional work in research or consulting. The enthusiasm and effectiveness of the many men who combine the roles of teacher and scholar and the investigator into one are expressions of some of the deepest satisfactions to be found in a teaching career. For one who has a strong natural urge to understand better, who delights in probing more deeply into familiar areas, teaching offers an extraordinary and a natural opportunity.

The teacher lies in an atmosphere created by bright, youthful minds, clearly keener than his own. A great privilege of the teacher's life is the continuing inspiration of sharing the fundamentally optimistic and confident spirit of young people at serious work. No other environment will keep one young so long!

Another characteristic of the teachers life—and that of his wife and children—arises from the college environment itself. The teacher lives and works in a community where intellectual values are not only admissible but cherished, where individualism is not merely tolerated but honored, where "keeping up with the Joneses" in the ma-

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IF YOU CAN; TEACH!

(Continued from Page 23)

terial scale of living is not a major idea of motivation. Few other environments offer the equal in combined quality and convenience of campuses. To live and work in this atmosphere is one of the rich rewards of a teacher's life.

A fourth characteristic of the teacher's life is his large degree of self direction within only broadly defined responsibilities. Much of the teacher's personal work, apart from scheduled classes and conferences, can be done when and where he pleases. His major responsibilities are to maintain and share with his students a valid and forward look in understanding his field. Within his chosen field a teacher is expected to develop new knowledge in areas that look promising or that pique his interest.

Important among the intangible considerations which are so significant in teaching is its real and satisfying idealistic appeal. As a teacher, you never need to ask yourself whether what you are doing is a worthwhile endeavor.

Having looked at some of the intangible and idealistic aspects of teaching, perhaps some of the practical issues that must be frankly faced should be considered. Traditionally, salaries of college and university teachers have never been high compared with those of able professionals in other activities. However, a definite and marked upturn has occurred within the past few years. The law of supply and demand plus an increasing recognition of the importance of education give promise of much better financial recognition of the teacher—and especially the engineering teacher—within the next few years.

Teachers' salaries—and even their total earnings—are likely to be somewhat less than could be earned in full time engineering practice or in business, although latest figures show that earnings of top engineering educators are comparable with those of top engineers knowingly. Teachers' salaries—and even their total earnings—are likely to be somewhat less than could be earned in full time engineering practice or in business, although latest figures show that earnings of top engineering educators are comparable with those of top engineers knowingly.

WHOOSH

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in minute, considerably faster than the Cessna 195's 1,050 feet per minute or the Beech Bonanza's 1,100 feet per minute, both piston type aircraft.

Another possible design that would lend itself to private plane development is the Ryan Aeronautical's Model 59 two-place jet, also a trainer. An interesting feature of this design is that it can be built either as a single engine or a twin-engine aircraft. As a single engine craft, powered by the 1,870 pound thrust Allison engine, the 59 would offer a speed of more than 400 miles per hour, and a 325 mile per hour cruising speed at 35,000 feet. As a twin-engine craft, powered by two J-69's, it would give the same cruising speed. Although neither of these designs is in production, each could be developed as a personal plane.

Still another future possibility is the 250 mile per hour Beech Model 73 two place trainer. It also uses the J-69 engine. Another one is the new Semica 51 jet trainer which cruises at 245 miles an hour at 25,000 feet. Whether or not any of these trainers or any future light jet trainers will ever be adapted to civilian needs depends largely on the market demand. Judging from the reception of the French Morane-Saulnier 760, the market demand will exist when the engines and aircraft are ready for civil use.

The Morane-Saulnier 760 is the twin jet personal or business plane that was brought to the United States late in 1955 by Beech Aircraft. This airplane is a typical example of what can be done to adapt an aircraft designed to meet civilian needs. The purpose of its American tour was to investigate interest in a personal jet. If enough interest was shown Beech Aircraft planned to build the airplane here and make it available to business and private plane owners in both the United States and Canada.

The MS-760 is a pressurized, air-conditioned four placer powered by two Marbore engines of 880 pounds thrust each. These give the little jewel of a jet a cruising speed of 360 miles per hour and a range of just under 1,000 miles. The plane's four occupants sit forward of the leading edge of the wing in a sound proof cabin. Beech's version of the MS-760 will be powered by two J-69's, which will improve the performance to some extent.

Design and construction wise, the MS-760 is indeed a jewel. In fact, it has been so carefully designed that a complete change of powerplants can be made by four mechanics in less than one hour. The sleek little airplane is built like a fine watch or an expensive camera. It takes off at about 105 miles per hour, and it's approach speed is about 115 miles per hour.

