

FORBES



Consulting Engineer

August 1967



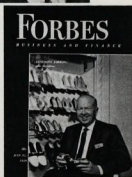
Business Week



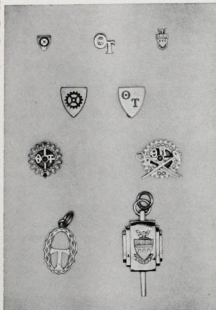
The GEAR of THETA TAU

SPRING 1968

VOLUME LVII NUMBER 2



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GEAR CENTRALIZES ADDRESS FILES

In another step toward maximum efficiency and service to Theta Tau members, all mailing list operations for the Fraternity have been transferred to the Central Office. Change of address notices and other correspondence concerning addresses should be directed to the Central Office, 13 Sona Lane, Saint Louis, Missouri 63141. Business and editorial correspondence for THE GEAR should be sent to the Editor, 7421 Village Drive, Prairie Village, Kansas 66208.



The Gear of Theta Tau

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Board of Editors

WILLIAM E. FRANKLIN, *Editor-in-Chief*

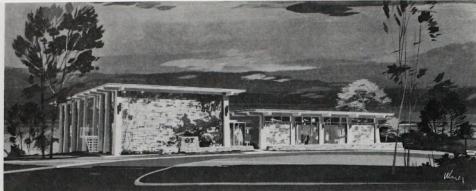
J. W. HOWE

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Zeta is Building a New House

ZETA CHAPTER is soon to be the second chapter in Theta Tau history to build a new house. It will also be a "first" for the entire Fraternity in size, with a designed capacity of 50 to 52 men. Alpha Chapter built a new house for about 20 men in 1957. Zeta will occupy its new house in September 1968.

Not all of the problems associated with the project are solved, but the construction of the new house is a fact few would have predicted a short time ago. Prime movers of the project have been the officers of Zeta of Theta Tau House Corporation in conjunction with other alumni. Kansas City area alumni have provided much of the labor behind the scenes.

The house itself will be a reinforced concrete frame building with stone and brick exterior. It will have a wood beamed roof and deck. The building has a three-story study and dormitory wing. Adjacent to it and connected by the entrance foyer is a one-level social wing with stone exterior and exposed concrete columns. Included in the social wing is a spacious living room with brick fireplace, a dining room to accommodate up to 80, and a fully equipped kitchen and pantry. This area of the house will use wood paneling and brick for the interior walls and beamed ceilings.

The housemother's quarters are located adjacent to the study wing and will feature a two-room apartment and soundproof partitions. The housemother's quarters will have both a private rear entrance and an entrance off the front hallway of the house.

The two upper levels of the study wing are being completely finished at this time,

while the lower level partitions are scheduled to be added at a later date. In the meantime the ground level floor will be utilized as a dormitory. In addition to two and three man study rooms, there will be a lounge area on the upper floor and a recreation room on the ground level. The ground floor will also have a laundry room, equipment room, and ultimately a library. The study wing is designed to have three sleeping dormitories (when lower level partitions are installed). Interior partitions will be gypsum board with metal studs. Heating will be by a hot water system, and provisions have been made to add air conditioning should summer school become more important in the future.

Total cost of the project is expected to be about \$265,000, including all administrative expenses. The house is being financed through a mortgage of \$100,000 by the Kansas University Endowment Association, from sale of Zeta's old house (sold to the local Phi Delta Theta Corporation), and through sale of low interest 20-year bonds to alumni. The low interest bonds have been the key to financing of the project, and over half of the \$120,000 bond issue has been subscribed by over 135 of the Chapter's alumni. Efforts are now being made to sell the remainder of this bond issue to alumni now that construction is underway. Gifts are expected to play a relatively minor role in the project, although many alumni have donated their bonds to the Zeta House Corporation or to the K.U. Endowment Association. A special gift and memorial program will be developed later this year.

As in most projects of this type, the road to a new house has been a tedious and difficult one extending over many years. In fact in 1955 a group of seven student members conducted a preliminary but sound study and urged the Zeta House Corporation to begin a building program. This effort fell by the wayside for lack of support by that Board. However, in 1959 Kansas University set aside a portion of land to be known as Fraternity Place and Theta Tau acquired the first lot to be sold. (Subsequently eight lots were sold to six fraternities and one sorority; the Theta Tau house will be the sixth of seven houses to go up there.)

In the early Sixties the Chapter fell on hard times and the group was not strong enough to provide the backing needed to build a new house. In the meantime interest in the project was kept alive by Kansas City alumni, particularly David Shaad, Frank Lichty, George Feil, then president of the House Corporation, and others. Finally in January 1966 the Kansas City area alumni organized a program and obtained the support of other alumni. The effort this time took hold and two years of fund raising, bond selling, and plan preparations got

underway. Although a professional architect was used, the rest of the hard labor was and is being carried out by volunteer efforts of alumni and student members. By fall 1967 many an hour and numerous anxious moments had brought the House Corporation Board to a decision point. The Board was faced with inadequate funds to build, but with an old house that had deteriorated beyond the point of safe occupancy that school year. In fact the membership was already living in apartment groups. After careful consideration of the alternatives at stake, the Board elected to "go for broke" and held a ground breaking ceremony on October 14, 1967, sold the old house a few days later (after months of negotiation), and entered a construction contract in January 1968.

The student membership has good spirit and leadership and has initiated an intensive rush program that will enable it to increase membership appreciably for fall occupancy of the new house.

Zeta's house could not have been built without the financial support of its enthusiastic alumni body, although much of the financial requirements must still be met. The house also would not have been built


Gary Pratt, Zeta Regent, breaks ground for the Chapter's planned new house. Looking on are Ralph Nusser, Past Grand Regent, and House Corporation Board members Paul Dwyer, Glenn Anschutz, Robert A. Russell, William E. Franklin, and Robert E. Pope. Board members not present are Robert S. Patterson and David E. Shaad.





Signing the contract in January—a historic moment for the Zeta House Corporation Board. Pictured are Robert E. Pope, second vice president; Price Hayes, architect; Paul Dwyer; Glenn Anschutz, president; William E. Franklin, treasurer; David E. Shaad; and Robert S. Patterson, secretary.

without the hard work of a few men who kept going after failure looked inevitable. Many deserve credit and a few who have worked hardest since January 1966 should be mentioned by name—Glenn Anschutz, president of the Corporation; R. A. (Bob) Russell, first vice president; Bill Franklin, treasurer; T. Paul Dwyer; R. G. Paulette (past president); Dave Shaad; Stanley Learned; Fred Smithmeyer, chapter adviser—it is impossible to draw a line.

With anxious and critical moments yet to be faced, the Chapter alumni and student members look ahead to a historic time when the house will be occupied. This will call for a grand dedication ceremony, to be held in the spring of 1969. 

Works of Theta Tau Authors on Display

Since 1966 Executive Secretary Robert E. Pope has been accumulating, with the help of many members, a Theta Tau library in the Central Office in St. Louis. These volumes, pictured here, now number more than 60, all authored, edited, or contributed to by Theta Tau members.

Many of these books have been donated to the library; the others were purchased by Theta Tau. Brother Pope sends as many as possible to the authors to be autographed.

The majority of the books are engineering texts representing several fields. However, the many other subjects demonstrate the varied interests of Theta Taus. Science, philosophy, religion, biography, business, and hobbies all find their places.

All members are invited and encouraged to help the Theta Tau library grow. Full particulars about any book written or edited by a member should be sent to the Central Office, 13 Sona Lane, St. Louis, Missouri 63141. Of course donations of books are most welcome.



Challenge in Changing Technology

Various soul searching articles and books have recently been written on the subject of the modern role and future direction of fraternities. They have covered the entire time span of fraternities—from their beginning in the eighteenth and early nineteenth centuries, when they were established to fill a deficiency in college life to the present radically changed college situation and the speculative and challenging future.

Theta Tau was not established in the beginnings of the fraternity movement. In the earliest movement fraternities were founded to compensate for the social and environmental neglect which students felt. The original fraternities tended to create the image of a caste system and a reputation for establishing a trend away from the real enterprise of the academic system—the search for intellect.

The fraternity system has had to recognize its changing role in the present educational system and the need for all college organizations to contribute positively to the real purpose of college which, of course, is learning. The highly competitive educational system which exists today requires that the students as well as their organizations take both learning and living seriously.

Theta Tau was the first professional engineering fraternity to be established and led the way in filling a need which other fraternities recognize they also must do today. Thus we are not faced with the radical departure from our original concepts which many fraternities need to take into account in their plans for the future. This does not mean that Theta Tau can adopt the complacent stand that nothing needs to be different in the future. Certainly with the changing



concepts in engineering education, and the rapid pace of technological change today, we recognize that we must modify some of our practices. When our Fraternity was founded, the bachelor's degree level of attainment was essentially the ultimate. Now an increasing proportion of engineering graduates continue their formal education process through the master's and doctorate levels.

The increasingly accelerated technological advances and complexities of society point to the need for the engineer to devote approximately 25 per cent of his time to continuing education. Thus the role of our Fraternity can become more truly a continuing life-time experience rather than just the relatively short period of student "actives" which we have thought of in the past.

There must be a redefinition of the Fraternity and its goals in the context of the university life of today—a life which has changed more in the last decade than it did in the previous one hundred years.

Theta Tau's professional development program suits the recognized need for college faculties and fraternities to have better lines of communication than has been true in the past. This program could be improved in many instances to be of mutual benefit both to our chapters and the engineering colleges.

Many of our chapters recognize the need to have a very close working relationship with our engineering colleges through the office of the dean. In other instances we are not realizing the maximum possible benefit to be gained from following up with these programs more actively—programs which can do much in creating the image we desire both on the campus and outside.

A popular pastime today is to speculate about society in general and the role of the engineering profession in particular in the year 2000. Whatever it may be we can rest assured it is not something which abruptly changes at that time but will be greatly influenced by what we are doing or failing to do today. The popular terminology today in finding solutions to our problems is the "systems" approach. We need to apply this concept to studying our Fraternity as the engineering profession does in meeting both technological and social problems that are our present and future challenges.

As our Founders led the way in the beginnings of the present century, we must continue our position of leadership in the profession of engineering and on our college campuses. The future and role of the engineering profession as well as tomorrow's engineering college depends to a great degree on how well we exercise our role of leadership within the academic community.

In my contacts with our chapter members I am convinced we recognize the challenges and are rising to the occasion.

C. RAMOND HANES

Convention Site is Tuscaloosa



The tower of Denny Chimes has been a landmark on the University of Alabama campus since 1929. In 1966 a carillon was dedicated.

The Executive Council has designated Tuscaloosa, Alabama as the site for the Twenty-Seventh Biennial Convention of Theta Tau, with Mu and Kappa Beta Chapters as co-hosts. The dates will be Friday, December 27 through Monday, December 30, 1968.

The Convention will be held at the Stafford Motor Hotel in Tuscaloosa. Past Grand Regent William K. Rey has been instrumental in making preliminary arrangements.

As usual, Chapter delegates and alternates, the Executive Council, Regional Directors, and other officers of Theta Tau will gather to transact the business of the Fraternity, to exchange ideas, and to enjoy good fellowship. Founders and Past Grand Regents will be honored guests.

In addition to Convention sessions, a typical Convention program includes a Ritual Workshop, Chapter Officer Workshop, an initiation, tours of local points of interest, a banquet, and committee meetings at all hours of the day and night.

Chapters should make plans for electing delegates and alternates to the Convention. All members, both student and alumni, are of course welcome to attend.

Engineering and Business

by Allan H. Kopp, Tau '67

There is no doubt about it. "The times they are a changing," and so too is the role of engineering.

Where yesterday's engineering problems were framed by land and sea, problems of tomorrow will extend from ocean floors to outer space. Where the role of ancient engineers was once to build pyramids for the dead, tomorrow's engineers will play some part in every form of living. Law, medicine, government, transportation, and even creating life itself; you name it and engineering will be involved. In short, the role of engineering is expanding, and one of the best examples of this expansion is the relatively recent emergence of engineers as business administrators.

Because of today's ever-accelerating rate of technological change, the business administrator must understand the rapidly-changing technologies underlying production processes as well as the rapidly changing markets in which he buys materials and skills, sells products and services, and distributes goods and good will in such a way as to make consistent profits. Not only must

he be a practical engineer-scientist and economist—he must also be a leader and communicator who knows how to put together and motivate groups of people serving the goals of the organization.

Since traits of leadership are more prevalent than technical capabilities, and engineers by nature develop a systematic approach to problem solving that is also an important business asset, the trend has been to promote qualified engineers into management positions following the acquisition of a business sense through experience. Hence, after 12 to 25 years within a company, engineers are commonly promoted into administrative positions.

Today this approach is no longer satisfactory. The business world needs qualified leaders now, and is willing to pay for them. This demand has been answered by master of science in business administration programs such as those offered by several universities throughout the country—MIT, Harvard, Carnegie Tech, Purdue, Stanford, and others. Graduates of these one to two year programs are highly sought by numer-



seeking formal training in industrial administration as well as engineering. He is presently enrolled in a one year program (two semesters and a summer session) leading to the degree master of science in

It is a well known fact that about one-third of all engineering graduates enter graduate school before taking employment as professionals. Brother Kopp is one of an increasing number of graduate engineers who are

industrial administration. This program, designed specifically for persons with engineering and science backgrounds, is offered by the Krannert School of Industrial Administration at Purdue University. In its relatively few years at Purdue, this program has become competitive with the highly regarded two-year M.B.A. type programs offered at such schools as Harvard, MIT, Carnegie Tech, and Stanford. Brother Kopp was initiated by Tau Chapter and received his B.S. in chemical engineering in 1967. He is currently an active participant in Theta Tau affairs and lives at the Phi Chapter house while he is attending school at Purdue. He served his Chapter in several capacities and attended the last Biennial Convention as Chapter delegate. This is Brother Kopp's second GEAR article.



Theta Tau is the best represented fraternity in the master of industrial administration program at Purdue University-1968 class. Shown with Associate Dean John S. Day are Terry L. Campbell, *Colorado Mines '64*; Allan H. Kopp, *Syracuse '67*; John E. Munsey, *Missouri at Rolla '67*; and Roy D. Baker, *South Dakota Tech '67*.

ous firms, with starting offers of ten to twelve thousand per year and unlimited opportunities.

The principal objective of these master of science or M.B.A. programs is to help students with undergraduate training in non-business areas such as engineering, mathematics, or sciences prepare for positions of major responsibility in American industry.

The curriculum provides an opportunity for the student to gain an introductory understanding and develop some useful managerial skills in each of the major functional areas of industrial administration. However, one of the major purposes of each course is to help the student form the habit of examining problems from an overall ad-

ministrative point of view, with ample time to develop this breadth of coverage.

While each school's program is somewhat different, each is designed to help the student develop a broad understanding of the administrative process. An administrator cannot be made in the short span of a few months or a year. Education for industrial administration must be a life-long process. However, a graduate professional management curriculum can give the engineering graduate an effective start in his development as a manager. It can help him become a more useful member of his organization *early*, and it can aid him in learning and growing more rapidly in positions of increasing responsibility throughout his business and engineering career.

Delta Hosts Regional Conference

by David M. Gray, Delta '69

The biennial Conference of the Central Region of Theta Tau was held at Case Institute of Technology in Cleveland, November 24-25, 1967. Delta Chapter was the host to the five chapters and colony (all represented) of Central Region.

After examinations, registration, assembling of displays, and tours of the campus, the buffet luncheon was held in Tomlinson

Hall. Dr. Raymond Bolz (Delta), Dean of Engineering at Case, gave the welcoming introductory speech acquainting the visiting members with Case Institute's position in the newly formed Case Western Reserve University. The remainder of Friday afternoon was devoted to Delta Beta Chapter's presentation on rushing procedures and the pledge training presentation by Phi Chap-

ter. After a short coffee break, Grand Marshal Lynch conducted the chapter officers' workshop.

The brothers who rose early Saturday morning participated in the honorary initiation of Delta Chapter's adviser, Dr. Thomas P. Kicher. Various comments on the Ritual and its presentation along with suggestions for changes were offered following the ceremony. Sigma Chapter then gave their program on operation and maintenance of a chapter house. After lunch the presentations on personal and chapter activities by Iota Beta Chapter, campus and community activities by Delta Chapter, and alumni relations by Epsilon Beta Chapter were given. The programs stressed the strong points of each of the particular chapters. The GMI Colony gave an especially interesting and well accepted presentation acquainting the brothers with General Motors Institute and with the Colony's activities. Recommendations to the Biennial Convention and the conference summary followed the presentations.

The Conference Banquet was highlighted by Grand Vice Regent Wales' very interesting "lecture." The plaque for the best presentation was given to Delta Chapter while the chapter with the most man-miles turned out to be Iota Beta Chapter. Many parting handshakes marked the end of the successful and most enthusiastic conference in Cleveland.



Members of Delta Chapter won the Best Presentation Award at the Central Regional Conference they hosted in November. Shown left to right are Jim Misch, Regent, George Samijlenko, Tom Esselman, and Wayne Niskala.

In November 1967 the five Regions of Theta Tau held Regional Conferences. These Conferences are held in the years between Biennial Conventions so that members may exchange ideas, discuss mutual problems, and get to know one another informally.

