The Bridge of HKN
Hughes Fellowship Programs

Creating a new world with electronics

Hughes Aircraft Company

An equal opportunity employer.

HOWARD HUGHES DOCTORAL FELLOWSHIPS. Applications for the Howard Hughes Doctoral Fellowships in engineering, or engineering, and/or mathematics or physics are available now for the academic year beginning in Autumn 1967. The program offers the qualified candidate an outstanding opportunity for study and research at a selected university, plus professional industrial summer experience at a Hughes facility. Each Doctoral Fellowship includes tuition, books and thesis preparation expenses, plus stipend ranging from $2,000 to $3,100, depending upon the Program year and the number of candidate's dependents. Full salary is paid the Fellow during his summer work at Hughes. Salaries are reviewed periodically and increased with the growth of the individual. Fellowships are awarded to outstanding students who have completed a master's degree (or equivalent) and have been accepted as a candidate for the doctorate.

HUGHES MASTERS FELLOWSHIPS. Approximately 100 new awards for '67-'68 are available to qualified applicants with a baccalaureate degree in engineering, mathematics or physics. Most of these awards are Work-Study Fellowships; a very limited number are Full-Study. Upon completion of the Masters Program, Fellows are eligible to apply for and are given special consideration for a Hughes Doctoral Fellowship. Fellows who associate with a Company facility in the Los Angeles area usually attend the University of Southern California or the University of California, Los Angeles. Tuition, books and other academic expenses are paid by the Company, plus a stipend ranging from $500 to $850 for the academic year. A significant advantage offered by the Work-Study Program is the opportunity to acquire professional experience working with highly competent engineers and scientists while pursuing the M.S. degree. Selected Fellows have the option to work in several different assignments during the Fellowship period to help them decide on their field of concentration and optimum work assignment. Fellows earn full salary during the summer and pro-rata salary for 24 hours work a week during the academic year. The combined salary and stipend enables Fellow to enjoy an income in excess of $16,500 per year during his two years as a Work-Study Fellow. Salaries are increased commensurate with professional growth and Fellows are eligible for regular Company benefits. Work assignments are matched closely to the Fellow's interests. Primary emphasis at Hughes is research and development in the field of electronics for application to defense systems and space technology. Fields of interest include stability and trajectory analysis, energy conversion, structural design and analysis, circuit and information theory, plasma electronics, microminiaturization, and human factor analysis. Research, development, and product design on such devices as parametric amplifiers, masers and lasers, micro-wave tubes, antenna arrays, electron-tube and solid-state displays, and components - design analysis, integration and testing of space and airborne missile and vehicle systems, infrared search and tracking systems, and computer, data processing and display systems - theoretical and experimental work in solid-state and ion physics.

Citizenship: American citizenship and eligibility for security clearance are required.

Closing date for all applications: Early application is advisable. All materials should be postmarked not later than February 1 for the Doctoral Fellowships, and March 1 for the Masters Fellowships.

How to apply: To apply for either the Doctoral or Masters Fellowship, write to: Mr. James C. Cox, Manager, Personnel Administration - Corporate Industrial Relations, Hughes Aircraft Company, P.O. Box 90515, Los Angeles, California 90009.
The History of...CHRISTMAS CUSTOMS

Christmas is described in song as the season to be merry. It's also a season steeped with rich traditions — some of which evolved from customs practiced before the birth of Christ.

The use of greenery at Christmas, for instance, grew out of ancient Roman and Greek customs. Romans made lavish use of green boughs and garlands to honor Saturn, their god of agriculture. Greeks awarded laurel wreaths to victorious athletes.

Holly was a favorite Roman decoration. The Druids of ancient England thought it sacred. Mistletoe was regarded as a charm against evil in Greek mythology. It was a symbol of hope and peace to the Romans. The Druids believed it had healing powers. The Norse considered it to be sacred and a symbol of love.

It was in heavy-forested northern Europe that the Christmas tree custom was begun by St. Boniface, an eighth century monk. He converted the pagans to Christianity and planted from the sacred tree, and ended their human sacrifice.

(Continued on Page 21)

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ION RECOGNITION AWARD — Chairman, Robert F. Krieger, 57 Varick Street, New York City.

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Go Westinghouse, Young Man!

A modern fable with technical content.

Once upon a time there was a young scholar in college named Jack who couldn't decide what he wanted to be after graduation. He wanted to do something worthwhile.

Many of Jack's friends urged him to steer clear of big industry. There are no challenges in six-conditioned offices, they warned. And it was a challenge. Jack wanted to be a kind of challenge his forefathers faced on the job.

Then he met a Mr. Gereelley, who recruited college students for Westinghouse Electric Corporation. He was a kindly man, who opened Jack's heart.

Mr. Gereelley described to Jack the exciting things being done by Westinghouse all over the world. Jack was fascinated and asked many searching questions about the world's 21st largest corporation. At the end of an hour, Mr. Gereelley advised Jack: "Go Westinghouse, Young Man." Jack did.

The first few weeks were difficult. There was much to learn.

Jack was to discover that at Westinghouse, learning was a way of life. That a career with Westinghouse was one long process of education and re-education.

Later Jack was permitted to decide which of six big groups he would like to join. Jack selected the Westinghouse Electric Utility Group.

With the Electric Utility Group, Jack learned about water, air, and electric generation, about underground distribution, about many other things. Jack had not realized how important it was to the survival of modern man was the work of electric utilities.

It was hard work. Sometimes after a particularly trying day, Jack would get discouraged. Then he'd remember the warnings of his friends, back at college. And he'd wonder whether he had done the right thing.

Then came Jack's opportunity. Mr. Gereelley invited him to join a team of Westinghouse engineers assigned to an undeveloped nation in a faraway land to help rebuild a large coastal town.

Jack and his assignment: Help build a power plant that would use nuclear fuel. Nuclear fuel lasts longer than coal or oil. And it's cleaner. Energy from the nuclear plant was used to change salt water from the nearby sea into fresh water that the poor people of this country could use as drinking water.

Working late one evening on the job site, Jack caught someone in the act of sabotaging the construction of an extra-high voltage distribution system. This system would bring power from the nuclear plant hundreds of miles into the inland areas of the country.

After a dramatic chase through the winding streets of the city, Jack captured the saboteur, a shadowy figure. A grateful nation presented him with his highest award.

Finally, the project was completed. It was hard work but it was good work. Thanks to the Westinghouse team, millions of people would live in safety.

The citizens of the country were grateful. They wanted Jack and Jill and the others to stay — offered them more than their present salaries as an inducement — but Westinghouse fringe benefits more than offset this offer.