At any rate, there are jet-aircraft designs that can be adapted to meet the desires of private and business pilots. Within a short time there undoubtedly will be other designs and improved engines that will enable the private pilot to become a jet pilot.
Some engineering specialties that contribute to creating this engine control:

- Fluid Dynamics
- Hydraulics
- Electronics
- Metallurgy
- Vibration
- Mechanics
- Control Dynamics
- Stress Analysis
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Other products developed by this integration of varied skills:

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Model JFC 12-11 Fuel Control is, typically, the result of the Hamilton Standard "task force of talents" concept now producing so many ingenious, space-conquering devices for advanced aircraft, missiles and space vehicles. The unit above is standard equipment on the highly successful Boeing 707 Jet Transport. This lightweight (60 lbs.), complex (about 1200 parts), and sensitive unit delivers 16,000 gallons of fuel in 7 hours—sufficient to drive a car 240,000 miles—the distance to the moon!

Incoming students like Frank G. can use their engineering knowledge immediately at Hamilton Standard by contributing, as members of small design, analysis or project groups to the development of a product. There is virtually no limit to the types of engineering background required at Hamilton Standard, and no limit to the challenging applications that await these talents.

Write to R. J. Harding, Administrator-College Relations, for full color, illustrated brochure:

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NEW POLYMER SAND BINDER

The Dow Chemical Company has developed a new polymer sand binder for use in the foundry industry. The new binder has a high molecular weight and water-solubility enabling it to be used to the amount of sixteen ounces per ton of sand. This binder increases the flowability and rammability of the molds as compared with the conventional types now in use. The new polymer also reduces the gaseous material that may occur in the casting by 90% because of less gas-forming compounds being present. Time and trouble in the casting operations are also reduced because of the elimination of pH control, although mold still has greater durability and stability than the present ones. The new polymer permits better collapsibility and shakeout of the mold with a much greater recovery of the sand for future use. The new polymer also saves a storage problem because it will not deteriorate, and has no food value for rodents. A more appealing surface on the casting results through the use of this binder, also saving time on processes of removing burrs that may occur on old type moldings. The new polymer results in yielding over-all savings in all phases of foundry costs.

PLASTICS IN SURGERY

Research in plastics for surgical work is beginning to "pay-off". The use of Du Ponts "Dacron" and "Teflon" are the principle substitutes making surgical advancement possible. Research to find a material for use in grafting operations to replace vital organs, large arteries, and various vessels has been going on for many years. Many surgeons have been looking for a fiber such as "Dacron" which will meet the requirements—high tensile strength, low porosity, a high degree of chemical resistance, and successful unity with body tissues in order that rapid and permanent healing will occur—for successful replacement of natural parts of the body. Some work in this field has been going on for years, but only recently has the application of synthetic fiber been applied to the minor vessels which play such an important part in the functioning of the various appendages. A word of praise and encouragement are extended to those men of research in this vital new solution to an age old problem.

TWENTY-FOUR FOOT PROPELLERS

The Eddystone Division of Baldwin—Lima—Hamilton Corporation has created a gigantic 24 foot propeller for use on the largest tankers ever built in the United States. A light weight alloy, tradenamed Nialite, consisting of zinc and free nickel-aluminum bronze is utilized in the propeller. The new alloy propeller has several advantages over the old magnesium bronze propellers, such as resistance to pitting, lightness in weight, thus putting less drag on the tanker, and it produces greater thrust or pulling capacity. Equipped with these new gigantic propellers the tanker built by the Barracuda Tanker Corporation will have a 25,000 shaft horsepower, being able to produce speed of 17 knots with a load of 478,000 barrels of oil.

Each blade of the propeller is placed in a pitchometer, after the blades have been chopped to the correct dimensions, in order to insure the correct pitch and contour. The hub of this 37 ton propeller is machined on the front and back and bored to within several thousandths of an inch for an exact fit with the propeller shaft.

It has been estimated that the use of this gigantic new propeller would result in a savings, over a period of six years, of $170,000 for the Barracuda Tanker Corporation.
Flight data systems are essential equipment for all modern, high speed aircraft. In the AiResearch centralized system, environmental facts are fed to a central analog computer (above), which in turn indicates to the pilot where the aircraft is, how it is performing, and makes automatic control adjustments. Pioneer in this and other flight and electronic systems, AiResearch is also working with highly sensitive temperature controls for jet aircraft, autopilot systems, submarine instrumentation, transistorized amplifiers and servo controls for missile application, and ion and radiation measuring devices.

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AiResearch is also working with hydraulic and hot gas control systems for missiles.

Should you be interested in a career with The Garrett Corporation, see the magazine "The Garrett Corporation and Career Opportunities" at your College placement office. For further information write to Mr. Gerald D. Bradley...

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January, 1960
THETA XI

Coach Jack Schreiner’s Tigers are making a strong bid for their third consecutive IF basketball championship. The squad, paced by Larry (Bevo) Cunningham, has been victorious in the first two outings.

The Kappa Christmas Party, held on December 12, was once again a great success. Thanks go to Social Chairman Ron Andis, Paul Blase (who was a rousing success in his stage debut as Kris Kringle), and Bros. Gilpatrick and Malone, who liberated the Christmas tree. Brother Pitt was the official song leader. Chaperones were Prof. and Mrs. Anthony Blake and Captain and Mrs. Harrison Smith.

Brother Clayton has finished the first stage in his basement remodeling program. The result is quite an improvement.