The Conferences this year were hosted by Delta, Omicron, Tau, Theta Beta, and Iota Chapters. The only full report on a Regional Conference came from Delta Chapter. The other Conferences had rather similar programs.—WEF

Contributors to Theta Tau Progress

UNRESTRICTED GIFTS

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Franklin H. Allison, Jr., Nu '23
Lewis D. Anderson, Gamma '39
J. Richard Anklam, Chi '55
J. H. Ashley, Epsilon '22
Gordon W. Bailey, Lambda '48
Thomas L. Bailey, Epsilon '17
Clifford A. Barkell, Psi '42
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Charles M. Berry, Eta Beta '63

James J. Bickerstaff, Chi '49
James Orville Biddle, Mu '57
Paul F. Boswell, Epsilon '53
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T. Cecil Brown, Rho '31
E. B. Buster, Epsilon '40
Robert A. Calhoun, Alpha '23
Leopold J. Cantafio, Mu '52
John R. Carlson, Phi '63
James R. Carroll, Iota Beta '63
James B. Chamberlain, Epsilon '24
James Christensen, Epsilon '67
Lowell H. Christensen, Beta '56
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 Simon Ramo, Lambda '33
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 Lindley M. Reith, Gamma '18
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 Thomas A. Rinn, Epsilon '70
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 R. B. Williams, Chi '59
 Edward H. Wisser, Epsilon '17
 Mickey M. Yamashiro, Lambda '65
 Rodger E. Ziemer, Alpha '61

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Gerald S. Brown, Mu '66
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 Edgar A. Scholz, Psi '41
 John E. Thorn, Jr., Beta '61
 Elvin L. Vinal, Founder
 As a memorial to Isaac B. Hanks, Founder
 Robert F. Weyher, Lambda '48
 Leonard C. Wolff, Iota '42



Alumni News

Harned Manages at Lear Jet Industries

MALCOLM S. HARNED, *Kansas '43*, has been elected executive vice president and general manager of the Aircraft Division of Lear Jet Industries, Inc., Wichita, Kansas. He has had a distinguished career in the aircraft industry, most recently with Hughes Tool Company, Aircraft Division as senior vice president.

After graduation from the University of Kansas, Brother Harned earned his M.S. at California Institute of Technology. He was employed by North American Aviation, then Marquardt Aircraft Company, where he advanced to the position of assistant chief engineer. He did pioneering work in the supersonic ramjet field there, including the successful development of the engine for the Bomarc missile.

Brother Harned then became project manager in the Aircraft Nuclear Propulsion Department of General Electric Company. There he directed the XMA-1 nuclear turbo-jet program.

In 1959 he became associated with the Hughes Tool Company, advancing to senior vice president. In that position he was responsible for directing the engineering, military, and commercial sales activities and international operations of the division. While at Hughes he was responsible for two major technological advances in the rotorcraft field—the Hughes OH-6A turbine-powered



light observation helicopter (LOH) and the "hot cycle" propulsion system.

Brother Harned is an Associate Fellow of the Institute of the Aerospace Sciences and a member of the American Helicopter Society, the Army Aviation Association of America, the Association of the United States Army, Tau Beta Pi, Sigma Tau, and Pi Tau Sigma.

"A glimpse into the last quarter of this century indicates very clearly that our greatest challenge, and our greatest need, is to learn to live with the technological revolution we have effected. Historians looking back at us in future centuries may very well say that the 20th Century was the one in which man struggled with a tremendous in-

balance—the mismatch between his rapidly accelerating scientific and technological advances on the one hand, and lagging social advances on the other. This gap, already noticeable, and widening at an alarming rate, should reach its broadest point towards the end of this century."—SIMON RAMO, *Utah '33*, in *Astronautics & Aeronautics*.

Feldsien is Newest Regional Director

LAWRENCE F. FELTSIEN, *Minnesota '62*, is the newest Regional Director of Theta Tau. He serves the Central Region, which includes Delta, Sigma, Phi, Delta Beta, Epsilon Beta, and Iota Beta Chapters.



Regional Director Lawrence F. Feldsien is shown welcoming delegates to the Central Regional Conference in November 1967.

Brother Feldsien is a member of the staff of Battelle Memorial Institute in Columbus, Ohio. His field there is primarily soil mechanics and associated equipment. He has worked on machine design projects, including several involving computer-aided analysis of processes and designs.

He received his B.S. and M.S. degrees from the University of Minnesota, and was Regent of Alpha Chapter. He is a member of Chi Epsilon and ASCE and is a registered professional engineer in Ohio.

Before joining Battelle, Brother Feldsien served at the Land Locomotion Laboratory, U.S. Army Tank Automotive Center in Warren, Michigan. He then spent nine months on active duty with the U.S. Army Corps of Engineers in South Vietnam. There his duties included the design of airfields and heliports and inspection of these facilities during construction and repair.

Brother Feldsien is married. His hobbies include skiing, handball, golf, and photography.

Russ Glass Reaches Milestone at Macomber

RUSSELL G. GLASS, *Ohio State '25*, has retired as president of Macomber Incorporated, a subsidiary of Sharon Steel Corporation, Canton, Ohio. He will continue as vice chairman of the board of Macomber, the fifth largest fabricator of building construction steel in the country.

Brother Glass served Theta Tau as Grand Regent from 1939 to 1946. He served in the Navy in World War II, retiring as a lieutenant commander.

His other business affiliations include serving as president of Rock Island Steel Company and Macomber Construction Company, both subsidiaries of Macomber Inc. He is a director of Macomber Inc.; First Federal Savings & Loan, Willoughby, Ohio; Euclid Crane & Hoist Co.; Structural Products Co., Euclid, Ohio; and the American Institute of Steel Construction.



His memberships include the American Institute of Steel Construction, the American Iron and Steel Institute, the Cleveland Engineering Society, the Canton Chamber of Commerce, the Ohio State Chamber of Commerce, Kiwanis Club, Boy Scouts of America, YMCA, and American Legion. He has been an officer in many of those organizations. He also is a member of Phi Sigma Kappa and Al Koran Shrine. His service to the fraternity world includes a

term as president of the PIC.

Brother Glass has been awarded the Bronze Star, the Silver Beaver Award of the Boy Scouts, the Outstanding Fraternity Alumni Award of OSU, and the Distinguished Citizenship Award of the Euclid Chamber of Commerce. He is an honorary life member of the PTA.

He lives in Gates Mills, Ohio, and he and his wife have a son, two daughters, and nine grandchildren.

General McPherson in Key Pentagon Role

MAJOR GENERAL JOHN B. MCPHERSON, Arizona '40, is vice director of the Joint Staff of the Organization of the Joint Chiefs of Staff, Washington, D.C.

He graduated from the University of Arizona in 1940 with a degree in civil engineering and had plans to work for the Washington State Highway Department. However, his plans were changed along with those of many others, and he entered the U.S. Army as a second lieutenant July 1, 1940. He was an honor graduate from the ROTC Unit at Arizona, and was commissioned in the Cavalry, Regular Army.

Brother McPherson graduated from pilot training and transferred to the Army Air Corps in July 1943. During World War II he served overseas, participating in the B-29 offensive against Japan.

After World War II, his assignments have included three years as director of personnel, Eighth Air Force, Strategic Air Command; two years as base commander at Roswell, New Mexico; two years as deputy commander of an Air Division in Morocco; two years as a B-47 wing commander, Strategic Air Command; and four years as a division commander where he commanded B-47, B-52, and Minuteman missile wings.

Brother McPherson spent one year as a student at the Air War College at Maxwell Air Force Base, and was a member of the faculty there for three years. The last year he was director of the faculty.

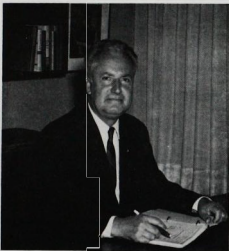


In June 1964 he was assigned to the Joint Staff as vice director for operations, and he entered his current assignment in May 1967.

Brother McPherson reports that he has used his engineering training many times during his military career, but he feels that the mental discipline of the study and practice of engineering is the greatest asset of his education.

Paul Borel is a CIA Executive

PAUL A. BOREL, *Kansas '34*, is an executive with the Central Intelligence Agency. His career is a reflection of the times, as he has served over 21 years in an agency which did not exist when he graduated from the University of Kansas with a degree in civil engineering.



While at K.U. Brother Borel was president of Alpha Kappa Lambda, president of the Engineering Student Council, editor of the *Kansas Engineer*, and a member of the Big Six championship track team. He was elected to membership in Tau Beta Pi and Omicron Delta Kappa.

Following graduation he was employed by Sun Oil Company, Black & Veatch, Con-

sulting Engineers, and Phillips Petroleum Company. During World War II, he served six years in the Navy. It was experience with Secretary Forrester at the Potsdam Conference and with Secretary Byrnes at the Paris Peace Conference which attracted him to a continuing career in the international aspects of U.S. national security.

In 1947 Brother Borel joined the C.I.A., and he has served in various executive capacities. For a number of years he helped create the now well established organization for producing national intelligence estimates. Later he pioneered the design of compatible computer-supported information processing systems throughout the government's intelligence community.

Brother Borel has an M.B.A. degree from Harvard Business School and an M.A. degree from Columbia's School of International Affairs. He also has a Doctor of Jurisprudence degree. He is a captain in Washington's Politico-Military Naval Reserve Unit, and has served as president of the K.U. Alumni Chapter in the Washington Metropolitan Area and as a member of the Advisory Board to the Dean of K.U.'s School of Engineering and Architecture.

He and his wife have four daughters, two sons, and four grandchildren.

With respect to C.I.A. career opportunities, Brother Borel has stated, "I know of no career which so happily combines the challenge of tackling worthwhile problems with the opportunity of working with outstanding associates in a pleasant environment."

General Bayer has European Command Post

MAJOR GENERAL KENNETH H. BAYER, *Alabama '40*, is commander of the 32d Army Air Defense Command in Europe, the largest tactical missile command in the Army.

Brother Bayer was commissioned a second lieutenant of artillery when he graduated from the University of Alabama. During World War II, he served in the Pacific as an operations officer with staff amphibious

groups and as assistant G1 of the Armed Forces Middle Pacific.

In 1947 he enrolled at the University of Pennsylvania, and he was awarded a master's degree in electrical engineering in 1949. He then served as assistant director of the Gunnery Department at the Anti-Aircraft and Guided Missile School at Fort Bliss, Texas.



From 1952 to 1956 he served in Europe on the staff of Headquarters, U.S. Army Europe and as a battalion commander of an anti-aircraft battalion in England.

In 1958 Brother Bayer was selected to attend the Armed Forces Staff College, and he then served in the office of the chief of research and development as chief of the Air Defense Division.

Brother Bayer was promoted to brigadier general in 1963 while serving as assistant division commander of the Seventh Division in Korea. He later commanded III Corps Artillery at Fort Chaffee, Arkansas.

He served two years in director assignments in research and development, and in 1967 assumed his present command.

His decorations include the Distinguished Service Medal, the Bronze Star, the Army Commendation Medal with two oak leaf clusters, and the Navy Commendation Medal.

Electronic Firm is Headed by Christianson

LLOYD F. CHRISTIANSON, *Kansas '35*, is president and chairman of the board of Electronic Associates, Inc., Long Branch, New Jersey. The company is the nation's biggest producer of analog computers; it has plants in New Jersey, California, and England, and computation centers and branches in many other countries.

Brother Christianson holds B.S. and professional degrees from the University of Kansas and has also attended Harvard University and Massachusetts Institute of Technology. He was employed by the State Water Laboratory of Kansas and the Bureau of Mines prior to World War II. He served in the Signal Corps and was discharged as a captain.

In 1945 Brother Christianson founded Electronic Associates, and the firm has grown from a few employees manufacturing radar sets to the present 2,300 employees.

He is a director of New Jersey National Bank & Trust Company, and on the board

of managers of the Howard Savings Institution, the state's largest banking facility.



Brother Christianson is vice chairman and trustee of Monmouth College and on the board of directors of the Monmouth County Council, Boy Scouts of America, and the Y.M.C.A. He is a member of Fort Monmouth Advisory Committee, Citizens Committee on Higher Education in New Jersey, New Jersey Council of Economic Development, the Armed Forces Communications Association, Rotary Club, Institute of Radio Engineers, President's Association of the American Management Association, and Newcomen Society. He was appointed

Economic Ambassador for New Jersey from 1957 through 1960.

He is the author of several technical publications, and is listed in *Leaders in American Science*, *Who's Who in American Education Leaders in Science*, *Who's Who in the East*, *The International Year Book & Statesmen's Who's Who*, and *Who's Who in America*.

Brother Christianson is married and the father of one daughter and three sons; one is CHARLES J. CHRISTIANSON, Kansas '61.

In Memoriam

HARRY H. AMBROSE, *Case* '41, died May 20, 1967. He lived in Knoxville, Tenn.

HAROLD L. BAILEY, *Missouri at Rolla* '21, died August 31, 1967 in Rolla, Mo. For many years he was an executive with the Bell Telephone Co. and Postal Telegraph Co. He served with the U.S. Army in World War II. Brother Bailey retired in 1950 as a civilian engineer for the Department of the Navy. He is survived by his wife, a daughter, and a brother. (*MSM Magazine*)

ROBERT A. BISHEL, *Ohio State* '60, died recently.

JOSEPH H. CHESAREK, *Purdue* '29, died December 28, 1963. He was chief of the Utilities Division, Headquarters 6th Army, San Francisco, Calif. Brother Chesarek is survived by his wife and two sons. (*Purdue Alumnus*)

EARLE R. COLE, *Carnegie Tech* '35, died October 28, 1967. He is survived by his wife.

JAMES I. CORBETT, *Michigan Tech* '22, died October 13, 1967 in Menominee, Mich.

BRUCE G. EATON, *Illinois* '30, died January 1, 1968. He is survived by his wife.

GEORGE F. GLASS, *Ohio State* '30, died November 9, 1967 in Culpeper, Va. In 1959 he retired as a colonel in the U.S. Army after more than 25 years of service in ordnance ammunition. During World War II he served in Africa, Europe, and India. In the Korean War he served in Korea and Japan. He was on the Joint Military Commission in Ankara, Turkey, and served as commanding officer at several ammunition depots. He also had duty in Washington, D.C. After his retirement, Brother Glass raised Black Angus cattle on his 400 acre farm near Culpeper. Brother Glass is survived by his wife and two brothers, including Past Grand Regent RUSSELL G. GLASS, *Ohio State* '24.

FREDERICK C. GREEN, *California (Berkeley)* '24, died September 20, 1967 in Berkeley, Calif. He

was former general manager of the Utah Copper Division of Kennecott Copper Corp. He also was a board member of the Salt Lake Area Chamber of Commerce and Utah Manufacturers Association. Brother Green is survived by his wife, two sons, and a daughter. (*California Monthly*)

GEORGE P. HANSEN, *Case* '13, died in January 1968. He is survived by his wife.

CARL O. HOFFMAN, *George Washington* '37, died January 14, 1968. He was a former agency service coordinator for the General Services Administration, and had served with a number of government agencies. He was a past master of Hiram Masonic Lodge. Brother Hoffman is survived by his wife, two sons, one daughter, three sisters, and one brother.

HOWARD L. HOKE, *Syracuse* '41, died November 23, 1965 in Philadelphia, Pa. He is survived by his wife.

MARSHALL B. HURD, *Iowa* '28, and his wife were killed in an automobile accident in Arizona, March 5, 1968. He was chief engineer for the Iowa Public Service Company of Sioux City, Iowa.

NORMAN S. IRELAND, JR., *North Carolina State* '48, died December 25, 1967 at Virginia Beach, Va. He had been an invalid for many years with multiple sclerosis. Previously he was employed by General Electric. Brother Ireland is survived by his wife and three children.

RICHARD A. ISERMAN, *Ohio State* '50, was killed in an auto accident on November 4, 1967. He was a vice president of Clifton Division of Litton Industries, and was in charge of reliability and quality assurance. Brother Iserman lived in Havertown, Pa., and at the time of his accident was taking the Scouts on a weekend camping trip. He is survived by his wife.

J. LELAND JOHNSON, *Kansas* '29, died March 3, 1968 in Topeka, Kansas. He was a distributor engineer for the Topeka Water Department. He had also been employed by Black & Veatch, Consulting Engineers. He was a member of the Kansas and Topeka chapters of the American Society of Engineers and the American Water Works Association. Brother Johnson is survived by his wife and a son.

ARCH C. KENNEDY, *Kansas* '32, died October 22, 1967 in Redlands, Calif. He was an insurance broker, and recently was elected president of the Redlands Insurance Agents Association. He also was a member of the Elks Lodge. Brother Kennedy is survived by his wife, two sons, a daughter, three brothers, and a sister.