At the airport, where a sad but affectionate crowd of citizens gathered to see them off, Jack turned to Jill and asked: "Will you marry me?" Jill smiled and said: "I will if you promise to let me join you on other equally important turnkey projects that Westinghouse is co-ordinating in some of the major cities of the United States."

Jack promised, and they lived happily ever after.

Moral: Waiting for you at Westinghouse are challenges, hard work, building block education, adventure, some travel and, yes, even romance.

You can be sure if it's Westinghouse

For further information, please contact: L. H. Nogle Westinghouse Educational Center, Pittsburgh, Pa. 15221.
A ny assessment that we make of the education of our people must be related to the needs of the future rather than the requirements of the present.

For the task with which we are faced is to prepare our people for a world which is not yet in existence. The present is moving so fast and changing in so many ways that much of what is relevant today will be of no consequence tomorrow and that which we think urgent today may have no appreciable significance in the future. Changes are so rapid and breathtaking that the present and future are connected by only the slenderest of threads. For yesterday’s fantasy is already today’s reality, while today’s miracles will become tomorrow’s commonplace.

In this context there are certain facts about our environment which we cannot ignore and which we must understand and accept if we want to view our task with wisdom, imagination, and a sense of purpose. To begin with, there is the fact as well as the rate of change. If changes were to be no greater in the future than in the past, we would still face a radically different world tomorrow. Actually, however, the changes that now occur overnight would have taken years or even generations to accomplish in the past. For change is not constant but is occurring at an accelerated pace.

It took Charles Lindberg as long to fly to Paris in 1927 as it took Astronaut Cooper to go around the world 22 times in 1963. In 1908, Orville Wright was awarded a contract for $25,000 if he could stay in the air for one hour and travel 40 miles per hour. Compare this with the 800 lb. spacecraft which took off from Cape Kennedy last summer. Sixty-eight hours later it had travelled almost 250,000 miles. It took 75 years for Con- neously’ discovery that the earth revolves around the sun to be mentioned in the curriculum at Cambridge. By way of contrast, only 32 months elapsed between the first atomic chain reaction at the University of Chicago and the dropping of the atom bomb on Hiroshima.

For purposes of illustration let us compress the life of man into a 50-year period. In that event man would have spent the first 49 years of his existence in a nomadic state seeking food, clothing, and shelter. Six months ago he would have learned how to read and write. As recently as a fortnight ago he would have invented the movable printing type and the microscope and discovered the circulation of blood, the law of falling bodies and gravitation. One week ago he would have discovered the application of electrical energy, the use of ether, he would have invented the internal combustion engine, the gyroscope, the modern gun and revolver, the sewing machine, the steamboat, the telegraph, the telephone, and the typewriter. As recently as yesterday he would have invented the radio, television, the airplane, the automobile, radar, and insulin. This morning he would have discovered jet propulsion, aureomyacin, penicillin, and the anti-polio vaccine; and sometime before the end of this day, he will have landed successfully a man on the moon.

The changes that are occurring are indeed breathtaking. Those that have occurred in the last decade are greater than those that have taken place in the last 100 years. For the whole metabolism of our life has changed. Yet our people are not yet ready for such a world and because they are not, we are faced with the prospect of a complete breakdown resulting from our failure to adjust to change. If we want to survive in the future, we had better face up to the fact of change as well as its accelerated tempo.

Rapid change has also been accompanied by a fantastic explosion of knowledge. Knowledge doubled between 1750 and 1900, doubled again during the first half of this century, again doubled in the ten years from 1950 to 1960, and will do so once again in this decade. We will be spending more on research and development in 1966 than we spent for this purpose from the beginning of our history until the end of World War II. Over one-half of the research and development expenditures made in this country since the founding of our republic have occurred in the last half-dozen years. There are almost 100,000 technical journals being published today carrying over 1,000,000 scientific and technical articles. One of the biggest abstracting services, the Chemical Abstract Service, regularly reviews over 8000 journals in 52 languages, and in one year abstracted 150,000 articles which filled 22 issues and contained more words than could be found in the Encyclopedia Britannica.

Because of the great additions to learning and because of our inability to keep up, we are teaching many things that are no longer so. In a sense this has always been the case. We taught, for example, that the earth was flat...

(Continued on Next Page)
long after it was known that this was not the case. And this gap in
learning and teaching has continued to expand with the increase of
knowledge today. Professor Galbraith in "The Affluent Society" refers to
the knowledge which is not only not shared but which is not known
time but usually runs behind rea-
ality as "the conventional wis-
dom." He suggests that a great
deal of our goods and services are
bought with money which is not
in the public interest because it
is not an honest substitute and
cannot be used to buy the things
we need but can be used to buy
the things we want.

The gulf of ignorance in our
society has been widening not
because the capacity of the indi-
vidual to learn has diminished
but because the quantity to be
known has increased. A walk
through the stacks of any of our
great university libraries is
unsurprising. The information
we currently give to the
students is that we give to our
children is that we give to our
grandchildren is that we give to
our great-great grandchildren. In
the same way, if we are ignorant
of one of our sciences, we know
that it is because we are ignorant
of the whole. This is a dangerous
cumbersome way of thinking.

An economist recently declared
that in the future 2% of our pop-
ulation would be able to produce
to feed, clothe, and shelter our
people. This may well be an ex-
aggeration but it is fact that very
few jobs are going to be safe for
any of us in the face of technol-
gies and automation. Cyberna-
tics promises to eliminate produc-
tive capacity with progressively
less human labor and the impact
will be felt at all levels, white
collar as well as blue, manage-
ment as well as clerical. In the
automated telephone industry,
for example, in a ten-year period,
the number of inexperienced
operators were reduced by 40%
while the volume of business in-
creased 65%. The machine book-
keeper in our banks has become
almost extinct as a result of the
new systems that have been es-
tablished. In 1960, for example,
two large New York City banks
hired 144 machine bookkeepers;
in 1963, none. Automation is not
just another technological ad-
vancc anymore than the splitting
of the atom was just a form of
explosion. Rather it is causing
a basic reordering of man's re-
lation to his environment and
those who do not recognize this
and the implications of the
restructuring of human society
will suffer, for problems will get
away from them and they will
give up in disgust and frustra-
tion.

One of the most important by-
products of automation will be
freedom. When this happens, you
please—leisure, idle time, or
unwanted hours—but we are go-
ing to have it in great abundance.
People will be living longer and
the work week will be shorter.
Satisfaction gained by others who
are self-inspecting, self-
adjusting, and able to correct
their own errors.

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THOMAS L. THOMAS
OF OHIO STATE UNIVERSITY
Selected by Eta Kappa Nu as the
Most Outstanding E. E. Student in the U. S.

