Our Cover
Paradise Pond, on the campus of Smith College, was named by Jenny Lind when she visited Northampton on her honeymoon. We use this lovely scene to introduce our special supplement, OPPOSITE PAGE: Washington Mews, the picturesque little street that runs behind Washington Square, Greenwich Village, introduces our lead story on the New York Award Dinner.
FIRE FIGHTING

Next time you hear the shrill sound of a fire engine racing along to a local blaze, give a thought to the early days of American fire fighting with its colorful engines and courageous volunteers.

An entire town during Colonial times would turn out for a fire, everyone shouting the alarm to his neighbor who, likely as not, was already shouting the news to the next house; the heavy engine was dragged through the streets; men appeared with axes, chains, ropes, buckets, saws and other tools which might be handy; animals squealed and bellowed, while impossible numbers of boys scurried about vying with one another to be most in the way. Despite such feverish activity, however, the fire was often not extinguished—particularly if it had made any headway at all.

Surprisingly enough, the fire engines used at this time go back to the second century B.C.—and are based on a Greek mechanic’s invention of the force pump. The apparatus is lavishly described in several books of the time, and seems to have met all the needs of the people, except one: it had a tendency to fall apart!

During the Middle Ages there was at least variety in the methods of fire fighting, if not much practicality; men alternated between an old standby, the bucket brigade, and the latest innovations: hand squirts and syringes.

The “Hope” engine of Philadelphia—a double deck Agnew hand pumper built in 1835. When President Cleveland was inaugurated in 1885, this machine was brought to Washington by the Volunteer Fireman’s Association of New York City. Later it was part of the parade held in honor of the unveiling of the Statue of Liberty in New York harbor.

NATIONAL DIRECTORY

National Executive Council

John C. Hancock, National President, School of Electrical Engineering, Purdue University, W. Lafayette, Indiana.

Anthony Gabrielle, National Vice President, American Electric Power Co., 2 Broadway, New York, N.Y.

Paul K. Hudson, Executive Secretary, Department of Electrical Engineering, University of Illinois, Urbana, Illinois.

Directors

William D. Bonner, Johnson-Peltier Electric Co., Los Angeles, California.

Lloyd B. Cherry, Electrical Engineering Dept., Lamar State College, Beaumont, Texas.

Ed. C. Glover, Electrical Engineering Dept., San Jose State College, San Jose, California.

Walter K. MacAdam, New York Telephone Co., 140 West St., New York, N.Y.

Charles C. Rogers, Electrical Engineering Dept., Rose Polytechnic Institute, Terre Haute, Indiana.

Mark Shepherd, Jr., Texas Instruments Co., Dallas, Texas.

F. Carlin Weiner, Electrical Engineering Dept., Ohio State University, Columbus, Ohio.


National Committees

CONSTITUTION AND STATUTES—Chairman, Warren T. Jessup.

MOVIE—Chairman, J. E. Fairley.

OUTSTANDING YOUNG ELECTRICAL ENGINEER AWARD—Chairman, Bert Sheffield, R.C.A.

EMINENT MEMBER COMMISSION—Chairman, Marvin J. Kelley, W. R. Kock, A.D. Moore, Board representative, O.M. Salati.

OUTSTANDING STUDENT AWARD—Lawrence Hamilton.

AGHIS REPRESENTATIVE—C. Holmes MacDonald.

OUTSTANDING CHAPTER AWARD—Anthony Gabrielle.

NATIONAL PUBLICITY—Charles Hutchinson.

On the beautiful evening of March 23rd, one hundred and thirty-five members and friends gathered in the Sutton room of the New York Hilton Hotel to honor Dr. Robert E. Larson, named by Eta Kappa Nu as the Most Outstanding Young Electrical Engineer in the United States, and the two Honorable Mentions, Dr. Glen D. Bergland and Dr. William G. Scheerer. A cocktail hour social gathering preceded the banquet. The Invocation was presented by Mr. Alton B. Zerby, former National Executive Secretary of Eta Kappa Nu. National President John Hancock served as Master of Ceremonies, and first introduced the student members from Drexel Institute, that chapter having been named the Most Outstanding Chapter of Eta Kappa Nu for the last year. Dr. Charles E. Hutchison, Professor of Electrical Engineering at the University of Massachusetts, and former National Director of Eta Kappa Nu, had the honor of introducing Dr. Larson for the award. Dr. Larson delivered a very thoughtful address on the subject; Solving the Systems Problems of the 70’s. Many former officers and directors of Eta Kappa Nu were present, including Past National Presidents Larry Drown, Roger Wilkinson, and Howard Sheppard. (Apologies to anyone missed). Past National Directors Homes MacDonald and John Tucker again served as hosts for a whole table full of students who were their personal guests. Alan Lehow, President of the New York Alumni Chapter, Bertshold Sheffield, Chairman of the Award Committee, and Thomas Garrity, Chairman of the Dinner Committee, all deserve sincere thanks for an outstanding job, well done.

Photos 4
The Development of the . . .

TYPEWRITER

by Allan D. Eckel

The ubiquitous typewriter, indispensable aid to business and the scholar, underwent a prolonged period of development before it achieved the wide spread use and standardized form that we see today. Christopher Latham Sholes, generally credited with the invention of the first practical typewriter, held various positions in public office and in journalistic enterprises during the first part of his life. While holding the office of Collector of Customs in 1866, he became interested in an old friend named Soule in the making of a machine for correcting numbering, especially on bank notes and pages of blank books. At this time his attention was directed to an article published in an English journal regarding writing by a mechanical device. From that moment he devoted his entire efforts to the idea which has given us the typewriter.

Mr. Sholes provided the bulk of the ideas and labor, and called the name “typewriter”; Mr. Denismore supplied the business energy the inventors lacked. The device remained in a crude stage for many years. At one time Thomas Edison who then worked for the Automatic Telegraph Co. was seeking a means for recording messages, and in due course came to examine the Sholes machine. Looking on it somewhat skeptically, he went on and designed an instrument (patented December 10, 1872, as a “typewriter-machine”) much different from the Sholes typewriter. Edison put his type on the rim of a small wheel which revolved to bring a chosen letter into position to be printed. A “padded bar” struck the typewheel from underneath, meaning the sheet of paper to make the impression. Then, instead of the paper moving to space for the next letter, the typewriter itself moved a space to the right, making it easier to use paper from a continuous roll. The movements of the type-wheel and of the “padded bar” were powered and controlled by electrical mechanisms.