HERBERT L. KEINATH, *Michigan Tech* '35, died February 4, 1968 in Ann Arbor, Michigan. He was city manager of Frankenmuth, Mich., and the city flew its flags at half-mast for a week in his memory. Brother Keinath began his employment with the Village of Frankenmuth in 1939 as superintendent of the new water works filtration plant. He became superintendent of public works in 1946, and in 1959, city manager. Numerous improvements were added during his service. Brother Keinath was a member of the American Waterworks Association, the International City Managers' Association, Rotary Club, the Chamber of Commerce, and other organizations. He is survived by his wife, two sons, his mother, one brother, and two sisters. (*Frankenmuth News*)

N. F. KOEPEL, *Michigan Tech* '18, died June 26, 1967.

JAMES P. LEDYARD, *Alabama* '56, was killed in an automobile accident on September 5, 1962.

VINCE M. LONG, *Arkansas* '68, died July 24, 1967 after a long illness. A plaque in his memory has been placed in the chapter room, and the names of honor pledges will be recorded on it.

NEAL MARKS, *Arkansas* '29, died August 20, 1967. He is survived by his wife.

ERNEST J. MASSARD, *Missouri at Rolla* '44, died April 21, 1966. He was an administrative engineer for Harris Intertype Corp., Cleveland, Ohio. Brother Massard is survived by his wife.

ANTHONY L. MUELLER, *Colorado Mines* '35, died August 28, 1967. He lived in Denver, Colo.

JOHN F. NATION, *Carnegie Tech* '22, died October 8, 1966. He is survived by his wife.

JAMES CHRIS POOLE, *Arkansas* '69, died February 2, 1968 as the result of an automobile accident. He was a member of Upsilon's Board of Governors, on the staff of the *Arkansas Engineer*, and a student member of AICHE. Brother Poole is survived by his parents and a sister.

ALBERT Z. RICHARDS, SR., *Utah* '05, died December 20, 1967 in Salt Lake City. He was the oldest member of Lambda Chapter. Brother Richards

founded the engineering firm of Caldwell, Richards and Sorensen, Inc. in 1910, and had been chairman of the engineering firm since it was incorporated in 1958. The firm did consulting for Salt Lake City and many other cities, and did irrigation and hydro-electric development work. In 1965 Brother Richards was selected as "Top Man of the Year" in the public works field by the Utah Chapter of the American Public Works Association and the Salt Lake Kiwanis Club. He was a member of the ASCE, the Utah Society of Professional Engineers, the Timpanogos Club, Sons of the American, Sons of Utah Pioneers, and the Church of Jesus Christ of Latter-day Saints. Brother Richards is survived by his wife, two sons, a daughter, 11 grandchildren, and five sisters. (*Salt Lake Tribune*)

ARMIN M. SCHULTES, *Illinois* '26, died January 19, 1966.

DAVID C. SHARPSTONE, *California (Berkeley)* '24, died in January 1968 in San Francisco, Calif. He was a consulting mining geologist.

E. H. SNYDER, *Michigan Tech* '11, died December 6, 1967 in Salt Lake City, Utah. He was a mining economist and engineer instrumental in developing the treatment of lead, zinc, and silver ores. Brother Snyder joined Combined Metals, Inc. in 1915, and was vice president and manager of the firm when it became Combined Metals Reduction Co., a subsidiary of National Lead Co. In 1943 he became president and general manager of the reorganized Combined Metals Reduction Co. In 1963 he became chairman of the board. Brother Snyder also was president and chairman of Uranium Reduction Co. and assistant to the president of Atlas Minerals Division of Atlas Corp. He had served as president of the Utah Mining Association, as vice president of Bristol Silver Mines, Inc., and as president of W. F. Snyder and Sons and Snyder Mines Inc. In 1946 Michigan Technological University awarded him an honorary doctor of engineering degree. Brother Snyder is survived by a son, three daughters, 14 grandchildren, two brothers, and two sisters. (*Salt Lake Tribune*)

JAMES M. STURKEY, *North Carolina State* '42, died September 21, 1967 as the result of an automobile accident. He lived in Seattle, Wash. and was a manufacturer's representative for the Southwest Engineering Co. of Los Angeles.

JOHN E. TAYLOR, *Ohio State* '25, died July 18, 1967.

KENNETH M. WRIGHT, *Missouri at Rolla* '20, died August 28, 1967 in Phelps County Memorial Hospital. In 1923 he joined the United States Gypsum Co. and remained with the company until his retirement in 1952. He was works manager at the Genoa, Ohio lime plant and at the gypsum plant at Alabaster, Mich. In 1952 he retired to Spring Creek, Duke, Mo., where he farmed and showed horses. Brother Wright was also a member of Tau Beta Pi and Kappa Sigma. He is survived by his wife, a son, and two grandsons.

Alumni Notes

MINNESOTA

A JOE B. PERRY, '12, is retired; he lives in Menlo Park, Calif.

WILLIAM RIPLEY DORR, '14, is retired. His home is in Santa Barbara, Calif.

THOMAS A. ASKEW, '16, is retired and is living in Richland, Wash.

ROBERT A. CALHOUN, '23, is retired. He lives in Escondido, Calif.

PHILIP F. HARTMAN, P.E., '25, is in private practice as a mechanical engineer in Tucson, Ariz.

DR. L. W. "TOD" NEUBAUER, '26, is professor of agricultural engineering at the University of California at Davis.

KARL H. SOMMERMEYER, '30, is a patent attorney for Friden Inc. He lives in San Francisco, Calif.

BLAINE F. HIMMELMAN, '52, has been appointed maintenance preparations engineer for the St. Paul District of the Minnesota Highway Department. Previously he was assistant research engineer and metropolitan district soils engineer. Brother Himmelman lives in Minneapolis.

JOHN D. TSCHIDA, '57, is a group head for Hughes Aircraft Co., Culver City, Calif. He lives in Palos Verdes Peninsula.

CHARLES A. HARRIS, '61, is a research engineer for the Boeing Co., Kent, Wash.

MILLARD M. GARRISON, '63, recently joined Honeywell's Ordnance Division in Hopkins, Minn. as a development engineer. He lives in Minneapolis.

CAPT. GERALD J. DITTBERNER, '64, was promoted to captain in the USAF in February. He is presently working towards his master's degree in meteorology and space science and engineering at the University of Wisconsin under the Air Force Institute of Technology program. Brother Dittberner announces the birth of a daughter, Colleen Marie, on October 13, 1967. The family lives in Sun Prairie, Wis.

JAMES MCCARVILLE, '64, is a research and development engineer for the Tape Division of 3M Company in St. Paul, Minn. He lives in Stillwater.

KENYON KRAMER, '65, is a medical student at the University of Minnesota. He lives in Minneapolis.

WILLIAM KIRKVOED, '66, is a procurement quality engineer for Honeywell, Hopkins, Minn. He lives in Bloomington.

FREDERICK J. MERRY, '66, received his MSME degree from the University of Pittsburgh while on the advanced mechanics program for Westinghouse

Electric Corp. He is now employed as a design engineer for Westinghouse in the Turbine-generator Section in East Pittsburgh. Brother Merry lives in Monroeville, Pa.

MICHIGAN TECH

B DR. ROY W. DRIER, '26, is republishing a series of books about Michigan's Upper Peninsula. The proceeds of the sales go to children's charities. Brother Drier was recently elected to receive the 33rd Masonic Degree at the annual meeting in Atlantic City in 1968. He lives in Calumet, Mich.

JAMES S. WESTWATER, '34, is vice president—mining for the Cleveland-Cliffs Iron Co., Cleveland. He lives in Lakewood, Ohio.

JAMES L. WILSON, '35, is supervisor of the Basic Operations Section, Plant Engineering, for Dow Chemical Co., Midland, Mich.

ROBERT J. DORR, '43, is a marketing specialist for General Electric in Houston, Texas.

BILLY J. ELLERTHORPE, '45, is a scheduling engineer with the U.S. Atomic Energy Commission in Richland, Wash. His home is in Kennewick, Wash.

DONALD J. LEONARD, '49, is a sales representative for U.S. Graphite, a division of Wickes Corp. He lives in Youngstown, Ohio.

CAPT. LOWELL H. CHRISTENSEN, '56, a member of the U.S. Air Force, lives in Pittsburgh, Pa.

JOHN E. THORN, '61, is a product development engineer for Ford Motor Co., Dearborn, Mich.

ROBERT L. LAPPI, '63, is a planning analyst for Agrico Chemical Co. He has moved to Memphis, Tenn.

DENNIS L. MEYER, '64, is a manufacturing engineer for All-Steel in Aurora, Ill.

KENNETH J. LUTZ, '65, is an instructor of automotive engineering at General Motors Institute, Flint, Mich.

DAVID M. KIMBALL, '67, is a graduate teaching assistant at Michigan Tech. He is working for his M.S.M.E.

COLORADO MINES

T CHARLES B. GAUTHIER, '16, is retired; he lives in San Francisco, Calif.

LINDLEY M. REITH, '18, is retired and is living in Escondido, Calif.

HARRY M. FISKE, '21, is retired from Ingersoll-Rand Co. He lives in San Marino, Calif.

SPRING 1968

HUGH M. CONNORS, '22, is retired. His home is in Denver, Colo.

ARNOLD S. BUNTE, '26, is semi-retired as a geological engineer. He lives in Roswell, N.M.

WALTER C. LOFGREN, '28, is retired and is living in Denver, Colo.

FRANK E. HAYWARD, '31, is vice president of Coldwell Banker & Company, San Francisco. He lives in Ross, Calif.

JOHN L. ROBISON, '31, is manager for Kerr-McGee Corp. in Grants, N.M.

LEWIS D. ANDERSON, '39, is a civil engineer for the National Park Service in San Francisco. He lives in San Rafael, Calif.

GARY W. HUDIBURGH, '41, is an attorney with the Army Map Service, Brookmont, Md. He lives in Potomac, Md.

W. H. BOUSMAN, '42, is a project manager for Stearns-Roger Corp., Denver, Colo.

THOMAS C. HEDLUND, '44, is assistant general manager of Idarado Mining Co., Telluride, Colo.

ALFRED T. IRESON, '47, is a staff engineer for Shell Oil Co., Denver, Colo.

CHARLES M. LOVE, '47, is industrial relations manager for the Dow Chemical Co. He lives in Denver, Colo.

EARL L. RAU, '47, is a senior project engineer for Colorado School of Mines Research, Golden. He lives in Arvada, Colo.

C. WILLIAM BROWN, '48, is assistant plant manager for Ideal Cement Co., Devil's Slide, Utah. He lives in Morgan, Utah.

NORMAN KORN, '48, is self employed. His company is Enkay Engineering & Equipment Co. He is located in Long Beach, Calif.

WILLIAM F. McNAMARA, '48, is assistant chief of contractor construction management for the Department of Interior in Albuquerque, N.M.

GORDON M. MINER, '48, is vice president of operations for Hecla Mining Co., Wallace, Idaho.

MILES T. RADER, JR., '48, is a geologist for Creole (Jersey Standard) in Caracas, Venezuela.

RICHARD C. MARTIN, '50, is district geophysicist for Union Oil Co. of California in Roswell, N. M.

DAVID R. COLE, '52, is operations manager for Strategic Minerals Exploration Co., Grand Junction, Colo.

STUART S. MERWIN, '52, is general manager of mining for Union Pacific Railroad, Los Angeles. He lives in Arcadia, Calif.

E. W. HEATH, '54, is regional operations geologist for Sun Oil Co. in Corpus Christi, Texas.

ROBERT J. HOHNE, '55, is supply planning manager for Pacific Lighting Service & Supply Co., Los Angeles. He lives in Whittier, Calif.

LARRY A. DENTON, '56, is division operations engineer for Mobil Oil Corp., Corpus Christi. His home is in Portland, Texas.

JOHN G. HILL, '56, is assistant chief metallurgist for United Technology Center, Sunnyvale, Calif. He lives in San Jose.

FRANKLIN D. COFFMAN, JR., '61, is an associate engineer for Lockheed Missiles & Space Co., Sunnyvale, Calif. His home is in Campbell.

STEVEN L. HARVEY, '62, is now a quality standards coordinator at the North Fabricating Plant, Tennessee Operations, for Aluminum Co. of America, Alcoa, Tenn. He recently married Gertrude M. Farris; they live in Maryville, Tenn.

FLOYDE C. WILLETT, '63, is night excavation superintendent for Western Contracting Corp., Tupman, Calif. He lives in Bakersfield.

LT. RALPH JOHNSON, JR., '66, is general supervisory engineer for the U.S. Army Corps of Engineers in Frankfurt, Germany.

CASE WESTERN RESERVE



DR. ROBERT J. ANDERSON, '14, is a consulting metallurgist in San Antonio, Texas.

MAURICE F. CRASS, JR., '26, has retired as secretary treasurer of Manufacturing Chemists Association, Washington, D.C. He joined the organization in 1938 and was appointed to his present position in 1953. Previously he was employed by Goodyear Tire and Rubber Co., taught at Case, and was chief chemist for Palmer Match Co. During World War II he served on the War Production Board and the Chemical and Transportation Advisory Committees, Army and Navy Munitions Board. He was later a member of the Hoover Commission. Brother Crass has written many articles and a book, *A History of the Match Industry*.

LAWRENCE B. RAYL, '28, is a mechanical engineer at the University of California at Santa Barbara.

FRANK ROODMAN, '31, is vice president and district manager for the Austin Company, Los Angeles. He lives in Pacific Palisades, Calif.

JOHN R. PARKER, '36, is division sales manager of Southern California Edison Co., Visalia, Calif.

ERIC T. NORD, '39, is president of the Nordson Corp., Amherst, Ohio. The corporation manufactures and sells equipment for airless spraying and extrusion of coating materials and adhesives.

THE GEAR OF THETA TAU

WILLIAM C. NUSBAUM, '44, is now executive vice president of Ridge Tool Co., Elyria, Ohio. Previously he had been vice president of corporate development for White-Rodgers Division, Emerson Electric Co., St. Louis. Ridge Tool Co. is a subsidiary of Emerson.

DR. LOUIS K. ACHESON, JR., '46, is a senior scientist for Hughes Aircraft Company's Space Systems Division, El Segundo, Calif. He lives in Encino.

A. H. TOUSLEY, '46, is a project engineer for Kaiser Engineers, Oakland, Calif.

DR. RICHARD W. HOFFMAN, '47, was awarded the Charles J. Strosacker Teaching Award at the first Student Convocation October 18. The award is granted in recognition of faculty members who have had a beneficial influence on a large segment of the student body and have demonstrated an understanding of new developments in teaching and subject matter. Brother Hoffman's current area of research is in mechanical, magnetic, and electrical properties of thin films.

EDWARD S. MONARCHI, '56, is principal analyst for Creole Petroleum in Tia Juana, Venezuela.

ROBERT C. GARVER, '59, is now a product and process metallurgist with Republic Steel Corp., Central Alloy District, Canton, Ohio. Previously he was manager of quality planning for the Hoover Co., North Canton, Ohio. Brother Garver and his wife Nancy have a son, Jonathan, and a daughter, Diahann. They live in Massillon, Ohio.

DR. THOMAS P. KICHER, Hon. '59, is assistant professor of engineering at Case Western Reserve. He lives in South Euclid, Ohio.

JAMES P. RYBAK, '63, is a graduate student at Colorado State University, Fort Collins.

CALIFORNIA (BERKELEY)

ERNST E. BEHR, '10, is retired, but as a hobby he teaches freshman geology at the local junior college. He lives in Yuba City, Calif.

GEORGE M. COLLINS, '11, is trustee of the Jas. Campbell Estate in Honolulu. He lives in Kailua, Hawaii.

DONALD H. McLAUGHLIN, '14, was honored by the University of California at Santa Cruz by the naming of a drive and a bridge on the campus for him. This was in recognition of his service while a regent in the founding and development of the campus.

DR. THOMAS L. BAILEY, '17, is a consulting geologist in Ventura, Calif.

ROBERT P. MILLER, '20, is retired; he lives in San Francisco, Calif.

HUBERT L. PASCOE, '20, is president of Radovan Gulch Copper Co. of Alaska. He lives in Nichols, Fla.

E. N. PENNEBAKER, '24, is a consulting geologist in Scottsdale, Ariz.

JOSEPH J. STRUTZEL, JR., '32, is a consulting engineer in Phoenix, Ariz.

CECIL L. BARTON, '28, is deputy supervisor in the Division of Oil and Gas for the State of California, Santa Maria, Calif.

JAMES P. BRADLEY, '28, is president of Bradley Mining Co., San Francisco, Calif.

PAUL S. PUSTMUELLER, '34, is president of the Fremont Petroleum Co., Denver, Colo.

ROSS M. PHILLIPS, '36, is a consultant in petroleum geology and engineering in Corona del Mar, Calif.

WILLIAM NELSON, JR., '37, is staff exploration engineer for Shell Oil Co., Denver. He lives in Littleton, Colo.

DR. IVAN F. WILSON, '38, is chief geologist for Cia. Fresnillo, S.A. in Naica, Chih., Mexico.

EDWARD M. BENSON, JR., '42, is vice president and conventional oil manager of Atlantic Richfield Co. After World War II, when he advanced to major in the U.S. Army, he joined Richfield Oil Corp. He advanced to become production vice president in 1956 and three years later, he was named manager of joint and foreign operations at Los Angeles, and later, manager of the land and lease division. When Atlantic and Richfield merged in 1966, Brother Benson became general manager of operations for western operations. He was elected a vice president in 1966.