Bob McCardle

ALPHA TAU OMEGA

With the semester drawing rapidly to a close and finals week upon us, the word “study” looms large in our minds here at Indiana Gamma Gamma of Alpha Tau Omega. It looks like this will be the eighty-seventh consecutive semester for our chapter’s cumulative point ratio to be above the All-Men’s average, a fact of which we are very proud.

The last week of school in December seemed to race by, but perhaps that is because of the many activities going on at 1451 South Center Street. We had the Pre-Orphans’ Christmas Party on Sunday, December 13, with the girls of Saint Mary-of-the-Woods College in the afternoon, and then capped off the day by going caroling with the Delta Gamma Sorority of Indiana State Teachers College. Wednesday, December 16, the Annual Orphans’ Christmas Party was held at the house, and Brother Jack “Santa Claus” Smith was undoubtedly the most popular man in the world in the eyes of the twenty youngsters who got their Christmas a little early this year. We received some wonderful assistance in the child care department from the girls of Saint Mary’s, and we really appreciate it.

Christmas vacation found the house empty by Saturday afternoon, with even Brother Jon Stiles banking his furnace and heading for Shelbyville.

January 1959 started off with a round of mixers with sororities from Indiana State Teachers College. The Gamma Phi’s were entertained on Friday, January 8th for a Sadie Hawkin’s Day mixer. Of course, the appropriate costumes were worn, much to the delight of the brothers. On January 15th we were the hosts to the Chi Omega Sorority for another mixer.

With Rose off to such a fine start toward a winning season on the basketball floor, credit should be given to Brothers Ron Jennings and Woody Stroupe. Ron was selected as an all-conference guard last year and is playing his same inspired game this year. Woody is captain of this year’s team and is doing his usual excellent job of guiding on the court, just as elsewhere in school. Also to be seen in the basketball uniform of Rose is Brother T. C. Copeland, and unless there is some food around, you’ll find Brother Scott Herrin managing the team in fine style.

The thirteenth of February, a Saturday, is Heart Saturday for this chapter of Alpha Tau Omega here in Terre Haute. It is the third year in which we have collected money on the street corners of the city for this worthy cause. We are proud to say that our Alumni Brother, Ron Reeves, is the member of the board of director of Vigo Co. Heart Assn. for this year. Brother Reeves is also our Chapter-Alumni Liaison Officer, and he is very active in chapter affairs. One of the sororities of Indiana State Teachers College will accompany us on the corners. Last year’s drive was very successful, with better than seven hundred dollars collected, and we Taus are in high hopes of topping that mark this year by a large margin. See all of you in Terre Haute on the thirteenth. ! ! !

It seems that a new fad is hitting the Brothers of Gamma Gamma now. In the past month no pinnings have been announced, but marriages appear to be the latest trend. Brother Jim Burns wed the former Miss Madonna Rose Woodruff on November 21 here in Terre Haute. Brother

Page 28 THE ROSE TECHNIC
Billy “Mac” Steele was also married recently to Miss Arlene Hunt. Both couples are living here in Terre Haute.

I’d like to close the Alpha Tau Omega Fraternity Notes on a serious vein by announcing that Brother Jack Munro is now “letter sweater-ed” to Miss Barbara Cole of Indianapolis. Congratulations to you, Jack and Barbara.

Bill Carter

SIGMA NU

Around the old Sigma Nu house many things have happened since last time. On December 11th, we had a mixer with the Zeta Tau Alphas which seemed to provide a good time for all. The following Sunday, December 13th, we doubled up with the Gamma Phi’s and held our annual Christmas party for the children at Glenn Home. The kids sure had fun????

On December 14th, we had our monthly dressed dinner meeting. The food sure was good, thanks to mom and her helpers.

The fraternity basketball season is moving right along and we don’t intend to be second to anyone if we can help it. With several starters back from last year and the promising new members, look out!

While everyone is home for Christmas there is presently being a new kitchen sink and cabinets installed. This will really be the thing to talk about when we return.

The biggest talk around 831 South Center is a Marriage. Yes, brother Onnen is going to take the big step a couple of days after Christmas. Our best of congratulations to Jim and his wife-to-be, Miss Melanie Fessler. We wish them a happy marriage.

With the thought of Christmas on our minds and turkey in our stomachs, Seasons Greetings to all.

Joe Waldbieser

LAMDA CHI ALPHA

It’s here, men; that most dreaded time of the year . . . FINALS! We assume everyone has made up for lost time during Christmas vacation, i.e. studying, etc., and is prepared to “crack” this place wide open. Lots of luck!

Congratulations go to Miss Lorey Tieber of Cleveland, Ohio who was recently pinned by Ron Klinect. By the way, Ron, we’re still waiting for the pin talk.

Then too, we must shed a tear for Brothers Hurst and Bonness who are now dateless. Why not get better acquainted with some of the nurses who attended our Christmas parties, guys? They seem to be quite the conversation piece around the house.