The early machine which wrote only in capitals, with a keyboard of forty-four keys, four rows of eleven keys each, is described in detail in this article. It concludes with the following comment:

“The principal question which this beautiful and ingenious little instrument suggests to our minds is, whether it would not be better for every one of us to learn the Morse telegraph language, and employ it for writing upon all accouishments instead of the cumbersome letters now in vogue. Thought is more quick than formerly. Germany is rapidly rejecting its archaic type, why should we not follow? We have the same advantages.”

With time and refinement, the use of the typewriter spread. In 1881 the Chicago Athenaeum, among its various endeavors, issued a hand book including instruction on the Remington Typewriter. It is interesting to read the reaction of one of the early users of the machine. Richard A. Proctor, of the London magazine Knowledge, wrote on November 17, 1882, a journal for which he was employed. He noted the advertisements for the machines in the journals and thought it would be the very thing for him. He learned about thirty words before he tried to write and thought it would be the very thing for him if he could get over the habit of associating manual work with mental work. When the line was over, he wrote it down, and was satisfied. With his machine, he learned the alphabet and became a typist. He did not need to read a book or learn from a manual. The typewriter was a great improvement over the old-fashioned pen and ink. He found it was much easier to write with the typewriter, and that it was much faster.

In order to properly balance all these various actions, great ingenuity and much practical experience are necessary, and of the "Remington Typewriter", the only satisfactory instrument of the kind yet brought to public notice, the introducers, the most prominent of whom is Mr. Jefferson M. Clough, superintendent of the Remington Armory, tells us that "during the time it took to perfect the invention, about fifty machines were constructed, all upon the same general principle, but differing more or less in the minor details."

The early machine which wrote only in capitals, with a keyboard of forty-four keys, four rows of eleven keys each, is described in detail in this article. It concludes with the following comment:

"The principal question which this beautiful and ingenious little instrument suggests to our minds is, whether it would not be better for every one of us to learn the Morse telegraph language, and employ it for writing upon all accouishments instead of the cumbersome letters now in vogue. Thought is more quick than formerly. Germany is rapidly rejecting its archaic type, why should we not follow? We have the same advantages."
THE NEXT EIGHT PAGES

It should be well understood that THE BRIDGE is not specifically a college magazine. Less than 3,000 of our 15,000 subscribers are college students. The initiation fee of Eta Kappa Nu includes a four-year subscription. At the end of that period each member is given the opportunity of taking a life subscription and the Association derives approximately $8,000.00 each year from this source. Your Editor has often considered the fact that most of this money comes from members who are young, married less than three years, and with a new baby in the family. Financially speaking, this is the most trying time of life. We have reflected on some of the things that surely must cross the mind of the wife when her husband suddenly says, "Send thirty dollars to Eta Kappa Nu for a subscription to THE BRIDGE." She visualizes a whole new outfit for the baby, or perhaps a pretty new dress for herself going down the drain. For this reason among others, we have tried to make THE BRIDGE a family magazine that everyone could enjoy. That we have succeeded in some measure is evidenced by the numerous letters that we get from the ladies (such as the letter from Mrs. Grace Hudowalski that we printed on page 23 of the last issue). THE BRIDGE now takes great pride and pleasure in presenting a special supplement entitled HIGHER EDUCATION AND THE AMERICAN GIRL that we have prepared especially for, and in honor of, those good and noble wives of Eta Kappa Nu. The pretty girl on the opposite page is Miss Jacqueline Craig on her graduation day at Christian College for Women, Columbia, Missouri.

8

Higher Education And The American Girl

Real & Imaginary

A complete set of fire-fighting equipment of the 16th century consisted of a squirt, three buckets, a sledge hammer and two firehooks. The hooks were used for pulling down burning roofing, and one still hangs ready on a wall in the main street of West Lavington, in England.

In the late 16th century, however, a sturdier fire-pump was introduced with moderate success. An engine of the time consisted of a pump mounted in a tub of water on a sledge. The pump handle was worked
AN INTERPRETATIVE HISTORICAL OUTLINE

by

Prof. Paul K. Hudson
Editor, Bridge

Education for girls was so slow in developing and of such little interest that no history was ever written. It is now too late as many important documents have been lost.

DARKNESS AND DAWN

Life is a vast desert, and Woman is the Camel that gets Man through it. This proverb of ancient Arabia seems paradoxical when we remember that Arabian women are the most taken-for-granted people on earth. The men were capable of breathtaking artistic communication, especially during the years they occupied the Arabian peninsula, but their women were treated as absolutamente nada—absolutely nothing. In a time and place of great scarcity it might take two horses to buy one choice woman, but when the caravan reached the water holes, the horses drank first and the woman last. But lest we lean on the past for falsification, we will do well to remember that throughout all of the world and all of history down to the nineteenth century, woman had a status approximating that of a domestic animal. Man was aware of the water holders, but he did not consider that she had any intellectual capacity at all. Occasionally an individual woman would dispute this, much to her later sorrow. Thus on a day in March, 415 A.D., beautiful and talented Hypatia was torn to pieces by a street mob because she dared to lecture on Mathe-
matics at the University of Alexandria. On another day in 1431, the most vicious twen-
ty-two of them all ended up decorating a bonfire in full and final payment for showing too much courage, leadership, and a number of other things that were reserved exclusively for men. To this very day many of the women of the world are considered to be grossly inferior and are denied even the simplest privileges enjoyed by men. In the United States, however, the status of women has been improved so much during the last century that there is a distinct possibility that they may one day become fully accredited second-class citizens.

WHY DON'T YOU SPEAK FOR YOURSELF PRISCILLA?

When the English colonists settled in America, they brought with them their traditional ideas of women. When a woman married (as they all everywhere did), what choice was there? The old English common law was: Husband and wife are one and the husbands is the one. The wife could hold no property and was not recognized by the law as a person. For the children were the property of the father. As for the right to vote, the law said: No woman, No shall be denied the right to vote except lunatics, murderers, traitors, and wretches. That is what is called "putting up in your place.

The rules for educating women were also borrowed from the English traditions. The wife's place was in the home—especially the kitchen and one other room. Her purpose was to produce and attend to the necessary wants of a quiver-full of children that would populate the wilderness. She would do none of the country's work that required book knowledge and so her intellectual education could be properly neglected. Occasionally someone would suggest that maybe women ought to be able to read and write, but others would quickly point out the great danger in this as the women would immediately start forging their husbands' names to various things.