THOMAS B. DETTMER, '44, is a mineral and metallurgical consulting engineer in Lafayette, Calif.

T. C. LANDRETH, JR., '47, is area superintendent for Pan American Petroleum Corp. in Drayton Valley, Alberta, Canada.

JOHN D. KNIVETON, '48, is president of Norman S. Wright-Pacific, San Francisco. He lives in Novato, Calif.

THOMAS E. W. SAWYER, JR., '48, is president of Sawyer Petroleum Co., Los Angeles. He lives in Glendale, Calif.

DR. DON TOCHER, '48, is director of the U.S. Earthquake Mechanism Laboratory of ESSA Research Laboratories in San Francisco. His home is in Berkeley, Calif.

PAUL F. BOSWELL, '53, is manager of the development division of Cerro de Pasco Corp., Lima, Peru.

ROLAND C. WEDEMEYER, '54, is administrator of real properties for Signal Oil & Gas Co., Los Angeles. He lives in Rossmoor, Calif.

HAROLD V. HOFFMAN, '57, is a physicist with the Stanford Research Institute, Menlo Park, Calif. He lives in Los Altos Hills.

CARL GREGORY, '66, is an associate engineer for the Boeing Co. He lives in Santa Cruz, Calif.

JIM CHRISTENSEN, '68, is an engineer at the Naval Missile Center, Point Mugu, Calif. He lives in Camarillo.

THOMAS A. RINN, '70, is on active duty with the U.S. Navy. He plans to return to school at the completion of his two years service.

KANSAS

Z CHARLES M. COATS, '13, is retired; he lives in Fort Smith, Ark.

HARRY DARBY, '17, and Mrs. Darby celebrated their fiftieth wedding anniversary in December. Among the honors the industrialist and former U.S. Senator and his wife received was a proclamation issued by the mayor of Kansas City, Kans. naming them "the sweethearts of Kansas City, Kans."

KENNETH H. GEDNEY, '18, is a consultant in the construction industry in Arcadia, Calif.

WALDO G. BOWMAN, '23, has joined Black & Veatch, Consulting Engineers. He will establish an office in New York City to manage the firm's activities in the Mid-Atlantic states. Black & Veatch is headquartered in Kansas City, Mo. Brother Bowman has retired as chief editor and publisher of *Engineering News-Record*. He will continue to be a consultant to the magazine, and *Construction Methods & Equipment*, another McGraw-Hill publication.

GEORGE H. CASH, '28, retired March 1, 1968. He lives in Reedy, W. Va.

THE REV. DONALD C. LITTLE, '29, is vicar of the Church of the Messiah (Episcopal) in Macon, Ga. He retired as a colonel in the U.S. Army in 1961.

CHARLES E. MANNING, '33, is director of research and development for the Packard Electric Division of G.M. Corp. in Warren, Ohio. He lives in Cortland.

GLENN E. HANDS, '34, is chief sanitary engineer for the Public Health Engineering Dept., Province of West Pakistan. He is employed by Parsons Corporation, Los Angeles, Calif. Brother Hands lives in Lahore, West Pakistan.

GUY S. GUTHRIE, '38, is project engineer for the Ventura County Public Works, Ventura, Calif.

DEAN W. LEMON, '41, is a civil engineer at the U.S. Navy Facilities Engineer Command, Seattle, Wash.

JAMES C. ROBBINS, '42, is a member of the technical staff of TRW Systems Inc., San Bernardino, Calif.

J. B. LADD, '49, is self employed. His company is Petroleum Properties, Inc. Brother Ladd lives in Littleton, Colo.

WILLIAM STINSON, '52, is manager of domestic distribution in the Marketing Department of the Aircraft Division of Bethany Products. He lives in Wichita, Kans.

KENNETH N. WHITE, '54, is an associate of Bucher & Willis, Consulting Engineers, in Salina, Kans. He is working on sewage plant design.

PAUL PANKRATZ, '55, is manager of three plants for Dow Chemical Co. in Midland, Mich. The plants produce saran resins and coatings and polyvinyl chloride resins and compounds.

EDWIN B. PEYTON, '55, is area engineer for Texaco Inc. in Port Arthur, Texas.

RICHARD A. SCHROFF, '58, is superintendent of project development in the Natural Gas Liquids Division of Cities Service Oil Co., Tulsa, Okla. This fall he plans to enter graduate school in business in Tulsa.

RODNEY L. CLEMETSON, '66, is a linguist—specialist four for the U.S. Army.

MIT

H AMUND ENGER, '27, is retired; he lives in St. Nyon, Switzerland.

JAMES D. FLAGG, '27, is a construction engineer for TVA in Lenoir City, Tenn. His home is in Knoxville, Tenn.

COLUMBIA

C RICHARD MCKAY, '21, is retired; he lives in Bellevue, Wash.

W. B. COUGHLIN, '38, is senior systems engineer for General Railway Signal Co., Rochester, N.Y.

DONALD D. SNAVELY, '43, is regional supervisor for H. H. Robertson Co., Atlanta, Ga.

DR. GEORGE W. MICHALEC, '43, associate professor of mechanical engineering at Stevens Institute of Technology, attended the International Symposium of the Japan Society of Mechanical Engineers in Tokyo, September 4-8, 1967. He delivered a paper, "Statistical Backlash Error Prediction for Gear Trains." Brother Michalec also was an American delegate to an international meeting sponsored by the Japanese to establish an international society of mechanical engineers.

HERBERT J. JOHNSON, '50, is president of Johnson, Brackell, Mulcahy and Assoc., Inc., Transportation Consultants, in Kansas City, Mo.

HENRY F. KIENZLE, '50, is plant engineer for the Nuclear Energy Division of General Electric in Pleasanton, Calif. He lives in Livermore.

JOHN P. RAGUSA, '53, is national account manager for IBM in New York City. He lives in Commack, N.Y.

STEPHEN K. STROBACH, '66, is working in the Peace Corps in Bucaramanga, Colombia.

MISSOURI AT ROLLA

I H. E. ZOLLER, '23, is retired; he lives in San Antonio, Texas.

ARTHUR J. WILLIAMS, '32, is secretary-treasurer of Waco Memorial Park, Waco, Texas.

JAMES J. MURPHY, '35, is national chairman of the Centennial Challenge Program campaign for private gifts to UMR. Brother Murphy is president of the Murphy Company, St. Louis, Mo.

J. CRAIG ELLIS, '38, was awarded a citation of merit by the MSM Alumni Association during the 1967 homecoming. The award is given for outstanding service to the school and its alumni. Brother Ellis is coordinator for international sales of the Maxon Premix Burner Co. of Muncie, Ind.

ALBERT A. PHILLIPS, '38, is staff engineer for Oklahoma Natural Gas Co., Tulsa, Okla. He lives in Sand Springs, Okla.

PAUL J. BOURCHIER, '41, is vice president in charge of production for Avoset Co., Oakland and Gustine, Calif.

CDR. LEONARD C. WOLFF, '42, is design superintendent for the U.S. Navy at the Puget Sound Naval Shipyard. He lives in Bremerton, Wash.

DONALD S. SMITH, '43, is department manager for air conditioning and plumbing with Brown & Root, Inc., Houston, Texas.

ROBERT L. RAY, '47, is a consulting metallurgist in Oakland, Calif.

JAMES B. CHANEY, '48, is production supervisor for the Baroid Division of National Lead Co. in Houston, Texas.

S. F. JOHNSEN, '48, is maintenance superintendent for Kennecott Copper Corp. in Hayden, Ariz. He lives in Kearny, Ariz.

DONALD G. SCHMIDT, '48, is director of research for H. Kramer and Co., Chicago. He lives in Hinsdale, Ill.

JACK D. FOSTER, '49, is senior geologist for Sinclair Oil & Gas Co. in Midland, Texas.

W. W. COLLINS, '50, is assistant vice president of First National City Bank, New York City. His home is in Metuchen, N.J.

COL. CONNELLY SANDERS, JR., '53, was promoted to lieutenant colonel in the Army at Fort Leavenworth, Kans. in December. He also received the Bronze Star Medal for meritorious service in support of ground operations against hostile forces in Vietnam. Brother Sanders is a student at the Command and General Staff College.

WILLIAM E. ZORUMSKI, '61, is doing research in acoustics for NASA at the Langley Research Center, Hampton, Va. He lives in Newport News, Va.



Col. Connelly Sanders, Jr. is shown with his family as he is promoted to lieutenant colonel.

THOMAS K. GAYLORD, '65, is a graduate student in electrical engineering at Rice University, Houston, Texas.

ILLINOIS

K FRANK W. VOGT, '20, is retired from J. T. Ryerson. He lives in Lake San Marcos, Calif.

CHARLES LUCKMAN, '30, president of Charles Luckman Associates, has been awarded the George Washington Honor Medal by the Freedoms Foundation at Valley Forge. He also keynoted the Second Annual Mayor's Conference on Community Beautification sponsored by the City of Los Angeles. Brother Luckman has also received the California Landscape Contractors Association's Appreciation Award.

HAL H. STOELZLE, '31, is plant manager for Phillips Petroleum Co. in Borger, Texas.

UTAH

A HENRY A. BADDLEY, '21, is retired; he lives in Sandy, Utah.

GEORGE W. MITCHELL, '22, is retired. He lives in Ajijio, Jalisco, Mexico.

JOHN H. SAMPSON, JR., '24, is retired and is living in Ogden, Utah.

GEORGE M. JONES, '27, is deputy engineer of materials and tests for the Utah State Department of Highways, Salt Lake City.

MELVIN E. LUNDBERG, '30, is vice president, director, and division manager of Nevada Power Company, Elko, Nev.

DR. SIMON RAMO, '33, is vice chairman of the board of TRW Inc., Redondo Beach, Calif. He lives in Beverly Hills.

HOWARD M. HURST, '34, is assistant director of the Division of Environmental Health of the Utah State Division of Health, Salt Lake City.

HAROLD F. GREENE, '35, is a life underwriter with Standard Insurance Co., Burbank, Calif.

MAURICE H. MCKENDRICK, '36, is a sanitary engineer for Waterworks Equipment Co., Salt Lake City, Utah.

ROBERT W. SHILLING, '39, is mines plant superintendent for Kennecott Copper Corp., Hurley, N.M.

ROBERT D. HAYES, '41, is staff engineer for U.S. Steel Corp. in Provo, Utah.

E. PATRICK DEASON, '44, is manager of data control and information retrieval for Electro-Optical Systems, Inc., Pasadena, Calif. His home is in Covina, Calif.

BOYD H. FARR, '44, is a field engineer for RCA Sales Corp. He lives in Lafayette, Calif., and his territory covers part of California, Utah, Colorado, and Hawaii.

VERVIN R. GILSON, '46, is a civil engineer for Cannon-Papanikolas Construction Co., Salt Lake City, Utah.

ROBERT FREDERICK WEYHER, '48, is president of Weyher Construction Co., Salt Lake City, Utah.

CLARKE B. LIUM, '56, is a systems analyst for Hercules Incorporated, Salt Lake City, Utah.

RALPH B. HODGES, '57, is division engineer for Utah Power & Light Co., Salt Lake City, Utah.

MELVIN E. FRANZ, '62, is assistant civil engineer in the Engineering Road Dept., San Diego County. He lives in Del Mar, Calif.

JESS AGRAZ, '65, is a traffic engineer with the Utah State Highway Dept., Salt Lake City.

J. E. JACKSON, '65, is chief process engineer for Stauffer Chemical Co., Henderson, Nev. He lives in Las Vegas.

MICHAEL J. KIRKMAN, '65, is an engineer for Atlantic Richfield Hanford Co., Richland, Wash.

MICKEY M. YAMASHIRO, '65, is a civil engineer for the U.S. Forest Service in the Sawtooth National Forest. He is located in Twin Falls, Idaho.

JACK G. FISHER, '66, is an electronic engineer for General Dynamics Convair in San Diego, Calif.

DAVID J. BURTON, '67, and JEFFREY LEE, '67, have completed a comprehensive 12-week USPHS training program. They have received their commissions and are stationed in Cincinnati, Ohio.

ALABAMA

MVINCENT J. BELLIS, '33, is chief of the Engineering Division of the Veteran's Administration Hospital in Erie, Pa.

THOMAS B. SHILLITO, '42, is SST coordinator for NASA. He lives in Potomac, Md.



Brother Taylor lives in Vestavia Hills, Ala. with his wife and two children.

ROBERT L. TAYLOR, '48, has been appointed supervisor of land for United States Steel's Southern District. He had been a land engineer. Brother Taylor was employed by the Alabama State Highway Department and Humble Oil & Refining Co. before joining U.S. Steel. He is a member of the Society of Professional Land Surveyors and Masons.

AUGUSTUS M. ALLEN, '49, is an aerospace engineer (technical management) for NASA at the Kennedy Space Center. His home is in Titusville, Fla.

WILLIAM T. HILL, '49, is president and general manager of Southern Planning and Consulting Engineers (SPACE Inc.). He is located in Huntsville, Ala.

THOMAS E. BRASSELL, '50, is director of the Inspection Bureau of the American Institute of Timber Construction. He lives in Los Altos, Calif.

CHARLES D. ADAMS, '51, is an advanced systems engineer with General Electric. He lives in Berwyn, Pa.

TOM D. HOLDER, '51, is a design engineer with General Electric. His home is in Rome, Ga.

LEOPOLD J. CANTAFIO, '52, is a member of the technical staff of Aerospace Corp., San Bernardino, Calif. He was the author of a paper, "Prediction of the Minimum Investment Cost of Phased Array Radars," published in the Supplement to IEEE Transactions on Aerospace and Electronic Systems, November 1967.

DR. RICHARD H. CORD, '53, is an orthopedic surgeon. He lives in Birmingham, Ala.

ALBERT A. KELLY, '53, is manager of engineering for Blackhawk Manufacturing Co., Brookfield, Wis.

GEORGE W. MEGGINSON, '53, is a senior product engineer with the B. F. Goodrich Co. He lives in Troy, Ohio.

REINHOLD H. DIETZ, '55, is the LM communications manager at the Manned Spacecraft Center of NASA. He lives in Dickinson, Texas.

FEARN LABAN, '55, is a senior field representative for the American Plywood Association. He lives in Metairie, La.

GERALD F. MAHONE, '55, is a staff engineer with the Martin-Marietta Corp. in Orlando. He lives in Maitland, Fla.

NED H. SHOWS, '55, is a supervisory marine engineer at the Charleston Naval Shipyard. His home is in Summerville, S.C.

ALTON H. WALLACE, '57, is a senior project engineer in process computer control with the International Paper Co. He lives in Mobile, Ala.

A. D. (TONY) GREGOIRE, '58, is a member of the aerodynamics staff of the Commercial Airplane Division of the Boeing Company. He lives in Renton, Wash.

KELLY V. GRIDER, '58, is a research aerospace engineer with the U.S. Army Missile Command. He lives in Huntsville, Ala.

JOSEPH L. MASSETT, '58, is employed by RCA as a senior member. His home is in Lake Park, Fla.

MICHAEL K. McABEE, '58, is Tokyo editor of the *Chemical and Engineering News*, published by the American Chemical Society.

WALTER D. TRIPPE, '58, is a staff engineer with the Martin Company. He lives in Orlando, Fla.

BOB O. WILSON, '58, is employed by NASA at the Marshall Space Flight Center. He lives in Albertville, Ala.

EDMUND R. AGEE, '60, is an engineer with the Southeast Division of Vulcan Materials Co. His home is in Birmingham, Ala.

POPE P. BRITT, '60, is a microwave and antenna design engineer with the Aerospace Electronics Division of General Electric. His work is concerned with the development and design of airborne radar systems. Brother Britt lives in Whitesboro, N.Y.

DONALD T. COMER, '60, is supervisor of contracts planning for the Boeing Company in Huntsville, Ala.

JOHN P. POOLE, '60, is a group manager with Computer Sciences Corporation, Huntsville, Ala.

ROBERT E. YORK, JR., '60, is a supervisor of manufacturing engineering for General Electric. He lives in Charlottesville, Va.

WILLIAM E. ROBERTS, '62, is in a training program with Trane; upon completion he will be going into his own business. He lives in Statesboro, Ga.

MELVIN L. HOMAN, '63, is a project engineer for ARO Inc. at Arnold Air Force Station, Tenn. He lives in Tullahoma, Tenn.

JOHN E. DANIEL, '65, is a student in the University of Alabama Law School.

JAMES M. FAIRCLOTH, JR., '66, has received his M.S. degree in mechanical engineering from the University of Alabama. He is now employed as a design engineer with Combustion Engineering Inc. (Nuclear Components Department). His wife is a speech therapist with Walker County, Ga. They live in Chattanooga, Tenn.

CARNEGIE TECH

N LT. GEN. DONALD L. PUTT (USAF Ret.), '28, is vice president of West Coast operations for United Aircraft Corp., Palo Alto, Calif. He lives in Atherton, Calif.

ALFRED A. NICKEL, '35, is comptroller of U.S. Steel Corp., San Francisco. His home is in Hillsborough, Calif.

PAUL H. DITZLER, '36, is vice president of Universal Engineered Systems, Walnut Creek, Calif. He lives in Alamo, Calif.