HONORABLE MENTIONS TO
Martin Hellman, David Woolf, Joseph Zuercher

Thomas L. Thomas

Mr. Thomas Luther Thomas, the designated Outstanding Electrical Engineering Student for 1966, ranked second of 98 Senior Electrical Engineering students while completing both a BEE (Summa cum laude) and an MSE degree in four calendar years. He has been honored with memberships in Eta Kappa Nu, Tau Beta Pi, Phi Eta Sigma, Sphinx (outstanding Senior men), Technikoi (engineering leadership and service), President's Scholarship Award, and placed on the Dean's List for 12 quarters. Mr. Thomas was named by Tau Beta Pi as Outstanding Sophomore Engineering Student at OSU. In 1965 he was named as the No. 1 student in OSU College of Engineering and selected as one of seven outstanding college students in the United States by Parade Magazine to tour Spain and Portugal. He was selected to deliver the Senior Address to the OSU graduating class of about 3,000 as the 1966 Class President.

Mr. Thomas has served as Vice President of Ohio Staters, Inc., the largest campus service organization; Vice President of the Electrical Engineering Senior Class; on the Staff of the "OSU Engineer" Magazine; a member Electrical Engineering Student Council; Student Chapter of IEEE; Upsilon Pi Upsilon, a campus service organization; and Delphi, a service group to assist new students.

Mr. Thomas was selected in national competition to receive National Science Foundation Graduate Fellowship Award during his Junior year and was also awarded three other competitive scholarships.

Mr. Thomas has worked part time as a technical assistant in the Mechanical Engineering Department doing computer programming and other course support. He has worked on departmental research projects. His summer work has involved OSU public relations, digital systems engineering on the Apollo Moon Rocket Program, zinc mining, factory and farm work to financially support his college education.

Mr. Martin Edward Hellman ranked first of 54 Senior Electrical Engineering students at New York University while completing a BE, Electrical Engineering, Magna cum laude, and carrying extra credits for the National Science Foundation. He has been honored with memberships in Eta Kappa Nu, Tau Beta Pi, Sigma Pi Sigma; placed each term on the Dean's List; received Chemistry Award from Lafayette Radio Company; Outstanding Student Award, Army ROTC; and named the Valedictorian of School of Science and Engineering. He has held numerous offices in the organizations already mentioned as well as NYL Amateur Radio Club, Sailing Team and membership in the IEEE Student Chapter. He has received scholarships from NYU, the New York State Regents and National Science Foundation undergraduate research grant. Mr. Hellman has published papers in optoelectronics and monolithic microcircuitry and was awarded first prize in the IEEE Student Paper Contest, second prize in Region I and is in consideration for national competition.

Mr. David Ellis Woolf ranked first of 70 Senior Electrical Engineering students at Carnegie Tech while completing the BS degree in Electrical Engineering with honors in a special advanced course of study. He has been honored with memberships in Eta Kappa Nu, Tau Beta Pi, Phi Kappa Phi. He has served as President to Tau Beta Pi; Bridge Correspondent for Eta Kappa Nu; President of Carnegie Tech Amateur Radio Club; and as member of the IEEE Student Chapter. He has been awarded three competitive scholarships: the Carnegie Tech, the Mellon, and the Sloan Scholarship for five semesters. Mr. Woolf has published several technical papers in the "Carnegie Technical". He has worked part time as a research laboratory technician conducting experiments with semiconductors or lasers, crystal growing, and nuclear and electron resonance phenomena. He is also active as an experimenter and amateur radio operator (K8RSP).

Mr. Joseph Charles Zuercher ranked first of 80 Senior Electrical Engineering students while completing the BS degree in Electrical Engineering with honors, at Marquette University. He has been honored with memberships in Eta Kappa Nu, Tau Beta Pi, Pi Mu Epsilon, Alpha Sigma Nu, and National German honorary society. He has received an award each year for the engineer with the highest academic rating. He scored 89th in the national Putnam mathematics test and is listed in "Who's Who in American Universities and Colleges". He has been awarded competitive scholarships by General Motors, by Wéston Wabash Foundation and a stipend from the Indiana and Michigan Electric Co. Mr. Zuercher has published and presented numerous papers. He has studied seven semesters of German including two in Germany. Music, both vocal and instrumental, meteorology, and sports are his hobbies.

Mr. & Mrs. Thomas L. Thomas at the head table of an Eta Kappa Nu luncheon in their honor at the Los Angeles Hilton Hotel, August 23, 1966

Dr. H. H. Beverage Dr. G. S. Brown
Dr. L. A. DeBridge Dr. A. N. Goldsmith
Dr. F. E. Terman Dr. A. M. Zuercher

JURY OF AWARD 1966
We all have our favorite definitions of the educated person, each to his own taste, but the one that I have always liked reads as follows:

"A liberal education is the education which gives man a clear, conscious view of his own opinions and judgments, a truth in developing them, an eloquence in expressing them, and a force in urging them. It teaches him to see things as they are, to go right to the point, to disentangle a skein of thought, to detect what is sophistical, and to discard what is irrelevant. It prepares him to fill any post with credit, and to master any subject with facility. It shows him how to accommodate himself to others, how to throw himself into their state of mind, how to bring before them his worst, how to influence them, how to bear with them, he is at home in any society, he has common ground with every class; he knows when to speak and when to be silent; he is able to converse, he is able to listen; he can ask a question pertinently, and gain a lesson seasonable, when he has nothing to impart himself; he is ever ready, yet never in the way; he is a pleasant companion and a comrade you can depend upon; he knows when to be serious and when to trifle, ... He has the repose of a mind which lives in itself, while it lives in the world, and which has resources for its happiness at home when it cannot go abroad. He has a gift which serves him in public, and supports him in retirement, without which good fortune is but vanity, and with which failure and disappointment will not have a charm." These remarks strike me as very contemporary views of the liberally educated person. Yet its author, Cardinal Newman, expressed these views over a century ago.

There are some interesting parallels that can be drawn between the new world that is opening up as a result of advances in science and technology and the age of exploration in the 15th and 16th centuries. Then the old world was shattered and a new world was opened up. Men ventured into uncharted and unknown areas and overcame myth and superstition. This was the age of exploration but it was also accompanied by an intellectual rebirth that tested existing hypotheses and challenged well-established traditions. It was the age of da Gama, Columbus, Magellan, but it was also the age of Copernicus, Galileo, Michelangelo, Erasmus, Descartes, and Rousseau. It was a period that broke through the walls of the feudal system and prepared the way for a new world.