Elementary schools were established in most of the colonies, but girls were never permitted to attend. Small girls could attend Dame Schools where they were taught a little reading, sometimes a little writing, but no arithmetic. The daughters of well-to-do southern planters were often informed in their homes and then sent to England to finish a questionable education. Shortly before the revolution a few English-type boarding schools were established for well-to-do girls, but the academic programs were more needful than thought and study. Prior to the revolution there was no education at all for poor girls anywhere in the colonies.

EITHER HANG TOGETHER OR SEPARATELY

After six devastating but successful years of war, the new free and independent states gradually adopted a more tolerant attitude regarding the education of girls. The town element was still opened to them, at least during certain hours of the day and in addition, a new type of institution sprang up. It was a kind of secondary school called the female seminary or acad-
emy. Many of these had Charter of Incorporation. The first one was Mr. Poor's Academy in Philadelphia (1767). Some of the most noted were Byfield Academy, Ipswich Female Seminary, and Wheaton Seminary. In addition to the primary branches of grammar, geography, etc., they gave instruction in more advanced subjects such as mathematics and languages. They were not under the same restrictions as public schools, and as a result, were considered as colleges, and the costs involved eliminated all but the most well-to-do girls. To make something available to the poor girls, a number of private seminaries were established, but their facilities and teachers were so inferior that there was some question as to whether the girls receiving education were better than nothing. The day of the free public school had not yet arrived. Every type of education for girls was unheard of. Thus in the early years of the nation, the status of the girls of America was in desperate need of leaders—champions who would be giants of courage, imagination, and determination. They did not have to wait long.

THE FIRST TRIUMVIRATE

The revolution had a great turning point, and the war between the states would be another, but the time was now—the need was now. The stage was set, the house lights dimmed, the curtain drawn, and three great performers were ready for their distant destiny. Their names were Emma Willard, Catherine Beecher, and Mary Lyon. How does one evaluate these three great ladies who promoted and, to a degree, ruled women's education throughout the country? They were similar in many respects and different in others. All saw the need and all saw the only possible solution. Girls had the right to a quality edu-
cation, and they all knew the rank and file could receive it would be through endowed and tax-supported institutions. There was no disagreement later, when Mrs. Willard was in Europe, he invited her to the Chamber of Deputies and vari-
ous court functions.

Catherine Beecher (1800-1878), the daughter of Henry Ward Beecher and Harriet Beecher Stowe, she founded schools for girls, notably the Hartford Female Seminary (1822) and the West-
er Female Institute (Cincin-
nati-1826). She was convinced that no school for girls could succeed unless it had heavy endowments, and she spent a good part of her life promoting such endowments. Her concept of education was built around the training of teachers, and she is most remembered for supplying many of the needed teachers for the West.

Emma Willard (1787-1870) is noted and remembered for her dedication to the education of girls. She wrote the famous document entitled An Address to the Public by the Members of the Legislature of New York Proposing a Plan for the Improvement of Female Educa-
tion. Her composition was well received because it was factual, defendable, and unemotional. Although the New York legislature did not respond in a financial way as had been hoped, the pamphlet was read both in America and Europe and stirred general interest and approval. In addition Mrs. Willard established the renowned Troy Seminary in 1821. Lafayette made special mention of the seminary in 1824 and Mary Lyon (1797-1849) was born with an overpowering, self-sacrificing, religious zeal that never moderated. She had hoped to found a seminary for girls, but when the town of Cherry was informed of the plans, she was forced to give it up when the ministers stated that education for girls was not an end and not indicated by God. Her primary concern was the education of poor girls. She knew that this was not possible without public support, and she spent much time in campaign-
ing. In addition, when she finally started her seminary, she organized it along lines of complete frugality in every-
thing except quality of instruc-
tion. The girls were expected to do the domestic chores of the school, and the teachers were to consider themselves as missionaries and work for nominal pay. Catherine
Becher took a sharp issue with her on this point. Mary Lyon was born in poverty and, by choice, lived and died in poverty in order that she might establish and successfully promote that very illustrious institution Mount Holyoke Seminary (1837). Mount Holyoke College stands today as her everlasting monument.

These three great ladies gave themselves to the cause they believed in without any ulterior motives whatsoever. Emma Willard was the Grand Lady—beautiful, charming, and talented. She was glorious even in defeat. Catherine was the quiet plodder. She had the wisdom to see the immediate problem, and the determination to solve it. She did not hope for a wider sphere of activity for women in general; to her, suffrage for women was unthinkable. Mary Lyon was the delightful rough-neck. Careless in dress and manners, had it not been for her great spiritual devotion she would have made an excellent drinking companion for any W.C. Fields of her day. But spiritual devotion she did have and, in addition, a dazzlingly brilliant mind. On one occasion, upon finding that she needed some Latin, she learned the entire Latin grammar in a single weekend. On another occasion, when the school baker ran out of yeast, she went into the chemistry laboratory and manufactured a yeast substitute that worked just fine.

The First Triumvirate did not, of course, advance the cause of women's education in a vacuum, but it did stand for integrity, a commodity that was in very short supply at the time. It paved the way to a great extent for the Second Triumvirate which would, at the close of the Civil War, establish high-quality colleges for girls at Poughkeepsie, Wellesley, and Northampton.

Meanwhile Back at the Ranch

Before proceeding farther in time, it will be helpful to discuss the conditions of education elsewhere in the country. For reasons of geography and diversity of effort, the country should be divided like Omnia Gallia, into three main parts.

The South. The standards of education for girls in the South prior to the Civil War were extremely difficult to determine, because of a general lack of reliable information. Often schools that were concerned mainly with needlework and deportment would call themselves colleges, even universities, and sometimes grant degrees. The first of these was Mississippi College which was founded in 1830 and conferred degrees on two ladies in 1832. However, Georgia Female College which was not chartered until six years later claims to be the oldest regularly chartered institution for conferring degrees upon women in America, if not the entire world. One of the better schools for girls in the South was Mary Sharp College of Winchester, Tennessee (1851). Although there were some coeducational schools, it was apparent that the South preferred that girls be educated separately.