DR. LAWRENCE K. JETTER, '36, is senior research scientist for Kaiser Aluminum & Chemical Corp., Spokane, Wash.

DR. WILLIAM C. LEONE, '45, is vice president and general manager of Remex Electronics, Hawthorne, Calif. He lives in Palos Verdes Estates.

HOWARD P. MORRISON, '48, is vice president of Barnard and Burk, Inc. He is located in Quito, Ecuador.

THOMAS J. CROWLEY, '50, is sales manager for Dixie Form and Steel Co., San Antonio, Texas.

WISCONSIN

H MARK WALLACE, '51, is a sales engineer for Wolverine Tube, Houston, Texas.

LELAND R. BRUGGS, '56, is technical service supervisor for Ethyl Corp., Pasadena, Texas. He lives in Houston.

CAPT. JOHN R. IMHOFF, '63, is an instructor for the U.S. Air Force at Mather AFB, Calif.

IOWA

O EDWIN G. NIELSEN, '26, is an administrator for Arizona Power Authority, Phoenix, Ariz.

LEWIS T. LONG, '32, is assistant to the vice president of United Air Lines, San Francisco. He lives in Menlo Park, Calif.

HOWARD E. NOBLE, '34, is director of the Contracts & Support Division, U.S. Atomic Energy Commission, in Idaho Falls, Idaho.

FRANCIS D. COOKE, '36, is general foreman for Uniroyal—U.S. Rubber Tire Co. He lives in Montebello, Calif.

CHARLES W. LAZENBY, '50, is sales manager for Caterpillar Far East Ltd. in Hong Kong, B.C.C.

WILLIAM H. OLSON, '51, is assistant division manager in the Machine Sales Department of Caterpillar Tractor Co., Peoria, Ill.

LINDSAY L. LENHART, '53, is a manufacturers representative. His firm is Lenhart Sales Co., and he lives in Evanston, Ill.

DWAYNE L. MOZY, '54, is a staff member of Sandia Corp., Albuquerque, N.M.

MARVIN L. HELD, '59, is a design engineer for Hughes Aircraft Co., Tucson, Ariz.

GEORGE W. HEASLEY, '60, has been promoted to the Regional Industrial Engineering Staff of United Parcel Service. He will be responsible for the industrial engineering activities of Wisconsin, Northern Ohio, Southern Illinois, and Kentucky. Brother Heasley lives in Woodridge, Ill.

VIRGINIA

I

ROBERT L. RIDGWAY, '52, is district manager for DeLaval Turbine, Inc., Los Angeles. He lives in Manhattan Beach, Calif.

NORTH CAROLINA STATE

P

ELMER R. COMMANDER, '23, has retired after more than 20 years as division engineer in the Exmore Division of Delmarva Power and Light Co. Brother Commander lives in Exmore, Va.

CHARLES N. ROGERS, '35, is associate professor of pulp and paper engineering at North Carolina State.

T. A. RIVENBARK, JR., '37, is supervisory contract administrator for DCASD in Birmingham, Ala.

PHILIP J. BAUGH, '54, is president of Baugh Industries, Charlotte, N.C.

ROBERT A. ROBERTSON, '61, is now a graduate engineering education instructor for Western Electric Co., Winston-Salem, N.C. Previously he was a planning engineer at the Baltimore Works, where he did development work in cable manufacturing processes.

L.T. DANIEL M. SMITH, '66, is chief of program development at Sewart AFB, Tenn.

CHARLES L. BIGGS, JR., '66, is an associate scientist for Westinghouse's Bettis Atomic Power Laboratory. He lives in Pittsburgh, Pa.

JAMES W. BOWLING, '67, is a project engineer for Pontiac Motor Division. His home is in Rochester, Mich.

OHIO STATE

S

JAMES D. O'ROARK, '26, is general manager of services for Weirton Steel Co., Weirton, W. Va.

WILLIAM A. MEITER, '27, has retired as vice president of the Worthington Corp. He has a new retirement home in Boca Raton, Fla.

DONALD F. MARSHALL, '37, is a procurement and industrial specialist for the Air Force's Space & Missile Systems Organization, Los Angeles. He lives in Topanga, Calif.

EUGENE SCHIOPOTA, '48, is a contract specialist for NASA's Lewis Research Center, Cleveland, Ohio. He lives in Brunswick, Ohio.

CHESTER S. SHIRA, '53, is manager of materials and processes engineering for Rocketdyne. His home is in Canoga Park, Calif.

WILLIAM C. ANDERSON, '54, is a member of the technical staff of the Space Division of North American Rockwell. He lives in Chatsworth, Calif.

CLIFFORD N. CLICK, '57, is a graduate fellow at Clemson University, Clemson, S.C.

DAVID T. JOHNSON, '59, is an aerospace engineer at Wright Patterson AFB. He lives in Dayton, Ohio.

ROLAND E. NORRIS, '60, is a manned spacecraft test conductor for NASA at the Kennedy Space Center. His home is in Merritt Island, Fla.

LT. PAUL W. SOLOMON, '63, has been transferred to the Naval Air Facility in Naples, Italy. Previously he was at the North Island Naval Air Station in San Diego.

RON EVANKO, '65, is a development engineer in the Process Engineering and Evaluation Department of Dow Corning Corp. He is married and lives in Midland, Mich.

LAWRENCE J. RENNIE, '65, is working for his master's degree as a Hughes Fellow for Hughes Aircraft Co. He lives in Inglewood, Calif.

JAMES R. HANNAHS, '66, is a welding engineer for Hobart Brothers Co., Troy, Ohio. In April he presented a paper, "Simplified Electroslag Welding," at the 49th Annual American Welding Society Meeting and Show in Chicago.

SYRACUSE

T

CHARLES F. BANKER, '49, is a contracts negotiator and administrator for Lockheed Missiles & Space Co., Sunnyvale, Calif.

ALBERT J. GNESIN, '50, is regional marketing manager for Europe and Africa for Mobil Chemical International. He is located in Geneva, Switzerland.

WILLIAM F. HOYT, '51, is a member of the technical staff of Bell Telephone Laboratories, Whippany, N.J. He lives in Florham Park, N.J.

ALAN E. KUSHNICK, '59, is a senior contract administrator for the Advanced Products Division, Link Group, GPSI. He lives in Sunnyvale, Calif.

THE GEAR OF THETA TAU

ARKANSAS

Y FRANK M. SISSONS, JR., '48, is a supervisory design engineer for Phillips Petroleum Co., Sweeny, Texas. He lives in Old Ocean, Texas.

CHESTER L. HAYNES, '49, is an engineering specialist for LTV Aerospace Corp., Dallas. His home is in Arlington, Texas.

DILL G. McFARLAND, '49, is a training supervisor for Milchem Inc., Houston, Texas.

RALPH L. STEWART, '49, is chief of estimating and specifications for Martin Marietta Corp., Denver. His home is in Littleton, Colo. Brother Stewart is national vice president of the American Association for Contamination Control.

ROBERT E. BOONE, '51, is a project manager for C. S. McCandless Engineers, Palo Alto, Calif. He lives in Milpitas, Calif.

CLIF VINEYARD, '53, is a member of the technical staff for North American Rockwell's Space Division at Downey, Calif. He lives in Norwalk, Calif.

DELBERT A. SCHMAND, JR., '66, is a civil engineer with Finley Williams Engineering, Inc., Little Rock, Ark.

PURDUE

Φ RICHARD E. BACKUS, '59, is now associated with the patent law firm of Parker & Carter, Chicago, Ill.

JOHN R. CARLSON, '63, is a marketing analyst with Master Specialties Co., Costa Mesa, Calif. He lives in Newport Beach, Calif.

ARIZONA

X WALTER A. BROWN, '32, is vice president of Leeds, Hill and Jewett, Inc., consulting engineers in San Francisco. He lives in Walnut Creek, Calif.

WILLIAM F. NORTON, '32, is vice president and regional manager of the Ceco Corp., Los Angeles. His home is in Whittier, Calif.

PROF. DAVID J. HALL, '36, is professor of civil engineering and assistant to the dean at the University of Arizona, Tucson.

JAMES P. MICHAELSON, '36, is a consultant in metallurgical engineering in Rialto, Calif.

FELIX C. BERRA, '37, is mechanical and electrical superintendent for Phelps Dodge Corp. in Morenci, Ariz.

EDMOND F. MARUM, '37, is vice president of Marum and Marum, Inc., Engineers, in Tucson, Ariz.

DAVID D. RABB, '37, is a metallurgist at Lawrence Radiation Lab, Livermore, Calif. He lives in Danville.

JOHN R. KERR, '40, is president of John Kerr and Assoc. Inc., consulting engineers, in Los Angeles. His home is in Downey, Calif.

JAMES R. SHARP, '40, is president and manager of J. R. Sharp General Contractors, Bisbee, Ariz.

CLATE A. GATLIN, '41, is equipment superintendent for M. M. Sunot Construction Co., Tucson, Ariz.

OSCAR T. LYON, JR., '42, is assistant state engineer for the Arizona State Highway Department, Phoenix.

PROF. JOHN W. F. DULLES, '43, is professor of history at the University of Arizona, Tucson. He is the author of two books published in 1967, *Vargas of Brazil* and *Yesterday in Mexico*.

A. MAXWELL JONES, JR., '43, is export manager for Hard Manufacturing Co., a division of Ritter Pfaudler Corp. He lives in Ridgeway, Ontario, Canada. He has three children in college.

GEORGE A. KOMADINA, '44, is now resident manager for Pima Mining Co. in Tucson, Ariz. Until November 1967 he had been assistant resident manager.

ROY E. COULSON, '48, is president of Roy E. Coulson Company, Phoenix, Ariz.

LARS HOLMQUIST, '48, is an engineer with the American Bridge Division of U.S. Steel Corp., Los Angeles. He lives in South Pasadena, Calif.

JAMES J. BICKERSTAFF, '49, is maintenance superintendent for Sperry Flight Systems Division in Phoenix, Ariz.

ROBERT L. NORTON, '49, is vice president for civil engineering and secretary treasurer of Johannessen & Girard Consulting Engineers, Inc. in Phoenix, Ariz.

WILLIAM P. GATLIN, '50, is manager of the System Equipment Department of Arizona Public Service Co., Phoenix.

A. E. HIMEBAUGH, '50, is pit superintendent for Phelps Dodge Corp. in Bisbee. He lives in Warren, Ariz.

DALE L. THORNBURG, '50, is supervisor of mechanical projects for Arizona Public Service Co., Phoenix.

JAMES C. HESS, JR., '51, is project engineer for the Fluor Corp., Ltd., Los Angeles. He lives in Long Beach, Calif.

SIDNEY JACK McDUFF, '51, is western regional marketing manager for Johns-Manville Sales Corp., San Francisco. His home is in Stockton, Calif.

DONALD A. REPPERT, '52, is general design engineer for Monsanto Co., Creve Coeur, Mo. He lives in Webster Groves, Mo.

SPRING 1968

JACK T. MOMMSEN, '54, is an engineer for General Electric Co., San Jose. He lives in Saratoga, Calif.

DONALD D. SHIPLEY, '54, is a partner in Therm-O-Power Consultants & Engineers, Tucson, Ariz.

J. RICHARD ANKLAM, '55, is area manager for Johns-Manville in Danville, Calif.

RICHARD C. CUTHRIE, '55, is a project engineer for Mountain States Telephone, Phoenix, Ariz.

LOUIS P. BENEDICT, '56, is sales manager for Western Machinery Co., Phoenix, Ariz.

RALPH E. SANDLER, '58, is an associate highway engineer for the California Division of Highways, Marysville, Calif.

JAMES W. SIMMS, '59, is an engineer for Pacific Fire Rating Bureau, Los Angeles. His home is in Monterey Park, Calif.

R. B. WILLIAMS, '59, is president of R. B. Williams & Assoc., Inc., Yuma, Ariz.

EDWARD R. WESTALL, '60, is an engineer for Gordon Ball Inc., Danville, Calif. He lives in Walnut Creek, Calif.

HENRI W. GUYADER, '63, is a design engineer for General Dynamics Convair, San Diego, Calif.

ROBERT M. RICE, '64, is a test engineer for Phelps Dodge Corp., Ajo, Ariz.

MAURICE G. FREE, '65, is a senior electrical engineer for Motorola Semiconductor, Phoenix. He lives in Tempe, Ariz.

DAVID W. CROZER, '66, is a member of the technical staff for Hughes Aircraft Co., Culver City, Calif. His home is in Los Angeles.

MYRON R. HENDERSON, '66, is a mechanical engineer for American Smelting & Refining Co., Hayden, Ariz. He lives in Oracle, Ariz.

NICHOLAS E. LYCOODES, '66, is a reliability engineer for Motorola SPD Inc., Phoenix. He lives in Scottsdale, Ariz.

J. RAND SUMNER, '66, is a student in the Department of Geophysics at Stanford, Calif.

BRUCE W. FARMER, '67, is a member of the technical staff of TRW Systems, Redondo Beach, Calif. He lives in Hermosa Beach, Calif.

LT. EDWIN L. LANTZER, '68, has been commissioned a second lieutenant in the Air Force.

MONTANA TECH

ARTHUR J. BOVEE, '34, is a petroleum engineer for Texaco, Inc. in Denver, Colo.

LAURENCE T. ECK, '40, is a rocket station specialist at the Nuclear

Rocket Station, Jackass Flats, Nev. He lives in Henderson, Nev.

EDGAR A. SCHOLZ, '41, is vice president for exploration of Placer Development Limited, Vancouver, B.C. He lives in West Vancouver.

CLIFFORD A. BARKELL, '42, is a staff geologist for Shell Oil Co., Los Angeles, Calif.

JOSEPH W. JOYCE, '48, is a professional engineer. His firm is Joyce Inc. and he lives in Arvada, Colo.

S. C. OLSON, '48, is vice president for production of Hudson's Bay Oil & Gas Co., Ltd., Calgary, Alberta.

JEROME B. WEBER, '57, is lead production engineer for Chevron Oil Co., Denver, Colo.

ROBERT B. DONALDSON, '62, is a production engineer for Mobil Oil Corp., Bakersville, Calif.

FRANK L. BAZZANELLA, '64, is a metallurgist for American Smelting & Refining Co., Tucson, Ariz.

LT. W. ROBERT LEHFELDT, '67, has graduated from Officer Training School at Lackland AFB, Texas. He was assigned to Wright-Patterson AFB, Ohio.

SOUTH DAKOTA TECH



DENNIS E. DAHLGARD, '32, is chief engineer for the Port of Seattle, Wash.

DAVID G. ROBERTSON, '46, is an engineering supervisor for the Boeing Co., Seattle. He lives in Bellevue, Wash.

ARTHUR R. COLGAN, '47, is a research engineer for Northrop-Nortronics, Rolling Hills Estates, Calif. His home is in Palos Verdes Peninsula.

LEWIS W. MORCOM, '47, is a forest engineer with the U.S. Forest Service, Toiyabe Forest. He lives in Reno, Nev.

EDWARD F. JACOBSON, JR., '49, is manager for Homestake Mining Co., Moab, Utah.

BERNARD N. SUTFIN, '50, is a design specialist for Lockheed Missiles & Space Co., Sunnyvale, Calif. He lives in San Jose.

JOHN A. VAN AUKEN, '54, is division geophysicist for Union Oil Co. of California in Midland, Texas.

TERRY L. FISHER, '57, is assistant manager of industrial, community, and public relations for Western Electric Co., Omaha, Nebr.

FRANK P. TAGLIAMONTE, '57, is an exploration geologist for Newmont Mining Corp. of Canada Ltd. He lives in Noranda, Quebec.

HAROLD M. EHRLMAN, '59, is a system engineer for Hughes Aircraft Co., Culver City, Calif. He lives in Santa Monica.



THE GEAR OF THETA TAU

BRYAN J. RAMSEY, '66, is an industrial engineer for Kennecott Copper Corp., Salt Lake City, Utah. He planned to enter the Army as a second lieutenant in January 1968.

LT. JOHN G. PROUTEK, '67, has graduated from Officer Training School at Lackland AFB, Texas. He was assigned to Laughlin AFB, Texas.

GEORGE WASHINGTON

T B

WILLIAM ELLENBERGER, '30, has been elected vice president of the Washington Society of Engineers.

H. VELPEAU DARLING, '33, chairman of the Board of Transportation Consultants, Inc., has been elected a director of the Washington Society of Engineers.

MERRILL R. BROWN, '49, is chief of the Mapping Division of the U.S. Army Inter-American Geodetic Survey. He lives in Curundu, Canal Zone.

EDWARD EGLOFF, '50, is vice president of Egloff & Graper Inc., Los Angeles. His home is in Arcadia, Calif.

PHILIP L. PAYNE, '58, is a project engineer for Scope, Inc., Reston, Va. He lives in Fairfax, Va.

GERALD K. CORNELIUS, '60, is a senior engineer for the Ralph M. Parsons Co., Los Angeles. He lives in South Pasadena, Calif.

DR. WAYNE A. DAVIS, '60, is scientific officer for the Defense Research Board, Ottawa, Ontario.