We are now in another age of exploration but of a new sort. We have penetrated outer space and by the end of this decade we will have no doubt landed a man on the moon. Obviously old ways are no longer adequate for such a world and a renaissance in thought and concept are required. For the astronaut who goes around the world in 96 minutes is oblivious to political frontiers and to old ideas of sovereignty and nationalism. He has been well prepared for his journey. But for the rest of us we are not yet ready for the world that the astronauts have opened up for us. Yet we have special responsibilities placed upon us and we think of educating ourselves for the world of tomorrow. For it should be our essential educational mission to prepare for an age of change, to provide a climate in which vision is enlarged and understanding and to prepare ourselves to strive for an improvement in the quality of our living.

John Lauritzen wanted further knowledge

He’s finding it at Western Electric

When the University of Nevada awarded John Lauritzen his B.S.E.E. in 1961, it was only the first big step in the learning program he envisions for himself. This led him to Western Electric. For WE agrees that ever-increasing knowledge is essential to the development of its engineers—and is helping John in furthering his education.

John attended one of Western Electric’s three Graduate Engineering Training Centers and graduated with honors. Now, through the Company-paid Tuition Refund Plan, John is working toward his Master’s in Industrial Management at Brooklyn Polytechnic Institute. He is currently a planning engineer developing test equipment for the Bell System’s revolutionary electronic telephone switching systems.

If you set high standards for yourself, educationally and professionally, let's talk. Western Electric's vast communications job as manufacturing unit of the Bell System provides many opportunities for fast-moving careers for electrical, mechanical and industrial engineers, as well as for physical science, liberal arts and business majors. Get your copy of the Western Electric Career Opportunities booklet from your Placement Officer. And be sure to arrange for an interview when the Bell System recruiting team visits your campus.
NEW OFFICERS AND DIRECTORS

Clyde M. Hyde
President

Clyde Hyde was born in Staunton, Indiana, March 11, 1923. He was preceded into this world by a sister, Otelia, and followed by a brother, Hubert. In 1940 Clyde was graduated from Van Buren High School, Brazil, Indiana. He received the BSEE degree in 1955, and the MSEE degree in 1956, both from Michigan State University.

During the summer of 1955, he worked for the General Electric Company as a project engineer. While at Cornell University he was a John McMullin Fellow and a Bell Aircraft Fellow. In June 1957, he was granted the PhD degree and immediately started his teaching career at the University of Nebraska. Three years later he became Chairman of the Electrical Engineering Department, a post he retained until 1961 when he joined the IBM Corporation.

Dr. Hyde was married to Daphne Simpson in October 1942. They have two daughters, Peggy and Sandra, and a grandson, Clyde.

William D. Bonser
The newly elected Director for the Western Region is William D. Bonser.

Mr. Bonser was born in Beaver City, Nebraska, January 11, 1925, was a participant in the Army Specialized Training Program at the University of Oregon in 1945 and received his B.S.E.E. from the University of Southern California in 1950. He has since worked with the California Electric Construction Company (1950-52) as a designer and estimator of industrial electrical systems, with C. F. Braun & Company (1953) as an electrical designer of petrochemical related systems, and with Larsen Hogue Electric Construction Company (1954-65) in design, estimating and management. Mr. Bonser is presently establishing an engineering department for the Johnson-Potier Electric Company. He has been a Boy Scout Leader since 1961 and was Trustee of the Presbyterian Church from 1959 to 1961.

Mr. Bonser was inducted into Eta Kappa Nu as a junior at the University of Southern California, has been active in the Los Angeles Alumni Chapter since 1950 and was President of this Chapter in 1958.

John C. Hancock
Elected to represent the East Central Region is John C. Hancock.

In 1955, he began his teaching career at Iowa State University as an Instructor, receiving an M.S. degree in 1959, and later becoming an Assistant Professor. In 1962, the student branch of AIEEE-RE elected him Instructor of the Year in Electrical Engineering. In the same year, he was also a runner-up in the election for Professor of the Year in the College of Engineering.

Since 1963, he has been Associate Professor of Electrical Engineering at the University of Nebraska where he helped reorganize the electronics laboratories and taught courses in Electronics and Control Systems. He has been the chapter advisor to the Beta Psi Chapter of Eta Kappa Nu since 1963.

Professor Hancock is Head of the School of Electrical Engineering at Purdue University. He received his Ph.D. degree from Purdue in 1957.

During this period from 1957, he has also acted at different times as electronic scientist and staff consultant at the U. S. Naval Avionics Facility, Indianapolis, Indiana, as a member of the technical staff at Hughes Research Laboratories, Culver City, California, and as a consultant to Ramo-Wooldridge Corporation, Los Angeles, California, Emerson Electric Company, St. Louis, Missouri, ITT Kellogg Space Communication Laboratory, Ft. Wayne, Indiana, Page Communications Systems, Washington, D.C., as well as to General Electronics Laboratory at Cambridge, Massachusetts.

He has credited to him over twenty-five published articles in scientific journals and presentations at national and international conferences.

C. Holmes MacDonald

The Eastern Region will be represented by C. Holmes MacDonald. At graduation from the Central High School in Washington, Mr. MacDonald was awarded the competitive scholarship given to the District of Columbia by the University of Pennsylvania. There he was elected to Eta Kappa Nu in 1916.

Following receipt of a BS in E.E., he engineered open wire and toll cable projects in the Planning and Engineering Departments of the Bell Tel. Co. of Pennsylvania. Carrier cable jobs and lecturing in the Bell Engineering School followed. Transferred to the Executive Operations Dept., for a final decade, he helped coordinate the many facets of several crossbar tandems and the four wire switching systems for Harrisburg, Pittsburgh, Scranton and Wayne, Pennsylvania.

In Eta Kappa Nu, Holmes was one of the founders and the first president of the Philadelphia Alumni Chapter.

Son Edward H. is also a member of our Lambda Chapter and has served through the chairs of the office of the Philadelphia Alumni. Furthermore, Groenendal Robert H. shows promise of being a candidate for initiation in 1975 into Eta Kappa Nu.

William P. Smith
Vice President

William P. Smith is currently the Dean of the School of Engineering and Architecture and Director of the Engineering Sciences Division of The Center for Research at the University of Kansas in Lawrence.

Born in 1915 in Superior, Wisconsin, Bill earned his B.S. degree from the University of Minnesota in 1938, his M.S. degree from Minnesota in 1937, and his Ph.D. degree from the University of Texas in 1950. His area of specialization is non-linear systems.

While at the University of Kansas, he has worked with General Motors Corporation in Kansas City and the Boeing Company in Wichita, and he has served as a consultant to the Office of Naval Research, the Midwest Research Institute, and Sandes and Thomas at Pottstown, Pennsylvania. He has published numerous technical articles.

Bill Smith's wife, June, is also Dr. Smith, having earned her degree in education from the University of Kansas. She is the director of special education for the Lawrence Public Schools. The Smiths have three children: Susan, who received her B.A. degree from the University of Kansas in 1964; William P., Jr., a student in the Lawrence High School; and Sally, a student in Junior high.