The West. Ohio University at Athens was the first college west of the Alleghenies having been established in 1803, but its first woman graduate was Margaret Boyd of the class of 1873. The first college worthy of the name that was open to girls was Oberlin. Founded in 1833 as Oberlin College Institute, it welcomed girls from the very first. The ladies department as it was called continued for some years, but in 1838 girls were also admitted to the regular program. They covered the first coeds. Here was a distinct epoch and probably marked the first time in American history when girls were enrolled in a strong college curriculum. They were not numerous, however, as only 79 had received the regular AB degree by the time of the Civil War. By mid-century there were a number of other private colleges that admitted girls. They include Antioch, Muskingum, Mount Union, and Lawrence, among others.

The East. Although the East pioneered quality private seminaries for girls, it was not inclined to establish either public or private colleges for girls. It was not until April 13, 1855, that the first institution that could seriously claim to be a college for girls was established at Elmira, New York. It had a fine program—easily a full cut above the seminaries—but there was and is considerable dispute as to whether or not it was a real college. Certainly it was not comparable to the mens' colleges. Ten years after its founding, it had a faculty of seven and only 74 in the college program.

Mary Lyon had hoped to establish a college when she founded Mount Holyoke, but she knew that she had not done so at that time.

Turning the Point

Mid-century and after was a time of change and crisis. A man's traditional horizon (meat, potatoes, shelter, and a girl) was shattered by some important social questions. Harriet Beecher Stowe's book Uncle Tom's Cabin was nothing short of an explosion, and Darwin's Origin of the Species which disputed divine revelation was a blow so violent that the civilized world never recovered. The situation regarding the education of girls was improved considerably by the establishment of many public high schools and normal schools. These more or less eliminated the need for seminaries. The time was now definitely appropriate for the establishment of colleges for girls, but they had to wait a few more years. A more immediate and pressing problem had to be settled first.

Under the Sod and the Dew

The cloud which had appeared dark on the horizon in the thirties had grown to a thunderhead in the fifties, and in the sixties the storm had burst. Nothing could have been worse for the soul of the nation or better for the individual rights of women. Men teachers had been taken by the army, to be replaced by women, thereby accentuating their value and need for training. Moreover, during the long years of the war, women had the doors of their cages unlocked and were called upon to run farms, care for the wounded, and a host of other things that needed doing. In short, women were discovered to be people. Nevertheless, the financial problems associated with the war prevented the establishment of any colleges for women (except Elmira).

Wild Roses of Cape Ann

The critics who so loudly proclaimed that women had no intellectual dimensions were partially silenced by some very amazing women who came upon the scene at exactly the right time. Mrs. Stowe was one of them. The most interesting one, however, was the little girl who came skipping down
the lane bearing wild roses of Cape Ann. Her name was Lucy Larcom. Born on poverty flats, the family was made destitute by the death of her father when she was six years old. At eleven, she was sent to the mills of Lowell as a child laborer working thirteen hours a day for $1.25 a week. It took only two years of this to break the little girl’s health, but they were years so vital to her spirit. She was determined to better herself and took every moment she could to read and study. Lucy joined with other mill girls in publishing a magazine called The Lowell Offering. They published prose and poetry written by the girls themselves. The magazine presented the imagination of the world, and the subscription list rose to four thousand. An announcement was published in London, and lecturers in Paris discussed The Significance and Merits of The Lowell Offering. Lucy worked her way through Mount Holyoke Seminary as a member of the faculty and then became a teacher of Composition, History, and Moral Philosophy at Wheaton. She closed out her life as a distinguished professional poetess. The Poetical Works of Lucy Larcom, published by Houghton, Mifflin, and Co., contains 264 of her poems, with 97 under the title Wild Roses of Cape Ann.

NOW LISTEN TO THIS MATTHEW
With all due respects to
Elmira (and we will try not to get arrested in that town), Vassar College was the first right-handed college for girls in America. The difference between them, however, was basically a matter of money. Elmira was established with about $80,000 and Vassar with exactly ten times that amount. There was very little romance in Vassar’s founding, and, except for its site, it would be difficult to find a less suitable person than Matthew Vassar to find the first or any college for girls. A professional educator named Milo Jewett did a first-class brainwashing job on Vassar, however, to shake him loose from his money. There were other various and sundry people working Matthew over at this same time, and Milo had to undo their work at regular intervals. Even after the college was founded, Jewett had to wring the promised money out of Vassar to get him into the hands of the trustees. But lest we be too hard on Matthew, we can say in his favor that he was an honest, honorable, and God-fearing man who sincerely wanted to do the right thing. He certainly made an excellent showing considering the small chance he had in life. Also, he had some wit. When asked about the propriety of establishing a college for girls with money earned from selling beer, he replied that it was mighty good business. The college was chartered in 1861 but did not begin classes until 1865. From the beginning it was not intended to be a place for poor girls, but remembering Vassar’s rule that the girls had to wash themselves once a week, it might have been a little gamey in the Springtime.

AND THEN THE DIKE BROKE
Ten years later two more well endowed colleges for girls were established, Sophia Smith founded Smith College, and Henry Durant founded Wellesley. The softening of public opinion during 40 years and a war can be seen from the dissimilarity of the problems of Mary Lyon and Sophia Smith. Mary was still armed by the church, and Sophia was put by the church, in the matter of establishing a Christian college. Durant founded Wellesley as a memorial to a young son who died. Smith joined Vassar as a college for the well-to-do, whereas students were generally servant’s work, and Wellesley joined Mount Holyoke as a college that would include the rank and file. About this time the dike broke completely and higher education for girls became an accepted part of life. Bryn Mawr, Lake Erie, Stephens and many other fine colleges for girls were either founded or converted from seminaries. Women’s colleges affiliated with men’s colleges were quickly formed. The first ones were Sophie Newcomb at Tulane (1887), Barnard at Columbia (1889), and Radcliffe at Harvard (1894). The coedu-

cational state universities sprang up everywhere except in the East. It remained only for education to determine what kind of people women really were so that they would know what kind of education they were after. Are they to be kept out of these institutions? They are still working on that problem.

SHALL I COMPARE THEE TO A SUMMER’S DAY?
Psychologists have attempted for many years to determine the true nature of woman—how does she think—where does her strength—what are her capabilities? Although their work is still preliminary (and always will be), they have discovered some interesting truths.

First, there is no natural intellectual difference between the sexes. Boys are found to be able to learn scientific subjects, and girls are more proficient in oral and written communication. These differences are not due to innate causes but caused mainly by social interests rather than by natural ability. Also, they are not as great as the differences between the boys themselves and the girls themselves.