ARTHUR T. NIELSEN, '62, has joined Syska & Hennessy, Inc., consulting engineers of New York and Washington, D.C. He will be director of management and planning. Brother Nielsen had been associated with Loewer, Sargent & Associates, architects and engineers in Kensington, Md. He is moving to Ossining, N.Y. with his wife and children.

LOUISVILLE

Δ B

JOHN B. HARMON, JR., '48, is manager of marketing and contracts administration for ARINC Research Corp., Santa Ana, Calif. He lives in Corona del Mar.

JIM MEHNE, '48, has been promoted to assistant plant manager for Ford Motor Co., Atlanta, Ga. He reports that they are building 1020 Fords per day. Brother Mehne lives in College Park, Ga.

CLIFF NEELY, '53, is assistant editor of the American Chemical Society. He lives in Wantagh, N.Y.

B. L. OCHISKI, '59, is principal chemical engineer for Allied Chemical Corp., Morristown, N.J. His home is in Dover, N.J.

A. E. WICKERHAM, '67, is an ensign in the CEC stationed on Midway Island. His wife is with him.

WAYNE STATE

E B

RICHARD W. DETTLOFF, '59, is an engineer with G. M. Truck & Coach Division, Pontiac, Mich. He lives in Troy, Mich.

EARL R. HENDRICKSON, '63, is plant manager for Brown-Hutchinson Inc. in Detroit. His home is in Westland, Mich.

CHRISTOPHER B. BETTWE, '64, is purchasing agent for Star Tool & Die Works, Detroit. He lives in Romulus, Mich.

RICHARD S. KILLAM, '66, is an engineer with Michigan Bell Telephone Co. in Southfield, Mich. He lives in Madison Heights, Mich.

NICHOLAS G. ZORKA, '66, is doing design and development for Vicker's Inc., Troy, Mich. He lives in Detroit.

CHESTER J. SPRINKLE, '67, is a systems design electrical engineer for Collins Radio Co., Cedar Rapids, Iowa.

UTAH STATE

Z B

LARRY R. ANDERSON, '65, is an electrical engineer with the U.S. Bureau of Reclamation in Montrose, Colo.

HOUSTON

H B

BENJAMIN H. HOOD, JR., '61, is a communications systems engineer at NASA's Manned Spacecraft Center in Houston.

CHARLES M. BERRY, '63, is a production engineer for Continental Oil Co., Midland, Texas.

EDWIN P. HERRMANN, '67, is a chemical engineer for E. I. du Pont de Nemours & Co., Inc., La Porte, Texas. He lives in Pasadena, Texas.

LT. JAMES R. SIMMONS, '67, is serving as a platoon leader at a Nike-Hercules Missile Site in East Windsor, Conn. He lives in Warehouse Point, Conn.



Pictured at a reception at the International Symposium sponsored by the Japan Society of Mechanical Engineers are Prof. Keisuke Izawa, George W. Michalec, *Columbia* '43, Mrs. Izawa, Dr. Teru Hayashi, and Mrs. Nakoda. (See note on page 21)

DETROIT

I B

JAMES R. CARROLL, '63, is an estimator for Morrison-Knudsen Co., Inc., Boise, Idaho.

DONALD R. MORGAN, '65, is a product design engineer for Ford Motor Co. in Dearborn, Mich. He lives in Detroit.

EDWARD M. PADDOCK, '65, is a product design engineer for Ford Motor Co. in Dearborn. His home is in Dearborn Heights, Mich.

PETER C. SCHMITT, '67, is an instructor in engineering at the University of Detroit. He plans to finish his doctorate in 1969.

WASHINGTON (SEATTLE)

OB

TOBIN L. HUMPHREY, '64, is a foreman for U.S. Steel Corp. in Pittsburg, Calif.

GEORGE A. VICKERS, '65, is a design engineer for Idaho Power Co., Twin Falls, Idaho.

RONNY J. LEPTICH, '66, is a testing engineer for Hyster Company, Portland, Ore.

25 and 50 Years Ago in Theta Tau

25 YEARS AGO

Grand Regent Class addressed a message to members before leaving for overseas service in the Navy.

An editorial advised chapters on maintaining financial solvency during the war.

Beta Chapter was the winner of the Schrader Award.

Delta Chapter sponsored a collection of pennies for the war effort.

Pi Chapter had moved to a different house and was busy redecorating.

Gamma Beta Chapter celebrated its eighth anniversary.

All chapters reported men leaving for service, accelerated programs, and Army and Navy men on campus.

(From the Spring 1943 GEAR)

(No GEAR was published in 1918, 50 years ago.)

ERRATA

Dr. Arthur E. Morris was incorrectly listed as an honorary member of Psi Chapter in the Fall 1967 GEAR. He is a member of the class of 1956 of Psi Chapter.



Chapter News

For this issue the Corresponding Secretaries were asked to discuss the pledge training procedures used by the chapters. The pledge period is the time when a prospective member learns what Theta Tau is, what principles the Fraternity stands for, and other important facts about Theta Tau. The pledge should be learning something about the meaning of fraternal brotherhood prior to initiation.

The Fraternity provides various aids and guides to the chapters for pledge training—e.g., a Rushing and Pledge Training Manual and an official pledging ceremony. However, it is the attitude and spirit with which training is administered that determine whether a pledge will become a truly dedicated member of the Fraternity.

Pledge training varies widely among the chapters. However, a reading of the letters will give a clue to those which seem to be applying the intangible "spirit" that produces the best members. In addition, chapters without houses have one special difficulty—that is to get each prospective member properly acquainted with the student members. Therefore, with few exceptions, non-house chapters require that the pledges seek out each member of Theta Tau on campus as a part of his pledge responsibility. The device used to effect this (e.g., a signature on a gear replica) is secondary to the purpose.

In this day when many people are examining meaning and purpose in their lives, it is good to know Theta Tau has long articulated high principles and idealistic goals as a professional engineering fraternity. Today's students and thus our pledges seem to be seriously concerned about such matters. It is, however, somewhat disturbing that only 18 of our 30 chapters and colonies responded to the challenge of our theme for this issue. Let us hope their training procedures have not taken on a secondary role. I would guess they haven't.—WEF

DELTA CHAPTER



In preparation for membership at Delta Chapter, pledges learn about Theta Tau and about its brotherhood. Before pledging, the prospective members are informed of the background and purpose of Theta Tau through the distribution of letters to eligible students. A list of all the active members is also made available in order to facilitate contact between the active chapter and those interested in pledging. The usual rush procedures determine the final pledge class.

After the decisions and paperwork are completed, we begin the actual pledging period with a brief ceremony. Our pledging program is based

on weekly meetings of pledgemaster with pledges. Quizzes on material in the Pledge Manual and on local history are given to insure that each pledge understands the heritage as well as the present operation of Theta Tau and Delta Chapter. Fraternal brotherhood is encouraged by an active-pledge work session. Being without a chapter house to maintain, our session involves cleaning the student shop, laboratories, or files, for which the Chapter is reimbursed by the school. Work by the actives is a means of lowering dues, while pledges have a chance to contribute something to the Chapter. A good time is had by all and a much closer pledge-active relationship results. Pledges also work together on their own project, which in the past has materialized as a Theta Tau bulletin board placed outside our meeting room and a student poll followed by carefully worked out suggestions to the faculty for the improvement of certain engineering core courses. Traditions such as the pledge engineering problem and wooden initiation gear are also observed as a part of our program. The formal initiation into membership is followed by a large banquet at one of the fine restaurants nearby.

The most memorable event of this past year was the Central Regional Conference hosted by Delta Chapter. The opportunity for most of our members to meet and learn from the brothers from other chapters was most rewarding. We had looked forward to the initiation of our advisor, Dr. Thomas P. Kicher, for quite some time. The ceremony at the Conference was especially meaningful to the brothers who had known Dr. Kicher both as a good professor and a good friend.

Another highlight of the year was the initiation banquet for our fall pledge class held at the new Brown Derby restaurant. In April, members of Delta witnessed the inauguration of Robert W. Morse as the first president of Case Western Reserve University, which marked an important step in the federation of Case Institute of Technology and Western Reserve University. We hope that as students of a much larger university, Delta Chapter brothers will achieve even greater success.

DAVID M. GRAY
Corresponding Secretary

EPSILON CHAPTER



Epsilon Chapter has always attempted to prepare its pledges for membership in Theta Tau by providing them with a thorough understanding of Theta Tau and the profession they have chosen. We have found that one of the most effective methods is to hold informal roundtable discussions. Topics

cover personal autobiographical sketches, reviews of membership obligations, and other topics of current interest.

Over the past several months our small Chapter has been quite busy for its size. The Chapter sent fifty per cent of the current actives to the Regional Conference in Seattle. The Chapter came in second in the man-miles competition, and Harold Smith barely missed capturing the Best Presentation Award. The Chapter also entered its first intramural team, and although its record wasn't spectacular, fun was had by all.

As a result of the inspiration the actives received at the Regional Conference, the Chapter has firmly established an Epsilon Chapter Building Fund. In addition, the Chapter will shortly publish its first newsletter in many years.

JAY R. DOUBRAVA
Corresponding Secretary

ZETA CHAPTER



We are in the process of building a new chapter house which will have a capacity of approximately 50 men. This brand new house is a far cry from our old house, which was

65 years old.

Last semester the house GPA was 1.50 (on a 3.0 scale) and ranked us in the top ten fraternities at K.U. Our members are especially active in professional societies, holding down many offices. We are also active in the annual K.U. Engineering Exposition and plan to enter an exhibit this year as well as our fifteenth consecutive entranceway, a tradition at Zeta.

Pledging at Zeta Chapter has been of more importance than ever since we must double our membership to occupy the new house next fall.

Pledges learn basic facts about Theta Tau, both on the local and national level. This includes not only information found in the Pledge Manual but other information we feel is important. In order to insure that pledges have a proper atmosphere for study, we require a supervised study hall for them at night. The number of these which a pledge is required to attend depends on the individual pledge's grades. With a 1.0 to 1.50 GPA, he is required to attend study hall five nights a week; with a 1.5 to 3.0, only two nights a week are required.

The pledges make a three-foot model of a K&E Deci-Log slide rule as a project. This is a worthwhile project since it not only is a beautiful working model after it is completed—it also enables the class to work together. The pledge class also does a worthy community project that further helps them work together as a group rather than strictly as individuals.

We try to make everything the pledge class does and learns have meaning and reason that can be used in some way as a member of Theta Tau as well as in later life.

ROBERT J. PAULETTE
Corresponding Secretary

IOTA CHAPTER



In order to fully understand the pledge training program at Iota Chapter it is necessary to know something of the University of Missouri at Rolla. U.M.R. is a campus on which almost the entire student body is enrolled in an engineering curriculum. Therefore, each of

the 20 social fraternities on campus is also an engineering fraternity. For this reason, Theta Tau at U.M.R. has essentially become an honorary fraternity.

Pledgeship for a man pledging Iota Chapter actually begins at the pledge smoker to which all men on campus are invited. Pledge smokers are held at the beginning of each semester. In order to be considered for pledgeship the man must attend the smoker or present a legitimate excuse for missing it.

During the semester there is a series of 5 pledge tests and a final test which each pledge must pass to be eligible for initiation. Each pledge also works on a pledge plaque which is an enlarged replica of the Theta Tau Badge. The pledge plaques have to be approved by the active chapter at two times during the training period; once before the finish is applied and again after the pledge plaque is completed.

After the pledge plaques are approved the pledges have to approach each active member for his signature and be able to answer questions from the Pledge Manual and from the history of the Chapter. If the pledge obtains all of the signatures before the initiation date he is eligible for initiation.

Throughout the semester, the pledges are expected to attend all fraternity functions and attend two active meetings at which their plaques are approved. At the initiation ceremony, an outstanding pledge and a worst pledge are chosen based upon the effort put forth during the pledge training program.

For the most part, the men chosen for pledgeship have already proven their abilities and desires. Men are chosen for pledgeship by their past achievements and ability to communicate and associate with others.

MICHAEL F. REDINGTON
Corresponding Secretary

MU CHAPTER



Mu Chapter is proud of its new pledge class; we think they will be a real asset to the Fraternity.

We use the official pledging ceremony here at Mu, because we feel that this emphasizes to the pledges the seriousness of their undertaking. Pledge meetings are held weekly, and we try to have a work party every two weeks. The actives are also invited to come to these work parties; this gives the actives and the pledges a good time to get to know each other better. In the pledge meetings, tests are given each week on assigned material from the Pledge and Member-

THE GEAR OF THETA TAU

ship Manual, "The Engineer is a Gentleman," and from the history of Mu Chapter.

We have several special programs for pledge training. Each night one of the pledges is responsible for coming to the house to answer the telephone. While on duty, the pledge has a chance to become better acquainted with the actives. At some time during the pledgship period each pledge must get the signature of each active and alumnus faculty member. Each pledge must also join and take part in his technical society.

The Big Brother program is now used by Mu Chapter. Big Brothers are often able to help their "little brothers" improve their grades and to form a closer fraternal bond between the pledges and the members.

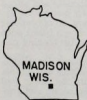
The week before initiation is "Hammer Week." During this week the pledges have to carry a four foot, red and gold wooden hammer that they must build themselves. Then on Friday night before initiation the pledges have an all-night treasure hunt. They follow a trail of clues put out by the actives within a ten mile radius of the campus.

The men of Mu Chapter are looking forward to another winning spring. With school elections and the softball season here we have high hopes. We held all of the offices in the School of Engineering last year and we have been softball league champions for the past two years.

Engineers Day will be held on April 24th. We will man the information booth and act as guides for visiting groups. Each department of the School of Engineering will have displays.

WILLIAM M. ABRINGTON
Corresponding Secretary

XI CHAPTER



During our pledge program at Xi Chapter the prospective initiates get to know each other, they get to know the active members of our Chapter, and, probably most important of all, they are given the opportunity to see the benefits that both they and the Fraternity as a whole can gain through the brotherhood and common professional inter-

ests shared by the members of Theta Tau.

The individual project required of each pledge, the pledge's Big Brother, and pledge exams administered at every pledge meeting seem to provide an excellent means for our pledges to become acquainted with both the local and the national aspects of our Fraternity.

We find the pledge's individual project and his Big Brother especially effective in preparing him for entrance into our brotherhood. The requirement that every active member's signature be on each pledge's project before pledge interviews gives him a chance to meet individually and get acquainted with all the active members of Xi Chapter.

The Big Brother is probably the pledge's most important link with the actives of the Chapter. Aside from advising the pledge about matters relating to his entrance into the Fraternity, he serves as a sponsor for the cordial introduction of the

pledge to the individual actives. This seems to be especially effective at parties, as the Big Brother can then introduce the pledge to the actives in a completely relaxed and uninhibited atmosphere.

The pledge program, aside from stressing the entrance of the individual into the Chapter, is also geared toward building a real brotherhood among the members of the pledge class. Several group projects serve this purpose quite well. The group project which is required of the pledge class usually finds them getting together on a few Saturday mornings, not only building something of value to Xi Chapter, but something of even greater value to themselves, a lasting friendship. The pledge picnic, an annual spring event, again finds the class working together as a group, laying the groundwork for the brotherhood they will share as members of Theta Tau.

The highlight of Xi Chapter's pledge program is the initiation banquet. As the guests of honor, the new initiates finally find themselves brothers in our Fraternity. It is indeed a moving and memorable occasion when the pledge class joins together for the last time as a group in itself and sings Theta Tau's Sweetheart Song.

Xi Chapter feels that its pledge program, as briefly sketched above, does an excellent job of preparing our pledges for a richly rewarding fellowship in Theta Tau.

DENNIS M. MITCHELL
Corresponding Secretary

TAU CHAPTER



The brothers of Tau Chapter believe that it takes a special kind of person to make a good Theta Tau brother. This special kind of person must show interest in the Fraternity and must have the ingenuity expected of an engineer as well as the quali-

ties necessary for membership in Theta Tau. We have developed a pledge training which helps to screen out these special engineers as well as help them become acquainted with what Theta Tau stands for.

Our pledging ceremony follows closely the ceremony recommended by the national fraternity. At this ceremony each pledge is given a Big Brother to help him through the period of pledgship.

We require that our pledges meet and talk with all the brothers early in the pledgship period. They must get the signature of every brother. We also require them to know the history of our local chapter and all of the information in the Pledge Manual.

We try to promote unity among the pledges in each pledge class by having them elect officers and plan a pledge project. We also have pledge-brother basketball, football, bowling, and softball games where the pledges play the members. The fact that the pledges often beat the brothers only shows that they are unified.

We test their ingenuity in two ways; the first way is to have each pledge make a replica of the badge out of wood from plans which we have made. Each gear must pass the inspection of each brother before they can be accepted and each

pledge must explain how he made his gear. We also have what some fraternities would call informal initiation. On this night each pledge is put in different situations where he must use his head to get out. We stress mental tension rather than physical. We feel that you can better tell what a person is really like when you observe him while he is under mental tension.

Then after each pledge has gone through the above and taken his pledge test we have formal initiation.

We also try to arrange social functions so that each pledge can become better acquainted with the brothers. Our usual function is a T.G.I.F. with a sorority on campus. We have also had date parties, hayrides, and then our highlight of the year, the Engineers' Ball which we cosponsor with the College of Engineering at Syracuse University. We also have planned many more social and professional activities now that we have elected our new officers and are waiting for warm weather.