Henry L. Ablin

Henry L. Ablin will represent the West Central Region of Eta Kappa Nu.

A native of South Dakota, he received his B.S. in E.E. with highest honors from South Dakota School of Mines and Technology in 1953.

In 1955, he began his teaching career at Iowa State University as an Instructor, receiving an M.S. degree in 1959, and later becoming an Assistant Professor. In 1962, the student branch of AIEEE-RE elected him Instructor of the Year in Electrical Engineering. In the same year, he was also a runner-up in the election for Professor of the Year in the College of Engineering.

Since 1963, he has been Assistant Professor of Electrical Engineering at the University of Nebraska where he helped reorganize the electronics laboratories and taught courses in Electronics and Control Systems. He has been the chapter advisor to the Beta Psi Chapter of Eta Kappa Nu since 1963.

Professor Hancock is Head of the School of Electrical Engineering at Purdue University. He received his Ph.D. degree from Purdue in 1957.
ON CovETOUsNESS

Dear Friends,

This is a very different "Story" from the ones I've been sending. This, instead of being written by me, was written by Stephen Paine, who was born in 1749 and was my great grandfather. The Grandmother of this man was Abagail Paine (buried on Woodstock Hill) who was carried captive to Canada by Indians in 1677 when they destroyed Hatfield, Mass. This man was Delegate from Woodstock at the Convention to decide if Connecticut would join the Union. And he voted against it.

What I am sending you is from the "Parental Instruction" he wrote for his four sons. He wrote it in 1811 and thinking it would have more effect if after all the sons had died, it after his death he left it with a neighbor who never delivered it. This neighbor used the blank pages of the book for his boys for writing exercises in school and for the tax lists he gave the town listing his property. So the "Instruction" never came to light until after all the sons had died. I remember the day when my father got word the book had been found in an attic in Westwoodock.

Two years after Stephen wrote his "Instruction" he added two additions entitled "On Charity" and "On Covetousness" I have typed the latter and wonder what you think of what this man wrote and of the style he used in writing.

I have typed the words exactly as he used them and you will note a few changes which show the change in spelling or use of words since the time when he wrote. For instance the "wicked centinel" begins with "c" instead of "s" as would be done now. Also we now would not use "unhuman" neither would we probably refer to the "necessitous" as people did in those days.

Compared with present times Stephen had had but little school training. Just a few weeks in the country school taught by a neighbor man or woman was all he had. But to me it seems he expressed himself very well.

When I once told Mother Hyde about the failure of the book to be delivered after Stephen's death she said that when the West Woodstock Church gave them a "Charity" book left in their charge. Of course they read but didn't follow the injunctions Stephen laid down.

I might add that the oldest of the four sons left home at an early age and never was heard of again. It was supposed he went west and was killed by Indians.

Also I will say I think Stephen's wife Martha must have been an unusual woman. Doubtless she had seen her father Parkers Morse handle wounds and so learned something about what to do in case of accidents. I think I have mentioned that when my Grandfather was very small in playing in the wood shed with his brothers his four fingers were cut off with the ax. Martha at once took the fingers from the chopping block and sewed them back in place. Father told me that scars went completely around each of the four fingers but Grandfather was not in the least crippled. Those fingers functioned fully in the normal way.

Just the other day I heard of a man who had one of his fingers cut off and it was considered a marvel that the doctor put it back before the severed finger became cool.

I have written that I wish I knew about the boyhood of the men in my line before me. Perhaps from what Stephen wrote I do have a chance to learn a little about him as a man.

Greatest Love to All,

ELLERY

Covetousness consists not only in withholding from but in aspiring after. The first of these was exemplified in the case of Lazarus, the latter was the downfall of Adam and all his posterity. Covetousness like idleness has no advocate but base friends and like the skulking savage in the wilderness he bends his bow and points his dart at every virtute that comes in his way.

Covetousness will often tell much about Prudence and sometimes attempt to dress up in Prudence's clothes, but being so deformed the garment never would fit the monster, and bear no more resemblance to each other than the wolf to the lamb or the serpent to the dove.

I have noticed that some learned writers have attempted to draw a line of distinction between covetousness and meanness; for my part I know of but very little of any. True it is there may be some little difference in settling the reasoning, yet they journey on in company to the land of shame, misery, and disgrace. To trace covetousness as it respects the overt acts of man's life would be very difficult if not impossible.

However I will attempt to mention some. Covetousness renders us unlike to that glorious being who formed man out of dust, and breathed in him the breath of life. He openeth his hand and satisfisheth the desire of every living thing. He gives to all men liberally and upbraideth not.

Covetousness is a violation of one of the closing command contained in the sacred decalogue "Thou shalt not covet".

Covetousness-like a wicked centinel, will open the door and let into the soul of man every other species of vice and wickedness. Covetousness will bring on and lodge on the possessor of this vice all the miseries of poverty, however good or however great in abundance of the good things of life God has been pleased to bless him with.

Covetousness influences the parent not to divide the son his true portion. It influences the son to see his aged parent in tattered rags denying him that nutriment and support which he needs in his declining years and his trembling limbs and exhausted state require. Covetousness will prompt the possessor of this vice to neglect his best friends, and in the most unhuman manner to treat them with cruelty, scorn and abuse! How many poor domestics have suffered from this pernicious vice! How many murders, thefts, and robberies have originated from this vice. Even suicide has been too often found in the field of covetousness.

How will covetousness call the heart — contract the arm — shorten and shut the hand—blind the eye and deafen the ear to the cries and wants of the poor and needy and the necessitous.

Covetousness unifies a man for all the social and elevated stations of human life. The qualification for a good ruler is one that fears God and hates covetousness. It is not sufficient only that he avoid covetousness but he must become a hater of it.

Covetousness is a lonesome vice. Most other vices have some kind of brotherhood as affinity, but covetousness has none. Even prodigality has long since drawn the sword upon this pernicious vice.

My children, as Covetousness is strictly forbidden in the word of God so I hope that solemn caution of your compassionate savior will ever have due weight on your minds to beware of Covetousness. For a man's life consisteth not on the abundance of the things he posseth. Without further enlargelment on this vice I shall conclude this piece in the poetical expression and language of Dr. Watts. He says, describing the covetous man:

Vain are his thoughts, his hopes are lost,
How a covetous man dies
His name is written in the dust
Where his own carcass lies.
I had seen people baptized. I had seen the other ministers lead people out into the Tennessee River, putting one hand on their backs and the other over their mouth and nose, souse them under and lead them dripping wet ashore where the congregation stood singing hallelujahs and hosannas. That was baptizing that was baptizing! I knew those folks had had all their sins washed away because I had seen it done.