Second, although women bear the children, and are likely to continue to do so, this one arrangement, along with its necessary physiology, logistics, and accouterments, is the only difference between the sexes. All other differences, and there certainly are buckets full of them, are chargeable to social forces in major, or minor, degree, or are women. In addition, it might not be inappropriate to ask if the college's behavior in pursuing all of the broad general goals previously stated. At Vassar, students are required to "enter" men in their bedrooms all night—a standard of normal behavior that required in the cheapest flop-houses.

The earliest concept of education involved the development of the manual skills. This is now gone from the college scene except in certain subsidiary school teacher education programs. It was replaced by the various liberal arts and professional programs developed around the p individual personal and social needs of the students. Hutchins thought the liberal arts with a solid professional discipline in such a way as to explore the diversity of the human spirit. In this atmosphere the student will (1) develop a sense of value, (2) learn interpretation, and creative synthesis, (3) have intellectual poise and integrity and (4) come to terms with the Divine Spirit.

The Odds Against to-Morrow
Of all the girls in the world, the individual American girl has the best chance for an individual personality and the achievement of a sense of achievement in a world that wonders at the eternity of which he so recently came and into which he will so soon descend. The girl has the need to search for truth, beauty, goodness, and with real merit it must establish itself at these levels rather than in the social atmosphere that is composed of social duality, adjustment and dexterity of communication. Unless college includes the behavior of colleges—start taking a more lofty view of the human nature, the twenty-first century is paved with the citizenry emotionally overwhelmed by the immense social change except in certain subtleties that are certain to be presented.
Did you have two parents? Of course you did. And did each of them have two parents? Certainly. Well that makes six ancestors that you probably can remember. Then how many did you have going back just to the time of Christ? That would be two to the sixty sixth power, if there are three generations per century. And how would you find that number? As a boy (about 80 years ago) I learned that “involution” the “power of a number” may be expressed in an indefinitely large number of ways. I chose to say that:

\[ 2^{60} = 1,024^6 \]

There are other ways of expressing the value of two to the sixty sixth power but I selected this one because the multiplication of 1,024 involves only six products. So yesterday I sat with pencil and paper and worked in the old way used before Logarithms, Slide Rules, and computing devices were brought forth. My sister Olive once or twice looked at me with smiling face and I wondered if she wondered what I was doing. But when I asked her if she had asked me a question her reply was “Did you notice who got the prize in the Rose Show?”

When at last I found the value of 1,024 it turned out to be

1,152,921,504,606,846,976

I then found the value of 2^{60} the hard way and it was the same number so I knew that there was no mistake. Had I used Logarithms or a slide rule as engineers do for most of their computations I would have had nothing but zeros for all the places except the first four or five at the left. I think you will agree that this is a lot of ancestors—more than a million trillion, since the time of Christ, two thousand years ago. If every bit of the solid surface of the earth were used for graves there must have been 34,000 of your ancestors buried in each grave measuring three feet by eight feet. Actually modern man goes back at least 15,000 years and on this basis you would have had trillions of trillions of trillions of ancestors, if each one had two parents. How do you explain this especially when you consider that Historians say that there have been only a few billion people on earth in its entire history? If you have any comments please pass them along to me.

Ellery Paine
Eminent Member
Donald Grover Evans
1887-1970

Donald Grover Evans, past National President (1922-23) of Eta Kappa Nu, died in White Hall, Illinois on Friday, January 30, 1970 at the age of 82. He was born in Larne, Kansas, 17 November 1887. At an early age he moved with his family to White Hall, Illinois after the death of his father. He received his early education in White Hall. After graduation from high school there he attended the University of Illinois for a semester but was forced to leave for financial reasons. In 1907 he began his career working for the Wagner Electric Manufacturing Company, St. Louis, Missouri where he performed transformer testing. In 1908 Mr. Evans was employed by the Clarksville (Tenn.) Railway and Light Company but returned in 1909 to the employ of the Wagner Electric Manufacturing Company. The following year he became associated with the Lincoln (III.) Railway and Light Company.

In 1913 he returned to the study of electrical engineering at the University of Illinois. While a student at U. I., he was elected president of his freshman class, business manager of the University Band and chief engineer of the electrical show. He was initiated into Alpha Chapter in 1917 and served as its president. He received the B.S.E.E. degree in 1917.

Mr. Evans served during World War I in the U.S. Army Ambulance Corps, was assigned to section 609 and was promoted to Sergeant-First Class. In 1918 he was transferred from that unit to the aeronautical service, made instructor at the Aviation Ground School at the University of Illinois where he held a brevet commission as Captain of the Illinois National Guard.

In 1919 he began his long association with the public utilities industry in the employ of the Wisconsin Gas & Electric Company as the company's first graduate electrical engineer. He first worked in the company's Kenosha district office, transferring to Racine in 1921. He served as chairman of the electrical section of the Wisconsin Utilities Association in which he also was chairman of the Rate Committee. Mr. Evans played a major role in bringing electric power to the rural areas of southeastern Wisconsin during the 1930s. He retired as Vice President of the Wisconsin Natural Gas Company in 1956.

In addition to serving the brotherhood as National President, he also held the positions of Vice President, Treasurer, and Editor of the Bridge (1919). His other professional affiliations included A.I.E.E. and Sigma Tau.

Mr. Evans had strong interests in several hobbies including genealogy, woodcrafts, and music.

A FIRESIDE CHAT
with Cedro Brunetti

THE JOB SITUATION IN 1975

With all the technological and social developments underway, what kind of jobs can we expect? Between now and 1975, we can expect to see the total number of jobs in the United States increase about 15 million to approximately 90 million workers. Our population will increase from its present 200 million people to at least 230 million.

The number and types of jobs will depend on many events. For example, whether we have war or peace, it will depend on new discoveries, what goes on in Washington and even more so it will depend on consumer preferences. Some people like to buy technological developments will have a strong influence on jobs as it has been doing.

Let's get the single piece of bad news over with first. By 1975, we expect to have 800,000 fewer people working on the farms. In mining, except for places like the Iron Range, employment will just about hold its own with no change in the number of jobs in 1975 from the number we have now.

Now for the others. In the construction, that is, building homes, schools, highways and industries there will be an increased number of jobs, which will just about balance the drop in agriculture. In other words, approximately 800,000 more jobs. In manufacturing, we can expect 2 million more jobs in the United States. In transportation and public utilities, another 400,000 jobs. Transportation includes bus, airplane and rail service. Public utilities are the gas, oil and telephone companies. These industries, while increasing only by 400,000 jobs between now and 1975, will actually reverse what used to be a downward trend. In finance, banking, insurance and real estate, we can expect an additional 600,000 jobs by 1975.