LEONARD PARREN
Corresponding Secretary

UPSILON CHAPTER



The men of Upsilon consider the pledge training program not only a preparation for membership in Theta Tau, but also an aid in developing men for participation in society as engineers. For this reason, our pledge program consists of two parts. First, the pledge must develop the personal initiative, dependability, and self confidence that will aid him for the rest of his life. However, he must also learn to work effectively with others, and in doing so, to develop such qualities as respect and tolerance.

The pledge program is built primarily around work at the chapter house. Each pledge has duties which he must perform during the week. And, in addition, the pledge class as a whole meets at least once a week to engage in a group project. Also included in the pledge program is the learning of essential facts about Theta Tau, such as the description of the badge and the names and locations of the chapters. Also, soon after a man is pledged, he must be able to name instantly each member, his major, and classification, and his home town. If a pledge is to learn something of fraternal brotherhood, this is essential.

To clearly define the importance of pledgship, Upsilon has recently adopted the use of a formal pledging ceremony. Incorporated in the pledge program is the Big Brother concept. Each pledge chooses a member with whom he discusses any problems that may arise. In addition, a pledge review board has been established. It is the function of this board to review periodically the progress of each pledge.

In general, it might be said that the overall goal of the pledge program at Upsilon is pledge class unity. If a pledge class can develop unity among themselves, it is likely that as a part of the Chapter, these men will be able to contribute substantially and responsibly to the progress of Theta Tau.

ROBERT A. DAVIDSON
Corresponding Secretary

PHI CHAPTER



Following the official pledging ceremony of Theta Tau, the new pledges of Phi Chapter enter a comprehensive and fairly rigid period of pledge training and development. The methods used follow closely those recommendations made in the Rushing and Pledge Training Manual.

The first duty of the new pledges is to elect their officers and to unify themselves for the work which lies ahead. This is usually done following a week of "grace," during which the pledges get to know each other and to form ideas about which men they feel would be their strongest officers.

Through weekly assignments and written tests, the pledges are taught the laws and customs of Phi Chapter and Theta Tau. Following their private pledge meeting, held each Monday at the same time that the active chapter meets, the pledges are tested on their knowledge of the Fraternity through oral quizzing by the active members. It is customary for the pledge to do push-ups should he fail to answer a question correctly. We have found this method of instruction most effective because it requires both quick thinking and individual contact with active members.

Weekly work sessions are held on Saturday afternoons to mold the pledge class into a working unit by helping take care of the chapter house which they will be in charge of one day. Unity is a characteristic the men of Phi like to see in their new pledge class, so other projects which require the full working power of the pledge class are designed to bring the pledges closer together. These include such things as designing and building a Homecoming display, the addition of a major improvement of the chapter house, or organizing the annual pledge dance.

In addition to the above training, the pledges receive instructions on table manners and other rules of etiquette. They learn the meaning of fraternal fellowship through pledge-active softball games, pledge-active work sessions, professional meetings with members of the engineering field, and other social events. A pledge "father-son" relationship is developed to help each pledge with his study problems, and to aid him with any personal problems and questions. This procedure has been extremely effective in building strong and everlasting friendships among the pledges and actives.

STEVEN BOZICH
Corresponding Secretary

CHI CHAPTER



This semester Chi Chapter has its largest pledge class in two years. Due to a large number of graduating members, we of Chi found ourselves in the position of having only eleven active brothers at the end of this semester. In order to counteract this large drop in membership, the brothers im-

plemented an intensive rush period. The rush program included an informational mailing to all men

THE GEAR OF THETA TAU

in the College of Engineering, sending members as speakers to all large freshman and sophomore engineering classes, and a rush picnic. These methods were very successful.

The pledging procedure roughly follows that of the Rushing and Pledge Training Manual. We require our pledges to participate in a pledge-active workday and a pledge project. The brothers of Chi have found the most effective portion of the pledge period to be Gear Week. During this time, after polishing their gears, the pledges are required to obtain the signatures of all active brothers and all alumni in the area.

To mark the end of the pledging period, Chi Chapter holds its most important function of the semester, the initiation banquet. This banquet is planned and arranged completely by the pledges. The banquet is held at a local Tucson restaurant.

Again this year Chi Chapter has a large number of members active in their respective technical societies and on the Engineers Council. With the election of Dave Healey, Chi Chapter now has two senators in the Student Senate. It appears that this will be a very successful semester for Chi Chapter.

JOHN T. RIVERA
Corresponding Secretary

OMEGA CHAPTER



The activities of a pledge at Omega Chapter begin with a pledging smoker. It is held annually after first semester grades are released. Its purpose is pledging of candidates

who accept bids.

Immediately after the pledging smoker, weekly pledge meetings begin and continue until a week before Help Week. These meetings are designed to acquaint the pledges with the knowledge of the Fraternity which is necessary to complete the pledge examination. The pledge meetings also coordinate the events of Help Week.

The pledge meetings are effective in bringing about a knowledge of Theta Tau, but they cannot be expected to develop the brotherhood that is desired. We, as actives, also realize that we cannot develop that friendship for them, but can only hope to catalyze the relationship. We try to provide the means for them to get together, to think along the same lines, and to work for the same goal. To accomplish this, we try a number of activities.

One is the annual basketball game between our pledges and the pledges of Triangle Fraternity. This contest has become a fierce rivalry and not only gives the pledges a common goal, but it also cements relations between the two fraternities.

Another method is to assign projects to the pledges. The type of project ranges from writing papers designed to stimulate professional development to digging up long-forgotten facts about alumni.

But, to us, the most important segment of pledge development is Help Week. It is strenuous, but it is also flexible for the individual pledge. It lasts one week as the name implies. It is the part of pledging that none of us forget. And finally, it is the most effective instrument for the development

of brotherhood. By the end of Help Week, the pledges are thinking of ways they can help the Fraternity, rather than how the Fraternity can help them.

These are ideas that were given to us by former actives and personal experience. We know they are effective, but we also know that a high quality of brotherhood among pledges is possible only with a high quality of brotherhood among the actives. With this in mind, it is seen that the preparation of pledges for membership is a year-round process.

BOB BJORKMAN
Corresponding Secretary

GAMMA BETA CHAPTER



Gamma Beta Chapter plays a very significant role at George Washington University, projecting its influence into every facet of the Engineering School's scholastic and social activities. This semester, Engineer's Week was, by and large, conducted by members

of Theta Tau. They spent much time and effort acquiring and setting up displays from such institutions as Bell Laboratories, Westinghouse, IBM, Kodak, General Motors, and many others. High school students were then invited to come and view the displays and to learn a little about engineering.

Pledging has begun once again. Along with their other duties, each pledge is required to construct a replica of the badge which is to be judged by the members at the end of the pledge period. A ball is held at the close of each semester and the members vote for the pledge who has best performed his duties.

Plans for the spring semester also include Theta Tau's sports car rally on April 21st. It is one of the most popular events of the year and has proved to be a great success in the past. Anticipation of this year's rally already stirs throughout the school.

ROBERT S. GRANT
Corresponding Secretary

EPSILON BETA CHAPTER



Pledging a fraternity, whether social or professional, is an important yet meaningful step forward in any young man's life, and what is learned during this period will never be forgotten. Our Chapter's pledging program consists of rushing, active pledging, informal initiation, and finally initiation.

During the spring and fall of each year our pledging program begins with rush, an introductory stage to pledging. All engineering students are invited to attend our first rush party, which is held at the fraternity house. At this party the prospective pledge has a chance to meet all the active members and is told many basic facts concerning all aspects of the Fraternity, such as opportunities professionally, academically, socially, and most important of all, brotherhood. Two weeks later our second rush party is held and is attended only by

those rushees who receive invitations. A dinner is served after which more detailed information concerning our Chapter is discussed. However, the only way to know the meaning of fraternal brotherhood is one's self-experience, the true guide in an engineer's life.

Active pledging begins with the pledge receiving his Pledge Manual and pledge bible. Each pledge is assigned a Big Brother, and is given weekly assignments concerning the history and background of Theta Tau, the meaning of words such as fraternity, brotherhood, and engineer, the chapters of Theta Tau and many other pertinent facts. Also, he is given a black book, pledge pin, and medallion which must be worn by him at all times on campus. At the end of each week a pledge court is held at the fraternity house and each pledge is tested on his assignment for that week. During the pledge court session each pledge is brought before the active membership and asked a multitude of questions such as, "Why are you pledging Theta Tau?", "What talents can you offer for the good of this Fraternity?" and "What does brotherhood mean to you?" Also each pledge is required to wear a bow tie, white shirt, black pants, and polished shoes and to tell one funny joke.

Pledges are assigned duty hours during the week, one hour each day and one work hour per week where general cleaning of the house is carried out. Along with this, the pledge class is given a house project which is to be completed by the end of pledging. However, the main emphasis is placed on teaching the pledges to work together as a group. This job is left up to one pledge who acts as a pledge leader and coordinates his group as a single unit. Other group activities include the pledge-active date party, a pledge stag party, and several campus organized activities.

With all this in mind, each Big Brother also helps his "little brother" in any way he knows how, such as giving personal advice and assistance in his studies. At the end of active pledging, which lasts five weeks, the pledge must attend informal initiation, which is usually held on a weekend at a nearby state recreation area. Informal is a time for fun for both actives as well as pledges. Once a pledge has gone this far, he is able to take the national fraternity test and local chapter test, and if he successfully passes these, he is then eligible for initiation into Theta Tau.

Again this spring, Epsilon Beta Chapter is hoping for a large and successful pledge class, as many of our actives are graduating by June. Epsilon Beta wishes all other chapters success in their forthcoming pledge classes and prosperity in the year 1968.

GARY L. SMITH
Corresponding Secretary

ETA BETA CHAPTER



Eta Beta Chapter of Theta Tau recently initiated its fall pledge class of thirteen members. We began the semester with fifteen pledges and initiated thirteen, which we feel is very good. Many of the new initiates are sophomores and their majors cover almost every

field of engineering.

Our pledge class for the 1968 spring semester, we are happy to say, is another large one. We presently have fourteen pledges and our spring program for the pledges is in full swing.

Pledges of Eta Beta Chapter are guided by an active member of our Chapter who serves as their trainer and adviser. Each pledge class chooses a semester project to undertake through the course of their pledge training. Past projects include such things as building a study room on the third level of our chapter house, designing and building a large sign to hang in front of the house, stocking the house with new furniture, and many other useful and enterprising projects. Each project is financed through pledge dues and all work is done by the pledges.

Each pledge chooses a Big Brother to serve as his personal link with the active members of the Chapter. Big Brothers help the pledges at any time with any type of problem that the pledge might have. Pledge plaques are designed and built by the pledges. On these plaques are the names of the pledge, his Big Brother, and the semester and year of his pledgship. Many of these plaques now adorn the walls of the fraternity house.

In addition to pledge projects and pledge plaques, the pledges are oriented on the complete past history of Theta Tau and all of its chapters. They are tested periodically, both orally and by written exams on their knowledge of the Fraternity. We feel that such frequent examination helps prepare them for their national test prior to their initiation.

Along with their written knowledge of Theta Tau on the national level, we require pledges to learn about our local Chapter. They must know who the charter members of the local Chapter were, the original pledges, and other knowledge pertinent to Eta Beta Chapter.

We frequently bring the pledges before the actives individually and question them on various topics concerning Theta Tau. This, we feel, is a very vital part of their training if they are to become members of Theta Tau.

Other requirements include weekly work parties at the house, preparation and decoration for parties, manning election polls on campus during student elections, intramural sports program events, and personally meeting all active members.

Just prior to their final examinations and initiation, the entire pledge class undergoes extensive examination and close scrutiny in regard to their mental attitudes toward Theta Tau. Once the pledges have individually passed their final tests as well as their written examinations, they are initiated into the ranks of Theta Tau.

We use the official pledging ceremony and more or less follow the Rushing and Pledge Training Manual outline.

For the past two semesters our Chapter has had very successful pledging campaigns. We attribute this to a very good rush program as well as good publicity of the Fraternity and its functions and purposes.

In the local news the main topic is that of elections both on campus and in the Chapter. All three Senate seats in engineering in the Student Association Government were handily won by

THE GEAR OF THETA TAU

members of Theta Tau. They are Donald Plank, Roy Smith, and Robert Black.

The University of Houston Society of Engineers had its first annual St. Patrick's Day Party and Dance on March 16, 1968. Paper contest winners were announced, prizes awarded, and the Engineers' Sweetheart was named.

In May of this year the new four million dollar engineering building will be dedicated on campus and Theta Tau will be looking forward to the ceremonies. Classes are already being held in this fabulous new building.

In closing we will say that Eta Beta Chapter of Theta Tau has completed a very successful year both socially and academically. We have grown very much in maturity as well as in prestige and we cannot help but foresee an even better year coming on us.

ROBERT BLACK
Corresponding Secretary

IOTA BETA CHAPTER



A fraternity is only as good as its members make it. Thus the pledge program of a fraternity should be one of its most important activities. It is the time when brothers get to know the prospective brothers and these "hopefuls" learn about the fraternity and its members. Only if both sides

make the most of this period and are satisfied at the end of it, does the fraternity gain new members who will help to make it a good fraternity.

The brothers of Iota Beta Chapter at the University of Detroit realize the importance of the pledge period and thus have arrived at a somewhat standard program for training our pledges. We are quite satisfied with our program but are always looking for ways to improve it.

After a rush period, in which we get a chance to meet those who are interested in pledging, we give out bids for that semester. Those who wish to accept the bid come to the first pledge meeting. At this meeting the pledges are told some of their duties and responsibilities and elect their pledge president. We also try to stress pledge unity, which we feel is quite important. They are also informed of their study hours (usually four hours a night) in which they cannot be interrupted by any of the brothers. They are about ready to begin the training period.

The pledges take four exams while they are pledges, at least three of which are written. These exams are on the material contained in the Theta Tau Pledge Manual and also on the membership of our Chapter. Above and beyond this knowledge, though, we also try to instill in them desire and leadership, qualities we feel can only benefit the Fraternity. Along with this, we give them projects to help them develop organization and teamwork.

No pledge period is a success unless the pledge is taught humility. Not all will agree with this statement, but most of the brothers of this Chapter realize that it is an important attribute. To promote this aspect, we have union hours from 11 to 2

in the afternoon in our student union. At this time the brothers sit at the tables and the pledges wait on them in front of the other fraternities and sororities who are doing the same thing. They get our lunches, sing songs, propose to beautiful young maidens, and generally keep us amused. Another main purpose of the union hour, though, is a further chance for both parties to get to know each other and also for us to quiz them on items they should know about the Fraternity. Repetition is the key to knowing the material contained in the Pledge Manual.

The pledges are given Big Brothers to whom they can come with any problems they might have during the pledge period. We also watch their school work closely. All the members are more than happy to help them out in a course which they may be having trouble with.

One of their main tasks during their training is to obtain the signature of every brother who is in town, three times. This gives us a chance to sit down and talk with them and to get to know them better, for we feel that a strong fraternal bond will exist between the members only if the members can get along with each other. The pledge period is the time to see if the prospective members can get along with the brothers. Serious clashes in personalities can only mean hard feelings and disunity later when they are members.

This semester we inaugurated a new program in our pledge period. We decided to have the pledges go to one of the Chapter officers each week to learn what he does in the Fraternity. This is a good way to show them how the Fraternity actually functions. We hope that this will help the wheels of the Fraternity run smoother, with less bumps.

The pledge period lasts six or seven weeks, with a session being held every two weeks to see if the brothers wish all the pledges to continue. Their last day of pledging is a "special" day. On it they are given two exams, one written and the other oral. Part of the oral is factual and part of it includes their own personal opinions and feelings. After this, another and final session is held by the brothers to see if all the pledges are now qualified to be initiated. This day is usually Friday and the new members are initiated on Sunday.

Again, we are always looking to improve our pledge training program, but at the present time we feel ours is a very satisfactory one.

DALE DOLESH
Corresponding Secretary

KAPPA BETA CHAPTER



It is a general belief of the members of Kappa Beta Chapter that the pledge program is the most critical phase of the Chapter's activities. Without a successful means of screening prospective members, the Fraternity would soon lose the spirit and meaning which membership holds for everyone.

The pledge program of Kappa Beta has two main goals—to thoroughly acquaint the pledged members with Theta Tau, its goals,

functions, and active members, and to give the active members a chance to get to know each of the pledges well enough to be sure beyond doubt that the pledge is worthy of membership. The principal means used to implement these goals is a name list which the pledges must have signed by all actives. Most members spend a good deal of time with the pledges, questioning them not only on material contained in the Pledge Manual, but on their personal ideals in engineering and life in general. This, we believe, is quite effective in developing a strong bond of brotherhood which Kappa Beta has.

So that the pledges will be instructed in the Pledge Manual material, parliamentary procedure, and general requirements of the pledge program, a weekly pledge meeting is held with the pledge officers in charge. Pledge-active sports activities are held almost weekly. Pledges are invited to take part in all Chapter social functions and are required to arrange for all decorations at parties and dances.

Kappa Beta requires that each pledge construct from hardwood a replica of the hammer appearing on the badge. Only hand tools may be used for this project.