The annual gift exchange was held in the house on Thursday before Christmas vacation. The small unusual gifts added much gaiety to the informal gathering. Following this, the group proceeded to faculty advisor Al Schmidt’s home for his annual party where a roaring fireplace and refreshments were enjoyed.

As you all know, Gary Phipps, our president, was married over the holidays. He and his wife, formerly Miss Liz Ramsey, honeymooned in New Orleans and are now residing in Brazil, Indiana. Serving as ushers at their wedding were fellow officers, Bill Schaper, Bob Checkley, and Steve Burton.

Leading the intermural bowling league in competition is Joe Andel’s team with a record of six wins and no losses. This sport seems to be gaining rapid popularity among the brothers. A total of about fifteen “fly boys” are now participating.

In our first interfraternity basketball game Lambda Chi Alpha was nosed out by Sigma Nu, 32-31 despite a late rally. Coach Don Dekker reports a weakness was seen in our defensive rebounding which definitely cost us the game. Outstanding action was shown by leading scorers Larry Myers and pledge Bill Brown while the plays were being set by “speedy” Bob Checkley.

Leading the Engineers in victories over Illinois College and Eureka College was “Big John” Ray who was top scorer for Rose in both games. Keep it up, John!

Congratulations go to Don Dekker who joins Jim Funk as Co-Editor of the Rose Tech “Explorer”. Don was formerly a Head Reporter on the paper.

Well, the books are calling so we had better close. See you after finals.

Tom Feutz
NEW RECORDS
If you have been in the Library recently, you have noticed that the Library is the proud possessor of a new record cabinet. The cabinet makes our records available for easier selection as well as offering storage space for our collection for some time to come.

The following are some of our new records:
Beethoven. Sonatas.
Beethoven. Symphony No. 9.
Bizet. Carmen (arias).
Foster. Stephen Foster melodies.
Friml. Music of Rudolph Friml.
Gershwin. Porgy and Bess.
Gershwin. Rhapsody in Blue.
Handel. Water Music
Herbert. Music of Victor Herbert.
Leoncavallo. Pagliacci (arias).
Loewe. Brigadoon.
Lord's Prayer. (Normon Tabernacle Choir).
Mendelssohn. Violin Concerto in E Minor.
Polka King. (Will Glahe).
Prokofiev. Symphony No. 5 in B Major.
Schubert. Impromptus.
Soviet Army Chorus and Band.
Tchaikovsky. Concerto No. 1.
Verdi. Aida (arias).
Verdi. Rigoletto.
Verdi. La Traviata.
Wagner. Lohengrin (arias).
Wagner. Tannhauser (arias).
Wagner. Tristan and Isolde (arias).

FROM THE NEW BOOK SHELF
I Have Known Many Worlds, by Roger Burlingame
This is the autobiographical story of a man who for fifty-odd years has devoted himself to an endless search for self-education throughout Europe and America. Roger Burlingame's many worlds have included the college world, the military, the publishing industry, and the various areas into which a writing career has taken him.

Writing in the tradition of The Education of Henry Adams and Hans Zinsser's As I Remember Him, Mr. Burlingame has a broadly educated man's deep feeling for the past. He does not, however, advocate a return to the "good old days." Although he laments the passing of American individualism, he has addressed this book to the newer generations so that they might better understand and live in the present.

I Have Known Many Worlds is a wise and serious book; at the same time it is a pleasant one, written with warm humor and an all-embracing respect for human dignity and worth.

Words of Science, by Isaac Asimov
What's in a word? Did you know that a lens is named for the lentil seed it resembles? That a straight line actually comes from the words stretched linen? That a nucleus is a "little nut" or that deoxyribonucleic acid simply means . . . ? Well, read the book and see.

The vocabulary of science has always been a forbidding one, bristling with many-syllabled words and odd, unfamiliar terms. Now Professor Asimov has opened up this language to the ordinary reader by conducting an informal exploration into the roots and histories of hundreds of scientific terms.

The result is a really fascinating book that combines a vast quantity of scientific information with an equal amount of language history. Even the longest tongue-twisters have simple origins if you go back far enough; and Professor Asimov makes each discovery of the origins of a word a sort of detective story that can't fail to stimulate the reader's interest.

This is a perfect book to dip into again and again. Not only is it entertaining in its own right, but it is also a wonderful introduction to what should become the popular indoor sport of word-chasing. A complete index to the more than 1500 terms covered makes it a unique reference book as well.

On the Road, by Jack Kerouac
After World War II, a group roaming America in a wild, desperate search for identity and purpose became known as "The Beat Generation." Jack Kerouac is the voice of this group and this is his novel.

On the Road is about Sal Paradise,
NASA LEADS U.S. VENTURES INTO SPACE

OUTSTANDING PROFESSIONAL OPPORTUNITIES AVAILABLE TO GRADUATING SCIENTISTS AND ENGINEERS

NASA plans, directs and conducts the Nation's aeronautical and space activities for peaceful purposes and the benefit of all mankind.