Now, we come to the real big changes. First, 3 million of the 15 million new jobs between now and 1975 will be in services. These include educational services, publications, radio and television, beauty culture, medical and health services, auto services, repair of household appliances and other jobs like operating restaurants, hotels, motels and resorts.

The wholesale and retail trade business will have 3,300,000 more jobs in 1975 than we have today. Included are every type of wholesale and retail business such as supplying and operating supermarkets, clothing stores, and everything from buying and selling a stick of gum to an automobile. The retail trade will probably grow faster than the wholesale trade. The fastest growing segments of the trade will probably be in those providing food, drugs, automobiles and parts, discount houses and shopping centers will rise substantially.

Self-employed people, such
The Outstanding Student Award

By L.E. Hamilton
Chairman
Student Award Committee

The 1970 Eta Kappa Nu Student Award Program started its sixth year in November with the mailing of a letter to every college chapter in The Association reminding them that they would be officially solicited for a nominee in December.

In years past the official kickoff of the program started on the day after Christmas with the mailing of the official solicitation to all college chapters in The Association asking each chapter to submit one nominee for award, though membership in either Eta Kappa Nu or the chapter’s school is not mandatory. The student is nominated on a questionnaire supplied by the Student Award Committee, and is countersigned by the head of the Electrical Engineering Department of the candidate’s college, verifying the truthfulness of the replies. In addition to the questionnaires, at least two confidential letters of recommendation from prominent faculty members of the student’s school are requested by the Chairman of the Student Award Committee.

As of March 24, 1970, the following schools had submitted entries:

- Auburn University, William Crenson Willis II; Bradley University, John Curtis Gibson; California State College at Los Angeles, Eugene Robert Worley; Colorado State University, Gary Paul Antweiler; Drexel Institute of Technology, Mitchell Irving Mirkin; Duke University, Kenneth Houston Pugh; George Washington University, Technology, James Martin Hertenstein; Illinois Institute of Technology, Thomas Francis Gammon; Kansas State University, James Dean Weichel; Massachusetts Institute of Technology, Steven Cull Carhart; Michigan State University, Patrick Leslie Colestock; Michigan Technological University, Ronald Nevil Buswell; New York College of Engineering, Edmond Walter Israelski; New York University, Soteros Cosmas; North Carolina State University, George Ray Ritchie; Northeastern University, Dave Irwin Schonbuch; Ohio State University, Roger Juane Ahlgren; Pennsylvania State University, George Edward Solvitsky; Polytechnic Institute of Brooklyn, Bernard S. Mezrich; Purdue University, Larry Ernest Gray; Rensselaer Polytechnic Institute, Robert E. Reinosky; Texas Technological University, Emanuel Marvin Hong; University of Arkansas, John Carol Vaughan; University of California-Santa Barbara, Robert James Farley, Jr.; University of Cincinnati, Wayne L. Naseman; University of Florida, Gary A. Pitt; University of Iowa, Daryl Peter Slaviero; University of Maryland, Robert Morgan Rast; University of Michigan, Barry E. Austin; University of Missouri-Columbia, Ronald Howard Hodges; University of Missouri-Issle, George Marrill Vernon; University of Notre Dame, John Charles Favel; University of Tennessee, James Clayton Hager, Jr.; University of Texas at Arlington, Robert Warren Allford; University of Toledo, David Elwin Olin; Villanova University, Peter John Avioli; West Virginia University, Robert Edward See; Worcester Polytechnic Institute, Alan Paul Zabarsky; Princeton University, Newton Hudson Bullard.

The Student Award Committee again is having its annual monumental task of attempting to make a selection from among the above mentioned list of extremely fine entries that have been received. All of the entries meet the basic criteria of the Outstanding Electrical Engineering Student which may be defined as “Outstanding by virtue of his scholastic excellence and high personal character, coupled with demonstrated exemplary service of his classmates, university, community and country.”

The winner will be honored at a special banquet luncheon to be held in Los Angeles on August 26th, at the Los Angeles Hilton Hotel.

Everyone Welcome
Student Award Luncheon
August 26th

Letters to the . . .

Bridge continues to receive mail concerning our special supplement entitled COMPUTER ART that appeared in the February issue. We have enjoyed it all, including the following letter that brings us up short:

Dear Sirs:

When Masefield wrote “Sea Fever” he wrote “I must down to the seas again——” He did not write “I must GO down——” A small point to be sure, but if we’re not one up on the B.A. types, we’re one down, and in a contest of Two Cultures that puts us last.

Sincerely, Peter Duncan

Dear Peter:

I never had the pleasure of meeting Masefield (he had left the Greenwich Village saloon before I got there) but otherwise I know him a little and only a moment’s reflection brings me to the realization that your version probably is the correct one. If the author had been Wordsworth then my version would most certainly have been the correct one, but your version sounds more like Masefield.

My only defense is that I never print anything artistic in BRIDGE without holding the book on it. Therefore, I quite naturally referred back to my sources. The problem is that my personal library has three books that contain the poem. The first one, and it is the one I used, is Ralph L. Wood’s “Treasury of the Familiar.” Here is a photo part of the page and, well, take a look for yourself:

I must go down to the seas again, t
And all I ask is a tall ship and a star
And the wheel’s kick and the wind’s song

The next one is Louis Untermeier’s “Treasury of Great Poems,” and you may again be interested in seeing part of the page:

I must go down to the seas again, to
And all I ask is a tall ship and a star to
And the wheel’s kick and the wind’s song

And a gray mist on the sea’s face and a gray

However, the last one is Speare’s “Pocket Book of Verse and, as you can see, he got it right.

I must down to the seas again, to
And all I ask is a tall ship and a star
And the wheel’s kick and the wind’s song

I appreciate your generosity in saying that the error is a small one but I expect that Masefield would not take very kindly to people who edited his work to make it sound like Wordsworth. Also, it must be admitted that the substitution of a small word can change a great deal of the flavor and meaning of a composition. Some time ago I was invited to a private home to hear an album of recorded recitations by the famous literary people. From the beginning I had the impression that they were just reading words for money and this became a conclusion when one of them demonstrated that she was unfamiliar with “Grecian Urn” that he couldn’t even read it right out of the book. In the line “For ever will I cherish, love, and be fair” he substituted the word “is” for the word “be” and at the same time I realized that I realized was Keats softly cursing in his Roman grave. So let’s not give any thought to the B.A. types.