Our minister confused my childish mind with his religious clichés. He told me I must be washed in the blood of the Lamb. I was too young to understand, but I had seen the local butcher kill and dress a sheep and the idea did not appeal to me at all. The vivid mental picture of the process did not please my boyish mind.

Our minister and the Bible said that it was easier for a camel to get through the eye of a needle than for a rich man to get into Heaven. The richest man in our town was one of my favorite people. He was nice to the folks who worked in his mill and always looked after their families when there was sickness. He had an automobile and given it to his particular church. Best of all, he was always handing us kids pennies for candy. It just didn’t seem fair to keep people like him out of Heaven.

There were other religious facts, too, which bothered me. The one about being born again certainly was a puzzler for a boy who raised rabbits. It just didn’t seem possible in the light of things I had learned by exposure to the facts of life.

My geography told me that the world was round. The Bible spoke of its four corners. There were so many things I could not understand, and which were never explained, that my boyish mind was hopelessly confused. Finally I pushed it all aside and lost interest. Religion was like a toy I had tired of playing with and abandoned.

I knew now that a lot of children get mixed up on religious matters and, not wanting to express their doubts and puzzles to their elders for fear of criticism or punishment, they wander away from God and lose Him forever.

It remained for a Tennessee mountaineer—they call them hillbillies these days—to bring me back to a consciousness of God.

In my teens I took a long hike through the mountains to reach a certain trout stream. I hiked along a mountain road to the foot of the Great Smoky Mountains and then followed a foot trail up to the top of the first range. The trail led along the very top of the mountain until it reached the next gap, and I paused to rest on the crest.

Two thousand feet below me the river lay twisted and loping like a silver ribbon some child had thrown carelessly on a green carpet. Here and there along its banks were little clearings with a cabin and a patch of cotton or tobacco.

Across the river, tier on tier, were other mountains. The ones in the foreground were two shades of green, one in the light and one in the shade. The next tier were dark green and mauve shadows. Beyond that was a tier of blue ones with purple shadows, and behind that yet others all purple—so purple that they melted into the purple sky so perfectly that there was no visible line of horizon.

(Continued on Page 22)

Epsilon Mu Chapter Installed at Arlington State College

On Saturday evening, April 30, pledges of the Gamma Omicron Chapter (Southern Methodist University) and charter pledges of the Epsilon Mu Chapter (Arlington State College) were initiated in a dual ceremony held on the Arlington State College campus. National Director F. W. Tatum, Head of the Electrical Engineering Department of Southern Methodist University, was the installing officer, and chapter representatives from the University of Texas, Texas A&M, and Texas Tech participated in the event.

Five undergraduates were initiated by the SMU chapter. Among the 48 charter members initiated by the new ASC chapter, 29 were undergraduate students and 19 were professional members. Dr. A. E. Salis, Head of the E.E. Department, and Mr. John M. Goodwin, Associate Professor of E.E., were among the professional members to be initiated.

During the initiation ceremony, the ladies and guests were entertained in the E. H. Hereford Student Center by the wives of the E.E. Faculty. Hon. observers were served, and a white guest register, lettered with gold leaf with the bridge symbol in gold, was used at the registration table as a permanent record of the attendance.

Following the initiation ceremony, a banquet was held in the student center. Dr. W. H. Nelder, Dean of the School of Engineering, was the master of ceremonies. A varied program of entertainment was provided by local campus talent. Dr. F. W. Tatum, installing officer, formally presented the charter of the Epsilon Mu Chapter to Dr. J. R. Woolf, President of Arlington State College. Each of the pledges was personally presented with his certificate of membership and congratulated by Dr. Tatum.

Guest speaker for the banquet was Professor Ted A. Hunter, professor of psychology, State University of Iowa.

Arlington State College is a relatively new four-year school, having been elevated to four-year status in 1956. The student body numbers about 14,000, of which approximately 2700 are professional engineering majors. There are about 1000 electrical engineering majors, but only about half of these are upper classmen. The E.E. Department received a six-year accreditation from E.E. PD in November of 1963, and is looking forward to initiating a master of science degree program this fall. The School of Engineering is housed in a limestone slab faced building which was completed in 1950 and contains 90,000 square feet of floor space.
The little radio car takes an hour of skilled attention and then staggers back towards the broken down cars. At the break we start talking of sending it back. It is late in the day and we will make camp. After supper the radio car and one army vehicle will go to Agadilla. From there the radio car and the donkeys, driving very well to reach Benghaz, are left behind. We are alone. Francis Gibb and John Ferguson in the army vehicle will catch us up on the track kilometre 7 south of Agadilla, our first base. It's a hard decision, but obviously this car can never survive the trip.

During one of the delays today Han settler opened up some mending spectacles. One of the lads poked his flat head out as he busily glued the soda water in the bottle, and then the slightest puff of wind would cause it to break again. The Michelin map shows a neat, thin red line from Agadilla to Kufra indicating a new route. We had already read that Kufra is 200 km north of the main road and that the desert road was unsuitable. We could see the need for a new desert road. We made the camp under a low scarp, even in its protection, and with tarpaulins rigged, we can get out of the wind. We're below sea level here, and the sand is littered with clam shells and bits of petrified wood. While we make camp and Khalid and I list out a string of fifty-inch strips in some nearby clumps of grass and stunted palms. Somewhere along the line we have picked up Randolph and Winston again and they have delved into the lovely Fortnum and Mason surprise box and produced petit pois à la Française which are ravishing. Randolph has been having little to eat but he has a plot of land he shares with me and Francis (you know, dear boy) about the track, about travel procedure, about sending the car back. He talks late into the night, and in the end it's all right. We all believe that the little car being towed and whirled about in the desert bowl below our camp is a vain attempt to get it started. In the end it has to be towed round the way to Agadilla. Poor Francis, John and Jack, no sleep for them.

We are without our navigator today as he is of course on his way back to Agadilla where we are on the south track racing towards Gialo. Liv is navigating by intuition, having done this leg of the journey before. The hammocks and land formations are gone now as are the sage and gorse. Here the world seems to be a plateau rather than a globe. Nothing—a complete desert of nothingness. We feel the ancient were not so wrong, the edge of the earth is in sight and at the speed we are going we shall pass over it in no time. And again we feel that this is Dali land. We would not be surprised to see a clock, a lamp, and a lonesome table before us on this pale brown canvas we are crossing. I feel like the Chorbe's car continues to career off in maverick fashion seeking new routes to the south. When they have given us sufficient lead they stop, and get out the card-table and chairs. Randolph puts the time of day with his philosophy and Winston scouts the terrain or naps under the car.

Late in the day Randolph decides to play at being lost. He flag down Alan and Hank who are riding together and calls for a little conference. The other cars, all unaware, disappear over the horizon.