NASA's efforts are directed toward discovering new knowledge about our universe and formulating new concepts of flight within and outside the earth's atmosphere. Through the application of the resulting new knowledge and supporting technology, we will gain a deeper understanding of our earth and nearby space, of the moon, the sun and the planets, and ultimately, of interplanetary space and the distant galaxies.

NASA is now engaged in research, development, design, and operations in a wide variety of fields, including:

- Spacecraft
- Aircraft
- Boosters
- Payloads
- Flight dynamics and mechanics
- Aeroelasticity
- Launching and impact loads
- Materials and structures
- Heat transfer
- Magnetoplasmadynamics
- Propulsion and energy systems: nuclear, thermal, electrical, chemical
- Launching, tracking, navigation, recovery systems
- Instrumentation: electrical, electronic, mechanical, optical
- Life support systems
- Trajectories, orbits, celestial mechanics
- Radiation belts, Gravitational fields, Solar and stellar studies
- Planetary atmospheres, Lunar and planetary surfaces
- Applications: meteorology, communications, navigation, geodesy.

Career Opportunities

At NASA career opportunities for graduates with bachelor's or higher degrees are as unlimited as the scope of our organization. Because of our dynamic growth and diversified operations, excellent opportunities for personal and professional advancement are available for graduates with majors in:

**Engineering:** Aeronautical, Mechanical, Electronic, Electrical, Chemical, Metallurgical, Ceramic, Civil, Engineering Mechanics, Engineering Physics

**Science:** Astronautics, Physics, Electronics, Chemistry, Metallurgy, Mathematics, Astronomy, Geophysics

For details about career opportunities, write to the Personnel Director of any of the NASA Research Centers listed below or contact your Placement Officer.

NASA Research Centers and their locations are:

- Langley Research Center, Hampton, Va.
- Ames Research Center, Mountain View, Calif.
- Lewis Research Center, Cleveland 35, Ohio
- Flight Research Center, Edwards, Calif.
- Goddard Space Flight Center, Washington 25, D.C.
some burned beyond even the point thodically distribute the pieces all over the countryside. Here and there bodies were laying in the roads, burned beyond recognition, some burned beyond even the point of having any form at all other than a mass of charred flesh.

I sat down on a fallen utility pole and put my head in my hands and cried. How, I thought, could other human beings perpitrate such havoc on fellow men? Why couldn't men fight their wars on the battlefield and leave women and children out of it?

It was then that I realized that my family had not survived the bombing, yet I had to see what was left of the town. I got up and started walking over streets that I had played in as a boy, past the wreckage of the high school that I had attended a few years ago, nearer the school where my children had been.

About a mile from the school, and aircraft plant, there was total desolation. Nothing had survived the heat and blast of the bomb. Nothing was left—absolutely nothing. Upon this realization I set about looking for a place to live and food to eat. For two days I wandered around the town, looking for these things and other living creatures with which to share my fate. I found none of the latter. I was living off what food I could find in the wreackages in the outlying sections of town, but most of this had started to spoil. It is surprising how a man can become accustomed to hard circumstances when he has no other alternative.

On the third day of my stay in town I awoke early to the first noises that I had heard since the bombing, other than those I had made myself. It sounded like a jet plane, flying low. I walked out of the wrecked building which had become my home for the previous hours in hopes of signaling him and help coming before I ran out of food and died. He evidently saw me because he turned and came back. This boy is really flying low, I thought, as he went over. I looked up and couldn’t believe my eyes tor on the bottom of the wing of the fighter was a single, large Red Star. By the time I looked again he had turned around and was coming back, machineguns blazing. I dove headlong into the wreckage I had been living in, bullets kicking up dust in my wake. He strafed me a couple of times and then realized that my position was relatively safe. With this, he flew off and headed in a northeasterly direction. I sat in my little castle for a few minutes, then worked up enough nerve to poke my head out. All was quiet again and the plane was nowhere in sight. I proceeded about my daily task of finding food and looking for a companion. The gash on my head had started to heal and the headache was finally beginning to leave.

The following morning I was once more awakened by the sound of aircraft, this time propeller driven. Also it sounded like more than one this time. I dashed from my refuge and stared into the rising sun. Five-four engine planes were flying in my direction at a high altitude. Suddenly dark objects started to fall from them and I was at a loss as to what they were. Then it hit me. Paratroops. Once more, as on the previous day, the bottom of the wings bore the Red Star.

I watched spellbound as the white chutes opened and the men dangling at the end of the cords floated down toward the earth. The first troops had just touched down when I came to my senses and realized that I had to hide. For some reason I felt that I would be safest in the rubble that had been home for the past three days, and thus started to run toward it. Once inside I sat down and thought of what I was going to do. After some time I decided to hide during the day and venture forth at night in search of food. The thought of becoming a predatory beast was not very appealing, but necessity willed it so.

That night I foraged for food and looked the situation over. Things had settled down some and the troops had made camp on the outskirts of town, about six hundred yards from my home. If I could keep out of their sight, I could probably survive until their orders demanded that they move on.