Cordially,
Paul K. Hudson, Editor

19 # Brunetti

as lawyers, doctors and dentists will increase by 1,800,000 in the United States.

And now, believe it or not, the biggest increase in jobs; namely, some 4,000,000 of the 15 million between now and 1980 will be in government. This time it’s not the Federal Government who will be doing most of the hiring, but the State and local governments.

Although we expect the jobs in the Federal Government to increase slightly by 1975, the increase will be limited by the expanding use of electronic data processing equipment, copying devices and other labor-saving equipment. The Post Office Department, swamped as it is today, represents one-quarter of all Federal jobs. The outlook is that the number of jobs will remain about the same due to the increasing mechanization of mail handling equipment. If we don’t start mechanizing the Post Offices faster, we may have to give them up entirely for it’s getting to the point where many of the states are unable to cope with the torrent of material flowing through the mail. The Department of Defense which accounts for over 40% of the total Federal employment will probably be the first to go, then maybe by 1975 should be down if we do not have another emergency.
BETA ZETA CHAPTER, New York University—On December 8, 1969 the Chapter initiated 16 new members—four seniors, seven sophomores, seniors and five juniors. Due to low financial condition the Chapter initiated its first freshman. The results will be important in helping shape the new Case curriculum.

By Edwina Fishbein

BETA ZETA CHAPTER, Kansas State University—Betta Kappa Chapter, Kansas State University—Along with IEEE we again organized the picture of the 1970 equivalent of the Beta Kappa Chapter. We also helped to coordinate and conduct Engineering Open Houses which this year coincides with all university open house. With new officers and ideas, we look forward to a better and more productive year.

By Wayne Naseem

BETA MU CHAPTER, Georgia Institute of Technology—One of the primary interests of our chapter is to provide all EE students with information on coming events, changes in the curriculum, and other items of interest. The possibility of an EE student newspaper was proposed, and our chapter accepted it as a project. The EE Word is now being published every two weeks. It contains information from the director, a faculty member profile, and news of meetings, awards, and other opportunities for students. Since many seniors are interested in graduate school, the chapter has acquired catalogs for graduate schools in engineering and business. The catalogs are available for all students in the Eta Kappa Nu study lounges.

By Robert Schaar

BETAPSI CHAPTER, New York City College—This year was very successful for Beta Psi Chapter. In spite of apathy among members, we accomplished enormous significant services to the school. Most importantly, we established a student-faculty committee which serves as a medium between students and instructors. We organized and ran an election for members of the committee, which consists of two juniors and two seniors. This committee acts as a link between the students and faculty and allows suggestions and complaints to be brought to the attention of the three student-faculty waps which were most successful.

A most interesting meeting introduced guest speakers from Bell Laboratories. They showed slides, movies, and a model of the picturephone. The meeting was informative and entertaining to all who attended.

We hope for continued success in the spring semester, many more interesting meetings, and increased attendance on the part of our members.

By Leonard Greenbaum

BETA PSI University of Nebraska—Betta Phi chapter continued to work toward a more active role in the Electrical Engineering Department. The Electronics Lab was opened two nights a week by HKN volunteers. Many students took advantage of the opportunity to catch up on laboratory work and get questions answered. Scholastic was the word as Treasurer Pat Quinn hawked circuit boards to students taking their first E.E. lab. The boards, a product of pledge power, sold well.

Honors were bestowed on two Beta Psi brothers during the fall semester. At the initiation banquet, Roy Stolak was presented the HKN Scholarship Award. The award, consisting of an engraved, gold key, is given each year to the junior selected from the top three men scholarshiply, by a committee on the basis of scholarship and practicality. Betta Psi’s nominee for the Outstanding Electrical Engineering Student Award, sponsored by the Los Angeles Alumni chapter, was Roger Chausa. Mr. Chausa, a fall initiate, served as pledge class president.

By Harry Silver

CAMMA-RHO CHAPTER, South Dakota State University—The Camma chapter of HKN has been busy with its normal amount of activities. For Holo Day (Homecoming) we helped the IEEE organization complete their float which consisted of a float depicting a space station for the parade. Also, the addition of new members was accomplished. We have selected James Higgins as the outstanding Sophomore for Engineering on campus. He received this recognition at the annual spring social (which is sponsored by the engineering college). The chapter is now turning its attention to preparing exhibits for the Engineer’s Open House which is on March 21.

By Jerome Bly

Delta Lambda, North Carolina University—The chapter is sponsoring a weekly coffee break for all EE students and faculty. It is scheduled at a time when all students have a class in the Engineering Building. A series of weekly lectures on the Principles of Radio and TV is planned for the spring semester. Interested students and graduate students will serve as instructors. The semi-annual initiation of new members held on December 14, 1969 selected three new junior members and two new seniors.

By Kenneth Pugh

DELTA SIGMA CHAPTER, University of Notre Dame—The first objective of the Delta-Sigma chapter was to increase its membership. Graduations reduced the chapter to a small but talented core of five officers. The recruiting was successful. Nine undergraduates were initiated on December 9.

Five members of HKN served as the student representatives on the IEEE.

Below: Pledge class at Univ. of Texas at Arlington
23 Chapters

The Replica's spirit evaluation committee. The committee was formed to study the proposed changes in the EE program after... Plans were finalized for the HKC organized regional competition. The league, open to all undergraduates and graduate students in electrical engineering, consists of teams with games played each Saturday. The new sports event is the greatest sports event since Notre Dame swept the Cotton Bowl. EE Students vs. EE-Faculty. The Delta Sigma chapter also participated in the graduate School Seminar, the Engineering Open House, and a high school recruiting program.

By Bob Scott

Epsilon MU, University of Texas at Arlington: The first order of business last semester was the pledge program. The accepting candidates had several projects to complete before the final ceremony. Signature files, the wearing of a hat for a week, and for a week, the wearing of an electric motor by each pledge was required. "The hats with large HMC letters and a vacuum tube on top created instant recognition. The new rush members were soon in the forefront of recognition. An outgoing each semester provides a new opportunity for the freshmen and helps the pledges become more acquainted with other fellow engineering majors."

Ella Kappa Mu here at the University of Texas at Arlington provides a study clinic for electrical engineering majors. It is our most important service to the school and is open each afternoon during the current semester. The number one member is always present to help those having difficulty with their homework problems. This semester the Electrical Engineering Department with the support of HKC and IEEE members in the Engineering Open House. The first time such an open house is being held.