'We have over-shot Gialo. We must instigate rescue procedure,' he says firmly.

Hank, who is an old desert hand, says: 'Well, yes, but let's just follow Pomeroy. We're not in any danger.

Alan, who has had no desert experience but has a built-in bumph of direction, agrees with both of them. 'We're lost, but let's get on with it. We just waste time sitting around here. Give me a drink, Randolph, and let's catch up with Liv. If he doesn't discover his mistake we can always tell him.'

But Randolph will not be out-gered. 'Goody' he says. 'We will have a little drink. Get the bottle,' he orders Winston, 'and get me the binoculars.' Hank and Alan grin and Alan wonders.

On 13 March 1961 a group of 14 people started from the North African coastal city of Benghaz for a trip across the Sahara Desert just for fun and adventure. This is the second installment of the story of that hilarious journey.

**14TH MARCH**

**The Stars were bright** and the night cold and we awaken in the morning to find ourselves covered with pools of icy dew. Boiling tea brings the blood back to our hearts and we attack our 'sho', sausages and hash hotted up over the primus, with appetites. Little boys from nearby Agadilla go round to watch and Hank gives one of them the first discard of his twenty pairs of socks. Randolph complains that I had promised to look after him and where the hell are the bacon and eggs? So I carefully cook him two eggs which Winston eats, because the tea is gone and Randolph says he cannot stomach eggs without tea. It is a test and proves what I feared: he has no appetite. I even try to give him a vitamin pill, but Winston is right in saying he won't take those either. Catherine says she's going to develop a divine figure, and how do you lose your appetite?

We have picked up last night's chaos fresh in our minds. Five cars have to carry twenty-five jars of camel's milk, each three each of fresh water, one of oil. Also distributed among the vehicles is a jerk of dried-out bull for the batteries and two of white petrol for the primus stove. The primus will work, if it has to, on regular petrol, but the lead in it would eventually clog the stove causing a poor flame, and in time no flame at all. Finding white petrol in Benghaz took a good half-day in itself. Each car has twelve cases of 'sho', various cases of our civilian food supply, spare parts, tools, sleeping and camping equipment, personal effects, and, always at the ready, sand tracks. We carry our sand tracks (chopped-off pieces of World War II airplane landing-strips) tied to the bumpers in front. Put under sand-bogged wheels these give enough purchase to get the car moving again. We are also experimenting with strips of heavy canvas, a lighter and more portable sand track. The sixth car, a small open Land Rover, is mounted with the wireless. There is barely room for that, two men and their bags. Last night we had to unpack everything to find the stove and a can opener. We think we put ourselves together rather nearly today. We stop off to take pictures and fill up at the last petrol-pump we will see in five thousand kilometres. A curiosity, not a worry. Liv has arranged for petrol pumps to be sent ahead at Kufra, Fayza-Largaz, Zouar and Selba. If these are where we expect them to be there will be no problem. If they are not we will have to build huts and colonize wherever oats has let us down.

Catherine has bought herself a barrack, a blanket fourteen feet long. The Bedouin use theirs to place on the bed by day, sleeping-bag and sometimes as a prayer-mat or a floor-covering when guests are invited into the tent. Catherine's is a brilliant red, bordered with orange and blue. She says she was cold last night but slept in her woolen pyjamas and a down-filled sleeping-bag.

At last we turn away from the coast on a bumply track through scrub and sage brush. The sand is rubbish and red. After a few kilometres we have trouble with the radio vehicle. Everyone climbs under it except Alan who photographs the workers and advisers in action, and the Churchills who with flag flying disappear southwards. The radio car is definitely ramshackle. It has a canvas tarpaulin on either side, a cockeyed antenna, a couple of much-travelled suitcases, a case of Coca-Cola and a handsome brown handbag which is massed with curious objects. There is a has taken place between a cartoon of chocolate bars and a suitcase, the lid of which is labelled hopefully, 'This Way Up'. Everything hops up and down fractionally as we cross rough ground.

**15TH MARCH**

**Dew again, cold and saturating, Alan's cough is bad and arthritis, with which he has been troubled a good deal in the past, has stiffened up his right leg. He is worrying for fear he will prove a second 'little car' and hold us all up. Liv says we'll put up a tent at Gialo tonight and see if we can beat this ice and muscle.'

I scramble eggs for breakfast which everyone pronounces delicious except Randolph. 'My dear girl,' he says despairingly, 'you've obviously never used rice. Escoffier. It is essential to beat the eggs well first, then add the seasonings. Don't just throw a hunk of butter into a frying-pan full of unbeaten eggs.'

While the eggs are cooking Hank is busy with the bungful of pretty little sand-coloured jellies in his pocket, that have been for the trip—expedition of the night before has yielded. They found hyena and jackal tracks which they followed to a camel-carcass. Hank says hyena-tracks are easy to identify as the front feet are so much larger than the rear. He is a fountain of information and tells quietly as he works, measuring body, tail, feet and ears, examining each strain of sand. He is a prodigy. Then both skins and skulls are labelled and tagged. Hank skins his catch with the speed of a good lauders rolling, cutting and putting away skillfully. The camel's gut is connected to a tray which is stored in his seven-layered locker-trunk. The skulls, like so many miniature head-hunter trophies, are hung out to dry in the back of Alan's Land Rover.

Catherine asks anxiously if they will smell, but Hank tells her that there is no bacterial action in the desert and that they will be completely without odour.
16TH MARCH  

Francis did not turn up in the evening as we had hoped he would. We heard a motor in the night and fired off a very faint light at eleven o'clock. Liv ran up the kite and we spotted it. When Francis and John Ferguson turned up this morning they said that they had gone south on the track forty miles, passing within a few miles without seeing a sign of us. This flat-seeming camp-site is in fact a depression. We had not seen the fire they shot off at eight o'clock and they had not seen our. When Catherine and I went for an early morning ride both camp and its high-flying kite disappeared within three kilometres.

Francis reports that far from getting rid of the radio, which now appears essential, one thinks one is promised to arrange with the R.A.F. to fly it down to Kufra to us. Francis and Liv are gloomy at the prospect for we will have to fix this extra five hundred pounds and a man into our already overloaded camp.

Alan has decided to leave the expedition. Despite the tent he cannot bend his knee now, and in the night he coughed more than he did. He and Liv go by plane to the coast and see when the next supply plane is coming down. They will fill up on drinking-water, top up some bolts, drill holes in the fuses for the spotlight which has not yet been mounted, and radio Benghazi our revised schedule since we have been delayed to much.