On the way back I got careless and kicked a rock down a small embankment. At the bottom of the embankment was a machinegun outpost. I heard the report of a heavy caliber rifle and the whine of the bullet as it sped past my head when the sentry fired. I dodged and ran for the nearest cover, which happened to be a brick wall, and threw myself behind it. As I landed behind the wall I heard the riflemen talking to the machinegunner. There was a short pause, then the chatter of the machinegun started. The bullets ricocheted off the wall and whined off into space, each sounding its mournful cry that it had not found my soft flesh to bury itself in. Finally the firing subsided and I lifted myself enough to look over the wall. They were still there, about twenty yards from the wall, just waiting. The cat-and-mouse game had started. They knew that they could finish me if they wanted, but it would be more fun to wait. I muttered something obscene and rose, thinking of running. I didn’t get far. The riflemen was the first to open up on me, sending one bullet through my left shoulder and another through my left thigh. I stumbled, fell, then regained my feet and stumbled on. The machinegunner pressed the trigger and the lightening death leaped forward from the barrel. Three of the slugs crashed into my back and I was flung forward to my knees by the impact. I looked down and saw the gaping hole that had once been my stomach, cursed softly, and pitched forward. I lay on the ground, my face in the snow, waiting for the final dark sleep to overcome me. I was not afraid of death now, for it was now too close to hold fear. My wife’s face flashed across in front of my eyes and I started to pray. Before I could finish the prayer, the enveloping blackness reached out and shaded everything from view.
age and Metal Products Company of Middletown, Ohio had on display on the campus their unique Steelmobile. The exhibit consisted of their major products that are of vital importance to today's engineer and his work in industry.

On hand to explain the different exhibits were several of the company's representatives. These men told visiting students the different applications of their products and spoke of the desire of Armco for trained engineers. One representative spoke of the immensity of the company by citing that Armco produces its own steel, manufactures all their pipe, distributes them through their own agencies, and even provides installation through their own construction companies.

Many students feel that this traveling exhibit of Armco's is quite a progressive idea in that it gives students the chance to view some of the companies major activities and to talk with engineers that actually work for the company.

Fraternity Housing

The new president, Dr. Morgen, recently brought up the question of the future relocation of fraternity houses on campus and recommendations pertaining to such action.

As a direct result of this idea, all the fraternities have recently discussed among themselves the advantages and disadvantages of relocation. These separate group discussions were essential in order for each fraternity president to get an overall comprehension of his group's attitude toward relocation.

Opinions toward such an idea were many and varied. Some of the fraternity men saw advantages such as financial aid from the school, the saving of time of driving to and from school each day, keener competition between the Greek organizations. However, those men who presently can't agree with relocation argue that the fraternities would lose their individuality, home-like atmospheres, and also that more restrictions would come in turn.

Due to many questions pertaining to relocation, Dr. Morgen and Dean Herman Moench were guests at the monthly Inter-Fraternity Council meeting Thursday, December 10. Dr. Morgen and Dean Moench gave concise policies of the school's financial assistance and cited their reasons for relocation. However, due to the many aspects remaining to be investigated, the question is still pending.

January, 1960
stressed wherever possible for a
twofold purpose—to make it more
meaningful, and to exhibit the basic
unity in the sciences with the object
of stimulating the growth of creative
spirit. In conjunction with the tech-
nical material, and with a view
toward furthering the appreciation
and understanding of that creative
spirit, humanities courses are de-
dsigned to clarify the philosophy of
scientific method, scientific motiva-
tions in general, and to delve into
the very process of creative thought.

If this sounds like pure fantasy, be
assured it is not; for the need defi-
nitely exists and there are those in-
stitutions like Dartmouth, Cornell,
Princeton, and Purdue which are
striving to meet that need generally
along the lines sketched here. Some
may label the program as Engineer-
ing Science, others call it a basic
engineering unit upon which the
final engineering specialty is based.
The label is immaterial, but the con-
cept itself remains the answer to
the present needs of a technological
society. The program is designed to
produce a practical man with a
strong theoretical background, a
man well-versed in fundamentals
who can move freely across the melt-
ing barriers of classical engineering
fields in order to produce creatively.

If the face of engineering has
changed this much in ten-odd years,
how much more so will it in ten
years hence? Thus we can only say
that this modern concept in engin-
eering education will be prepared
to meet its challenge whatever that
challenge may be.

CO: “Your wife came to town, I
gave you a 24-hour pass, and you
came back 24 hours late. How
come?”

Soldier: “Well sir, when I got to
the hotel my wife was taking a
bath.”

CO: “Did that take you two
days?”

Soldier: “No, sir, but it took al-
most that long for my uniform to
dry.”