By Eugene Preston

Epsilon Pi Chapter, Princeton University—The first activity of the Epsilon Pi chapter was the initiation of new graduate and undergraduate members. After the name of the new members were registered with the Electrical Engineering Department, they had obtained permission and had been invited to spend an evening at the chapter. They were invited to attend a special meeting introducing them to Ella Kappa Mu and also to meet other electrical engineering majors who had been sent to all graduate students in the department. The informal dinner and banquet were well attended by the old members, the juniors, and the faculty. Brief words of introduction and congratulation were spoken after the banquet by the Chairman of the Department.

24 Chapters

The Great Sahara Mousehunt

Catherine Collins and Miss Pomeroy

Miss

Copyright ©

5th April

We do not come naturally by early stays in the desert, perhaps people seem to be a breed of little things that can only be seen to the last minute. We load up the cars and take a fond farewell of our little conscripts, Catherine says she would like to take back to Hopeville, New Jersey, to weed her garden, and we proceed as far as the public square. Catherine has at last had a cable from Alan, who is in Rome, and who will not after all retain her. She has a letter to mail to him and everyone wants Chad stamps. Liv has a cable to compose to the Prime Minister of Chad, at Fort Lamy. It is for Excellency Prime Minister Tombey Bou who has made possible our entry into the land by the north-east border. This route is generally forbidden, as its treachery and lack of any well may make it hazardous to the travelers and fraught with the possibilities of robbery and other dangers.

The camel has been able to fly to Fort Lamy and call upon the Prime Minister to express our thanks in person. But our many breakdowns and delays have eaten up too much time and we have less than three weeks before we must be back in Benghaz, and still more than four thousand kilometers to cover. While letters and cable are being despatched an officer hurries across the square to Captain Lecomte. A man is lying dead down the road. Camel theft has reared its ugly head again! Lecomte scowls and shrugs. I will deal with it when I get back, he says. First I must say goodbye to my friends.

He leads us out of town on to the track for Zour, which he says is very difficult to find even in clear weather. And we are leaving Fay-Largeau in anything but clear weather. The wind whips the sand like spray into the air, reducing the visibility to a mere smear. We race up the dunes which are almost literally marching on largeau this morning. Down their sides valleys as hard and flat as tennis courts. Here, after pointing out our direction, kissing the ladies' hands, saluting gaily and wishing us well, our Captain turns and vanishes in a swirling foamy sand.

We immediately lose sight of the track which is obliterated by the wind. It is hard for us to watch if we watch with Francis in the lead we bang over hidden ridges, bog in cloudy swamps. We have carburettor trouble and Liv must get out and clear the red-hot needles in his face, his eyes, his ears and his lungs. And he says that we are all going to die of thirst. Catherine gives him a chuffon scarf which he wraps around his face, but this sand would go through a stone wall let alone a bit of wool. We have had to go to the back of the sand and anchor it with our bodies, trying to protect the machine if not the man. Our legs and backs are lashed and stung, and Catherine has the nerve to tell us that you have to pay for sand-flame massaged like the beauty parlours of New York! The damage repaired, we struggle down the roads. Cars rock in the wind and dust, and the sand-blasts the hoods like elephants. Everything everywhere are wind-carved sandstone cliffs. There is no pretense of knowing where we are. It is plain that we are witnessing the Catherine's maps but it is all a form of lying by the drill. The drill is bursting; soft boils of blue-grey matter seem to plop-plop all about us and an unhydros smoke steams up into the laden air. No chapter of dawn is visible. The air is like grey-Ellen's great mystery. The sand had all been covered by the hysteric speed, fearful of its delicate crust. We stir up atomic blasts of dust that mushroom into the sky, completely blotting out all of the wind. The wind has been a force, a thing we cannot have happened to the car in the front. The earth may open and swallow us alive in this dreadful place, but there is nothing to do but race to the end, whatever it be. Catherine says that this is the only time, so far, that she has been really frightened, and Watson says that it smells of violets! We come through this smothering infor- mation with only one bagging, during which Liv manages to push out a small window-pane at the back of our car. After this we wrap our heads in towels in order to breathe at all. Now the crust is thinner, a greenish-white merigge which breaks under our weight. There is a nightmare quality to this day that leaves us with nothing to do but laugh. By evening we figure that we are no more than twenty-five miles from Largeau, having made a loop around the town. However poorly organized the expedition, as it is, it gives us a good view of the largeau as a large city, a gem of civilization from whose bright lights and gay faces we have been banished.

Two days later, Liv and Winston and Francis go off to 'reco', saying that they will be back by the time tea is made. They want to see if they can find the track. The wind has dropped and the sun and we are all tired and very doubtful of this magnitude. Two hours and one gallon of tea later the 'reco' party is still not back. There is no moon, the stars are bright, but the desert is a big place. We are not in flat country here where our camp lights might be expected to be seen from any distance. Hank is perma- nently light-weight, excepting the horizons. But there is nothing like a moonlight view. I tell him as much and we blow our respective tops at each other and then feel ashamed, like children caught stinking out their dirty business. We have fire flies dancing in the air, the bright lights, one aimed at Jack's aeroplane, one sweeping the skye, Catherine and I stumble up the highest dune with a torch and are appalled at the extent of blackness beyond. At eight o'clock the camp is a very pistol but there is no answering rocketery. Then, just before nine, a flare streaks across the sky to the west. We shoot with relief and Hank shoots off an answering signal. We train the spot- lights westward, expecting the horizons. There is nothing but no glimmer of light, no looming shape. We wonder if they are stuck or need help. And then with a rumble of boom there is the appearance of a large monument. They are the navigators—should be lost. They say that they had neither fired their flare nor seen ours. They laugh at us and tell us scoldingly that we have wasted our ammunition on a shooting star. (Cont'd)
If you want to grow
with a growth com-
go with Westinghouse.

In the past five years, our sales have gone up fifty percent and profits have nearly tripled. Our goal is continued growth. Much of this growth will come from our commitment to improve the world we live in.

When you're in everything from computers to urban development, to medical science, to mass transit, to oceanography—the opportunities are boundless.

We need help. We need engineers who want to grow and contribute to society at the same time. Westinghouse believes the two are not mutually exclusive.

Talk with our campus recruiter about starting a growth career with Westinghouse, or write Luke Noggle, Westinghouse Education Center, Pittsburgh, Pennsylvania 15221.

An equal opportunity employer.