Catherine unerringly sorts through the Collins’ suitcase, making up a bundle of things for Alan to take back. She keeps his heavy equipment. He won’t need it in Benghazi or Rome or the desert but it is in his kit. Liv has put down her camp in a small place where she can go by plane down to Chad to rejoin the expedition. He is a methodical man and at the same time a dreamer. Realistic as his action is, she knows how hard it is to give up the dream.

We are in known desert. The oasis is not far off, although invisible, and there’s the tall rig of a seismic camp somewhere in front of us. Before we did we have left the ends behind we must travel close together. Separation in that desert can end the adventure once and for all.

Randolph has a homing instinct. Without a brum or chump to guide itself with or the earth around, it is on the move. He is heading toward our home for the moment it is all right. We are in known desert. The oasis is not far off, although invisible, and there’s the tall rig of a seismic camp somewhere in front of us. Before we did we have left the ends behind we must travel close together. Separation in that desert can end the adventure once and for all.

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He had preached me a sermon that had driven all doubts and fears out of my mind forever. He had been my teacher I ever listened to, or to whom I shall ever listen, because from that moment there has never been a doubt in my heart that there is a real and personal God. And there will never be any doubt.

ROE FULKERSON

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ALPHA, University of Illinois — Alpha Chapter of Eta Kappa Nu re- mained an active chapter during the spring semester of 1966. Alpha Chap- ter's largest activity was its participa- tion in Engineering Open House. Our projects consisted of an informa- tion booth with free coffee and manned by an HKN member and a faculty member, a member of old HKN equip- ment, a member of the UI Alumni Society of the US Space Walk, the Russian Space Walk, a sign to the rocket and the X-B-70's. We also sup- plied HKN members to work crews setting up projects for open house.

BETA, Purdue University — An im- portant accomplishment of Beta Chap- ter this spring was the updating of the EE graduate class picture dis- play. Until recently, this has been be- hind several years. The chapter would like to make this display as complete as possible, not only to show that the chapter has not submitted their picture of a graduate, but if Purdue has not, he is urged to send a wallet- sized picture of himself to R. A. L. Hae- men, c/o Electrical Engineering De- partment, Purdue University.

GAMMA, The Ohio State University— Gamma Chapter of Eta Kappa Nu assisted the EE Dept. at NYU by providing guides for Engineering Day and similar activities. In particular, members gave individual tours of the department to prospective freshmen in the hope of ac- quainting them with EE fields and giving advice on a more personal basis than was possible in prior years. The highlight of the semester was the initiation banquet, held at the Yacht Club on the waterfront. The banquet was held in conjunction with the NYU Electrical Engineering Faculty, Beta Psi. It is hoped to expand this practice in the future so that eventually all Gamma Chapters will be represented. This year, Beta Psi awarded several awards noted for their greater attraction to faculty and administration.

BETA LAMBDA, Virginia Polytechnic Insti- tute — The Beta Lambda Chapter of Eta Kappa Nu has remained active during the last two quarters. New officers have been recently elected. Several of our members are currently working with their engineering firms concerning Beta Lambda Chapter.

Initiatives of winter quarter were in- ternational in the large Peltier panel, built in the main hallway of the Electrical Engineering department, Patmore Hall. This board contains pic- tures of all EEE professors and a summary of their fields of interest in addition to their better acquainting new stu- dents with the faculty.


capital's walk in space has been sched- uled and discussions about a dinner-dance are under way.

GAMMA GAMMA, Clarkson College of Technology — This year, we at Clarkson in Gamage organized a project to raise money for our team, next Fall we will be selling review books to the sophomores, juniors, and seniors.

GAMMA ZETA, Michigan State Univer- sity — Gamma Chapter of Eta Kappa Nu at Michigan State Univer- sity has accomplished even more this year. We have tried to provide programming to all students of electrical engineering and even to students of other branches of engineering. We are happy to report that even more students have been welcomed and appreciated, and some of what we have begun will be perma- nently a part of engineering education.

GAMMA THETA, University of Mis- souri — Gamma Theta Chapter held laboratory insurance to provide money for a scholarship of the amount of two hundred dollars. The recipient was Jim McClintic, an electrical engineering major, and he was selected by a Depart- ment of Electrical Engineering faculty chosen by the students.

GAMMA IOTA, University of Kan- sas — The chapter, as a part of an initiation of the Semiconductor Display Club, presented a display for the engi- neering students.

All of the engineering students were invited to attend and were given a display of the semiconductor technology.

GAMMA CHI, New Mexico State University — Gamma Chi Chapter presented the annual Lamp Award to a student. The 1966 Lamp Award was presented to a student.

Many of Gamma Chi Chapters have received the Lamp Award.

GAMMA ALPHII, University of Maine — Gamma Alpha chapter has received the Lamp Award for 1966.

The Lamp Award is presented to the student with the highest academic achievement.

GAMMA TAU, North Dakota State University — Gamma Tau chapter of Eta Kappa Nu has had a varied academic year. At the beginning of the year, the chapter initiated two new members into Eta Kappa Nu, two juniors and one professional member. The professional member was Professor Joseph W. Landford of the EEE Department. The chapter was also selected to present the annual Spring Banquet.

GAMMA XI, University of Mary- land — Gamma XI chapter has continued to meet regularly and has sponsored several events during the past year.

Members of Xi chapter at Auburn University recently presented to their electrical engineering department a directory for academic and research personnel. The modern board, featuring snap-out panels for easy assembly, was designed by Dr. J. L. Lowry, left, and built by students. The presentation to Mr. Charles H. Hensley, head professor, is Terry McPherson of Montgomery, president of the chapter.

DELTA KAPPA, University of Maine — Because of the high attend- ance of the HKN tutoring sessions in EE, 12 HKN members and one professional member were assigned to sup- plement the teaching group on nights before the EE 1 & 2 tests. Also during the fall semester, it was decided that the reading room at the EE Building 1606 would be used for HKN sessions. The rooms were arranged in alphabetical order by authors, and a separate index file was assigned to each. The sessions were attended by a large number of students, and the HKN members were able to help students with their work.

DELTA GAMMA, University of To- ledo — Eta Kappa Nu Chapter of Eta Kappa Nu has maintained a close relationship with the University of Toledo and has been an active member of the Electrical Engineering Department.

DELTA KAPPA, University of Mary- land — The Delta Kappa Chapter of Eta Kappa Nu has continued to be active throughout the year.

The chapter has continued to hold meetings on a regular basis and has sponsored several events. The chapter has also been active in providing assistance to the department of electrical engineering at Lehigh.

DELTA DELTA, University of Massa- chusetts — On April 25, 1966, Delta Delta Chapter of Eta Kappa Nu initiated the new members.

The chapter has continued to hold meetings on a regular basis and has sponsored several events. The chapter has also been active in providing assistance to the department of electrical engineering at Lehigh.

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