Dean Moriarty, and their friends—
one moment savagely irresponsible
and the next touchingly responsive
and gentle. The narrative of life
among these wild bohemians carries
us back and forth across the con-
inent, down to New Orleans and
Mexico. The characters buy cars and
wreck them, steal cars and leave
them standing in fields, undertake
to drive cars from one city to an-
other, sharing the gas; then for
variety they go hitch-hiking or
sometimes ride a bus. In cities they
go on wild parties or sit in joints
listening to hot trumpets. They seem
a little like machines themselves—
machines gone haywire—always
wound to the last pitch, always
nervously moving, drinking, making
love, determined to say yes to any
new experience. The writing at its
best is deeply felt, poetic, and ex-
tremely moving. Again at its best
this book is a celebration of the
American scene in the manner of
a latter-day Wolfe or Sandburg. The
story itself has a steady, fast, un-
flagging movement that carries the
reader along with it.

Act One, by Moss Hart

Act One is a success story, for
Moss Hart today is one of the most
brilliant, successful and famous fi-
gures in the American theatre, both
as a playwright and as a director.

How did it happen? Not easily.
His boyhood and adolescent years
were spent in two entirely different
backgrounds, and the stories of both
are fascinating. With the opening of
his first Broadway play, Once in a
Lifetime, his world changed abruptly.
This book concludes with a detailed
telling of the complicated steps
whereby that play came into being.

“I consider the memories and
pledges that were part of the struggle
that preceded success the vital ones,”
the author says. He has set these
memories down with unusual can-
dor, humor and excitement; and the
book is an intimate and informative
portrait, not only of himself but of
the world of the theatre as well.
Some pollen isn’t to be sneezed at
...it may be clue to oil!

One of nature’s most closely-guarded secrets is being unraveled today by the painstaking efforts of research scientists working with clues millions of years old, some dating back as far as 500 million years.

Scientists feel certain that vast supplies of oil lie undiscovered beneath the earth’s surface. Only a few scattered and skimpy clues to its whereabouts exist. Fossils of plant and animal life are among the most important. But with the skill of an expert, nature has covered the trail well. In many areas, the better known fossils can’t be found!

Constantly searching for new clues, science “detectives” in the laboratories of Pan American Petroleum Corporation, a Standard Oil affiliate, have turned to the invisible pollen and spores that fill the air to the discomfort of hay fever sufferers. (Spores are similar to pollen and also can cause hay fever symptoms.) But these pollen and spores no longer peril allergy victims, for they have been embedded in rock for millions of years.

These microscopic traces of plant life form the missing link, telling scientists the same story they normally get from the larger plant and animal fossils. Because of this new study, extensive areas, once passed over, have been opened to re-exploration. Scientists expect new oil discoveries will be made.

As the result of such trail-blazing research work America’s proved underground oil reserves have grown larger, prices have remained reasonable, and America has been assured an adequate supply to keep its defenses strong.

WHAT MAKES A COMPANY A GOOD CITIZEN?
Responsibility for the future is inherent in good citizenship. One way a company can discharge this obligation is through research aimed at expanding America’s resources and assuring future generations the benefits we enjoy today.
Ch.E.: “Do you serve women at this bar?”
Bartender: “Nope, you have to bring your own.”

Fellow to blind date: “I never really believed in reincarnation—but what were you before you died?”

There’s nothing like the pitter-patter of little feet around the house. That is, if your Mother-in-law isn’t a midget.

“Did you get home from that party all right last night?”
“Yeah, except when I was going up the stairs in the dorm some idiot stepped on my hand.”

During a recent California drought everything was so dry that the trees were going to the dogs.

“What a splendid fit,” the tailor said as he carried another epileptic out of his shop.

Did you hear about the Senior E.E. that was so bashful he took mistletoe along on his honeymoon?

She: “Have you heard about the new college game?”
He: “No, what is it?”
She: “Button, button, here comes the housemother.”

Teacher (warning her children against catching cold): “I had a little brother seven years old, and one day he took his new sled out in the snow when it was too cold. He caught pneumonia and three days later he died.
Silence for ten seconds.
A voice from the rear: “Where’s his sled?”

The awkward age: when girls are too old to count on their fingers and too young to count on their legs.

“Oh, Dear, I’ve missed you so much.” Then she raised the revolver and tried again.

A bathing beauty is a girl worth wading for.

Bill: “Do you file your fingernails?”
She: “How about a date, big boy?”
Senior: “Can’t. Gotta go to bed and get some sleep.”
She: “Why?”
Senior: “Tomorrow’s my tough day. Gotta shave.”
Bill: “May I take you home?”
Phyllis: “Sure. Where do you live?”

His wife lay on her death bed, pleading, “I want you to promise that you’ll ride in the same car with my mother at the funeral.”
He finally conceded. “O.K. But it’s going to ruin my whole day.”

It was the sleepy time of the afternoon. The prof. droned on and on; formulae, constants, and figures. An engineer, sitting in the second row, was unable to restrain himself and gave a tremendous yawn. Unfortunately, as he stretched out his arms, he caught his neighbor squarely under the chin, knocking him to the floor. Horrified, he bent over the prostrate form just in time to hear a murmur, “Hit me again, Sam, I can still hear him!”

She’s lovely . . . She’s engaged . . . Her father uses Remington Super X.

A lady bought a parrot from a pet shop, only to find that it cursed every time it said anything. She put up with it as long as she could, but one day she lost her patience.

“If I ever hear you curse again,” she declared, “I’ll wring your neck.”

A few minutes later she remarked rather casually that it was a fine day. Whereupon the parrot said, “It’s a hell of a fine day.”

The lady immediately picked the parrot up by the head and swung him around in the air until he was almost dead.

“Now then,” she asked, “It’s a fine day, isn’t it?”

“Fine day,” sputtered the parrot.

“Where in the hell were you when the cyclone struck?”

A beautiful girl was walking along the sidewalk one evening on the way to the movie. She noticed a small bird lying at the side of the walk with a broken wing. Instead of going to the movie, she took the bird home and bandaged the wing and fed it. In a few weeks the bird was well enough to fly away. Now let’s see you find anything dirty in that.
Photographs of parts, assemblies and models help both speed and accuracy in drafting.

At Rohr Aircraft photography provides accurate instructions for the intricate assembly of an 880 jet engine.

From drafting board to final assembly...

Photography works for the engineer

Today photography has become an accepted, important tool in business and industry. It helps in product design, in engineering and development, in production, in quality control and in sales.

Whatever your work in whatever field, you will find all along the line that photography will provide quicker, more accurate, and more economical methods of getting a job done. It will save you time. It will reduce costs.

CAREERS WITH KODAK

With photography and photographic processes becoming increasingly important in the business and industry of tomorrow, there are new and challenging opportunities at Kodak in research, engineering, electronics, design and production.

If you are looking for such an interesting opportunity, write for information about careers with Kodak. Address: Business and Technical Personnel Dept., Eastman Kodak Company, Rochester 4, N. Y.

EASTMAN KODAK COMPANY, Rochester 4, N. Y.
How Professional Societies Help Develop Young Engineers

Q. Mr. Savage, should young engineers join professional engineering societies?
A. By all means. Once engineers have graduated from college they are immediately “on the outside looking in,” so to speak, of a new social circle to which they must earn their right to belong. Joining a professional or technical society represents a good entree.

Q. How do these societies help young engineers?
A. While still in school, join student chapters of societies right on campus. Once an engineer is out working in industry, he should contact local chapters of technical and professional societies, or find out about them from fellow engineers.

Q. Specifically, what benefits accrue from belonging to these groups?
A. There are many. For the young engineer, affiliation serves the practical purpose of exposing his work to appraisal by other scientists and engineers. Most important, however, technical societies enable young engineers to learn of work crucial to their own. These organizations are a prime source of ideas—meeting colleagues and talking with them, reading reports, attending meetings and lectures. And, for the young engineer, recognition of his accomplishments by associates and organizations generally heads the list of his aspirations. He derives satisfaction from knowing that he has been identified in his field.

Q. What contribution is the young engineer expected to make as an active member of technical and professional societies?
A. First of all, he should become active in helping promote the objectives of a society by preparing and presenting timely, well-conceived technical papers. He should also become active in organizational administration. This is self-development at work, for such efforts can enhance the personal stature and reputation of the individual. And, I might add that professional development is a continuous process, starting prior to entering college and progressing beyond retirement. Professional aspirations may change but learning covers a person’s entire life span. And, of course, there are dues to be paid. The amount is graduated in terms of professional stature gained and should always be considered as a personal investment in his future.

Q. How do you go about joining professional groups?
A. There are many. For the young engineer, affiliation serves the practical purpose of exposing his work to appraisal by other scientists and engineers. Most important, however, technical societies enable young engineers to learn of work crucial to their own. These organizations are a prime source of ideas—meeting colleagues and talking with them, reading reports, attending meetings and lectures. And, for the young engineer, recognition of his accomplishments by associates and organizations generally heads the list of his aspirations. He derives satisfaction from knowing that he has been identified in his field.

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Q. Does General Electric encourage participation in technical and professional societies?
A. It certainly does. General Electric progress is built upon creative ideas and innovations. The Company goes to great lengths to establish a climate and incentive to yield these results. One way to get ideas is to encourage employees to join professional societies. Why? Because General Electric shares in recognition accorded any of its individual employees, as well as the common pool of knowledge that these engineers build up. It can't help but profit by encouraging such association, which sparks and stimulates contributions.

Right now, sizeable numbers of General Electric employees, at all levels in the Company, belong to engineering societies, hold responsible offices, serve on working committees and handle important assignments. Many are recognized for their outstanding contributions by honor and medal awards.

These general observations emphasize that General Electric does encourage participation. In indication of the importance of this view, the Company usually defrays a portion of the expense accrued by the men involved in supporting the activities of these various organizations. Remember, our goal is to see every man advance to the full limit of his capabilities. Encouraging him to join Professional Societies is one way to help him do so.

Mr. Savage has copies of the booklet “Your First 5 Years” published by the Engineers’ Council for Professional Development which you may have for the asking. Simply write to Mr. C. F. Savage, Section 959-12, General Electric Co., Schenectady 5, N. Y.

*LOOK FOR other interviews discussing: Salary • Why Companies have Training Programs • How to Get the Job You Want.