A new feature of the pledge program is the "Thought Question," a question which requires the pledge to examine his motives and goals as an engineering student and as a member of society. One of these questions is assigned each week, and the answer, in short essay form, is due the following week. Penalty for failure to answer the question is a ten point deduction from the score on the pledge quiz for that week. The answers are made available to the active members for examination and evaluation. The pledges are then informed of the comments made on their answers.

With such a thorough and strenuous pledge program, Kappa Beta will continue to excel in its choice of members, and thus, the Chapter will progress.

RICHARD S. WALKER
Corresponding Secretary

GMI COLONY

The brothers of the Theta Tau Colony of General Motors Institute, Flint, Michigan, feel that the pledging period is vital to the establishment of brotherhood within the pledge class and between the pledges and the membership. In addition, it prepares each pledge for an enjoyable and productive tenure as an active member. Since the Colony's certification in 1965, the brothers have worked hard at developing a pledge program that will accomplish these goals. We have found our present program to be successful; however, we continually review it and remedy any weaknesses that become apparent.

Upon acceptance of a pledge bid, a rushee is formally initiated as a pledge of our colony and begins ten to eleven weeks of pledging. During his pledgeship, the pledge is expected to conduct himself in a manner becoming himself and the fraternity.

At the start of his pledgeship the pledge selects

a Big Brother from the membership. The Big Brother is there to help him during his pledgeship by answering questions or giving any assistance that he can to help the pledge successfully complete the program.

The pledge is required to keep a pledge book which contains interviews of all of his fellow pledges, the membership, and the faculty alumni. These interviews, we have found, are particularly helpful in establishing some initial personal contact between the pledges and the members. These interviews allow the pledge and member to talk casually and establish a better understanding of each other. These interviews are completed by the end of the third week of pledging. The pledge book also contains the pledge's attendance record at fraternity and pledge functions. Also, each book contains a page for membership usage to note a pledge's neglect of any of his responsibilities.

To help the pledges become acquainted with Theta Tau and its history on the national and local levels, they are required to learn the information contained in the Pledge and Membership Manual and the local colony history provided by the pledge-master. They are tested on both the local and national information before initiation.

To strengthen the pledge class and help them work as a unit, several pledge projects are required. There are two major projects. One of the major projects is the pledge class paddle, which must depict some phase of engineering. All of the projects require the pledges to use their engineering knowledge in some way. These projects also help to give the pledges a feeling of making a worthwhile contribution to the fraternity. Each pledge that successfully completes this program has shown himself worthy of membership. He is then initiated into the General Motors Institute Colony of Theta Tau.

This year the GMI colony initiated the observance of Engineering Week at General Motors Institute. During this week many displays and demonstrations were presented in various areas about the campus. The main display area in the gymnasium reflected the theme of safety for a better world. Advances in automotive safety and medical instrumentation were displayed in the gymnasium. The standing wave phenomenon, holograms, and the E/M (electron charge to mass ratio) tube demonstrations were presented in the physics lab area. Smog control devices and their use were demonstrated in the Exhaust Emission Laboratory. Two popular demonstrations were the analog computer simulations of automobile ride phenomenon and a B-52 flight that tested the navigation skills of interested "would be" pilots. The week was highlighted by a talk made by Mr. Roy Lunn, manager of Advanced Concepts Division for Ford Motor Company. The men of the GMI colony worked hard, putting in over 280 man-hours of work, in presenting the first annual Engineering Week observance at the Institute.

At the recent Central Regional Conference in Cleveland, Ohio the men of GMI colony were represented in force. A presentation was made in order to familiarize the represented chapters with the colony organization. The colony delegation was well received and many friends were made.

Academically, colony members have succeeded

THE GEAR OF THETA TAU



The GMI Colony sponsored Engineering Week, which featured a large display in the gym.

in maintaining an 86.2 grade point average while the school average is 84. This is reflected in the membership of seven colony members and two pledges in Alpha Tau Iota, the GMI honorary engineering society. Recently, the intelligence and reaction time of four colony members were tested in the Sigma Chi Bowl. The colony team took home the trophy, winning the event, which is modeled after the nationally known General Electric College Bowl.

The colony teams are becoming well known in intramural sports. Though these teams have yet to win a major sport tournament, success has been found in some minor ones, such as table tennis, bowling, and tennis. During this past school term, colony teams captured the table tennis and wrestling championships. The men of the GMI colony are sure that greater victories will come in the future.

Recently, several parties have been given by the colony, ranging from a rush party and dance to a bachelor party for a fellow member (poor guy!!).

The GMI colony of Theta Tau is always seeking to improve the engineering abilities and brotherhood of its members. We welcome any correspon-

dence initiating an exchange of ideas and policies with Theta Tau chapters.

KENNETH S. SOHOCKI
RUSSELL C. GODDARD
Public Relations Committee
E. L. PAULY
Corresponding Secretary

TENNESSEE TECH COLONY

The members of the Tennessee Tech Colony are well aware of the importance of an effective pledge program. The future of the colony, as well as the entire fraternity, is dependent upon the caliber of men initiated into the colony. Therefore, the pledge period is of utmost importance.

Each pledge period at the colony brings new and hopefully better ideas with it. We try to incorporate the proven ideas with the newer ones. As a result, each pledge group learns basically the same things in addition to a few newer things.

This quarter we have a large pledge class (twenty-five); therefore, we have divided the class into two groups—the Thetas and the Taus. This serves two purposes. The division relieves the pledgemaster of an overload of work since he is coordinator and at the same time supervisor of two assistant pledge leaders. Also, this benefits the pledge class as a whole. Each group learns to compete while at the same time stimulating a desire to work together for a common goal—the pledge project.

The pledge project is decided upon by the pledge class, but must be approved by the members of the colony. It must be something that benefits the entire colony. Last quarter a colony flag was designed and made, and it was presented at the Southern Regional Conference at Rolla, Missouri.

The members of the colony anxiously await the day that it lays down its colony status and dons the name "Beta Chapter of Theta Tau at Tennessee Technological University."

HARVILL EATON
Corresponding Secretary

Additions to Membership

ALPHA CHAPTER

- 805 Leo Joseph Walz, Belgrade, Minn.
806 Ronald Rex Foster, Little Fork, Minn.

DELTA CHAPTER

- 1093 Thomas Patrick Kicher (Honorary), Cleveland, Ohio
1094 Luther Dale Coad, Warren, Ohio
1095 Arthur Clayton Curtis, Jr., Chevy Chase, Maryland
1096 Mark Edward Fohl, Pittsburgh, Pa.
1097 Karl Gordon Kuhn, Shelby, Ohio
1098 Richard Preston Merrill, Jr., Fort Lauderdale, Fla.
1099 Robert Ira Nemhauser, Eastchester, N. Y.
1100 Dale Russell Richmond, Jr., Cleveland, Ohio
1101 Terry Robert Tuttle, Lockland, Ohio
1102 Theodore John Weisbruch, Jr., Arlington Heights, Ill.

IOTA CHAPTER

- 1071 Howard Othell Andrews, Jr., Independence, Missouri
1072 John Joseph Bertelsmeyer, Florissant, Mo.
1073 Aloys Hugo Faenger, Jr., St. Louis, Mo.
1074 Robert Charles Farrell, Afton, Mo.
1075 Fletcher Herbert Gancy III, St. Louis, Mo.
1076 Philip Charles Heckler, Long Island City, New York
1077 Merle Franklin Hill, Springfield, Mo.
1078 Michael Richert Kissing, Pacific, Mo.
1079 John Joseph Thomas Moll, St. Louis, Mo.
1080 Edward Arnold Mueller, St. Louis, Mo.
1081 Larry Glen Ryland, Odessa, Mo.
1082 Michael Joseph Schaffner, Clinton, Mo.

LAMBDA CHAPTER

- 894 James Bert Bunnell, Price, Utah
895 Jack Leon Burns, Ogden, Utah
896 Richard Bruce Fazzio, Helper, Utah

- 897 Ralph Lamar Fenstermaker, Salt Lake City, Utah
 898 Leland Kennedy Fitzgerald, Salt Lake City, Utah
 899 Edward Leslie Loveland, Salt Lake City, Utah
 900 Richard Melvin Shipley, Saratoga, Calif.
 901 Donald Keith Tryon, Salt Lake City, Utah
 902 William Charles Welder, Salt Lake City, Utah

MU CHAPTER

- 903 Philip George West, West Blockton, Ala.
 904 William Meek Arrington, York, Ala.
 905 Larry Allan Auerbach, Biloxi, Miss.
 906 Brooks Hobson Baker III, Warrior, Ala.
 907 Gary Joe Davis, Tuscaloosa, Ala.
 908 Thomas Marlowe Galloway, Jr., Mobile, Ala.
 909 William Dittmer Jordan, Jr., Tuscaloosa, Ala.
 910 James Edward Junkin, Tuscaloosa, Ala.
 911 Hollis Leland Keene, Plant City, Fla.
 912 Charles Vernon Lockard, Montgomery, Ala.
 913 Thomas David Loftin, Piedmont, Ala.
 914 Roger Andrew Newman, Tuscaloosa, Ala.
 915 Lawrence Gordon Nunnally III, Tuscaloosa, Alabama
 916 William Corbitt Parker, Jr., Tuscaloosa, Ala.
 917 Barry Noel Still, Tuscaloosa, Ala.
 918 Ronald Lee Wooten, Birmingham, Ala.

XI CHAPTER

- 318 Robin Charles Jahnke, Cornell, Wis.

RHO CHAPTER

- 738 Joseph Wendell Dyer, Jr., Fontana Dam, North Carolina
 739 James Clarke Havard, Falls Church, Va.
 740 Dennis Greene Haverland, Greensboro, North Carolina
 741 James Michael Reavis, Yadkinville, N. C.
 742 Larry Allen Weeks, Clinton, N. C.
 743 Clifford James Moore, Jr. (Honorary), Raleigh, N. C.

SIGMA CHAPTER

- 623 Kerry George Hertenstein, Cincinnati, Ohio
 624 William Roy Nolan, Lexington, Ohio
 625 Michael Dean Vansadale, Shelby, Ohio
 626 John Albert Wehner, Fairborn, Ohio

UPSILON CHAPTER

- 702 Walter Edward Skoog III, Hot Springs, Ark.
 703 Michael Daniel Selig, Corning, Ark.
 704 Henry Nason Kinney Brookings, Jr., Shreveport, La.
 705 Robert Allen James, Hot Springs, Ark.
 706 Ronald Harvey Haney, El Dorado, Ark.
 707 Frank Steven Crow, Berryville, Ark.
 708 Billy Mack Vest, North Little Rock, Ark.
 709 Virgil Edward Ellis, Jr., North Little Rock, Arkansas

CHI CHAPTER

- 730 Roy Tadashi Kawamoto, Koloa, Kauai, Hawaii
 731 William Allen Mansfield, Douglas, Ariz.
 732 Andrew Michael Rendes, Tucson, Ariz.
 733 Paul Mills Stevens, Tucson, Ariz.
 734 Billie Neal Thomas, Rumson, N. J.

OMEGA CHAPTER

- 677 Glenn Allan Beusch, McLaughlin, S. D.
 678 Douglas Edmund Cameron II, Rapid City, South Dakota
 679 Randall Gail Kemink, Castlewood, S. D.
 680 Thomas Dale Rolland, Wall, S. D.
 681 Leland Milton Skogen, Hettinger, N. D.

DELTA BETA CHAPTER

- 423 Robert Shelley Brown II, Louisville, Ky.
 424 David Glenn Cherry, Louisville, Ky.
 425 Thomas Michael Gerstle, Louisville, Ky.
 426 Ronald Lee Hauss, Louisville, Ky.

EPSILON BETA CHAPTER

- 215 Stephen Robert Anderson, Detroit, Mich.
 216 Daniel John Findlay, Grosse Pointe Woods, Michigan
 217 Stanley Frank Finn, Detroit, Mich.
 218 James John Gessner, Wyandotte, Mich.
 219 James Andrew Mikola, Detroit, Mich.
 220 Gary John Milson, Rochester, Mich.
 221 Gaetano Tom Rizzo, Roseville, Mich.
 222 Lawrence John Wisniewski, Detroit, Mich.

ETA BETA CHAPTER

- 132 John Thomas Anderson, Houston, Texas
 133 Charles Mark Blair, Houston, Texas
 134 David Ira Brown, Houston, Texas
 135 James Chervenka, Jr., Port Lavaca, Texas
 136 Homer Thomas Collins, League City, Texas
 137 Robert Glen Dodds, Houston, Texas
 138 Larry Wayne Cana, Bellaire, Texas
 139 Kenneth Ray Holdt, Houston, Texas
 140 Joe Aaron Mendoza, Houston, Texas
 141 Leonard Edwin Packham, Jr., Houston, Texas
 142 Davy Gene Pampell, Houston, Texas
 143 James Byron Rooks, Jr., Houston, Texas
 144 Kenneth Herschel Wilson, Houston, Texas

THETA BETA CHAPTER

- 53 Donald Alan Legg, Seattle, Wash.

IOTA BETA CHAPTER

- 110 Robert Joel Barnhart, Rockville, Md.
 111 Gary Robert Bura, Erie, Pa.
 112 Anthony Bernard DeJoseph, Buffalo, N. Y.
 113 Thomas Joseph DePaul, Bradford, Pa.
 114 John Joseph Griffin, Caledonia, N. Y.
 115 George Jan Joseph Milanowski, Orchard Park, N. Y.
 116 Matthew Walter Plonsky, Scranton, Pa.

KAPPA BETA CHAPTER

- 87 Thomas Arnot Butera, Biloxi, Miss.
 88 Johnny Eugene Cavin, Natchez, Miss.
 89 Harmon Morton Connell, Natchez, Miss.
 90 David Clark Conrad, Vicksburg, Miss.
 91 Larry Stephen Faust, Jackson, Miss.
 92 Robert Williams Field, Shugulak, Miss.
 93 J C Goldman, Jr., Philadelphia, Miss.
 94 Richard Lee Holliday, Gulfport, Miss.
 95 William Percy Howard, Canton, Miss.
 96 Robert Gary Lippincott, Scobey, Miss.
 97 Johnny Parrish Ross, Yazoo City, Miss.
 98 Louis Blaine Totty, Jr., Memphis, Tenn.
 99 Jimmy Dale Vickery, Como, Miss.



Theta Tau Directory

Theta Tau Fraternity was founded at the University of Minnesota, Minneapolis, Minnesota, on October 15, 1904, by: ERICH J. SCHIRADER; ELWIN L. VINAL, 4039 West Mercer Way, Mercer Island, Washington 98040; WILLIAM MURRAY LEWIS, 33 Pilgrim Lane, Drexel Hill, Pennsylvania 19026; and ISAAC B. HANKS.

PAST GRAND REGENTS

- | | |
|---|---|
| ERICH J. SCHIRADER, <i>Alpha</i> , (1904-1919)* | RALPH W. NUSSE, <i>Zeta</i> , (1946-1948), 609 West |
| GEORGE D. LOUDERBACK, <i>Epsilon</i> , (1919-1925)* | Dartmouth, Kansas City, Missouri 64113 |
| J. SIDNEY MARINE, <i>Eta</i> , (1925-1927), 45 Popham | NORMAN B. AMES, <i>Gamma Beta</i> , (1948-1950)* |
| Road, Scarsdale, New York 10583 | DONALD D. CURTIS, <i>Omicron Hon.</i> (1950-1952)* |
| RICHARD J. RUSSELL (Dr.), <i>Epsilon</i> , (1927-1931), | JAMISON VAWTER, <i>Zeta</i> , (1952-1954)* |
| 4575 Highland Rd., Baton Rouge, La. 70808 | A. DEXTER HINCKLEY, <i>Theta</i> , (1954-1958), 154 |
| FRED COFFMAN, <i>Lambda</i> , (1931-1935)* | East River Road, Guilford, Conn. 06437 |
| HERMAN H. HOPKINS, <i>Beta</i> , (1935-1937), 3320 | CHARLES W. BRITZIUS, <i>Alpha</i> , (1958-1962), 662 |
| Culver Avenue, Evanston, Illinois 60201 | Cromwell Avenue, St. Paul, Minnesota 55114 |
| JOHN M. DANIELS (Dr.), <i>Nu Hon.</i> (1937-1939), | WILLIAM K. REY (Prof.), <i>Mu</i> , (1962-1966), P.O. |
| 338 Cole Road, Sarver, Pa. 16055 | Box 664, University, Alabama 35486 |
| RUSSELL G. GLASS, <i>Sigma</i> , (1939-1946), Saddle- | |
| back Lane, Gates Mills, Ohio 44040 | |

* Deceased

EXECUTIVE COUNCIL

- | | |
|-------------------|---|
| GRAND REGENT | C. RAMOND HANES, <i>Ohio State</i> '24 |
| | 581 East Dominion Boulevard, Columbus, Ohio 43214 |
| GRAND VICE REGENT | CHARLES E. WALES (Dr.), <i>Wayne State</i> '53 |
| | College of Engineering, Wright State University, Dayton, Ohio 45431 |
| GRAND SCRIBE | ROBERT E. POPE, <i>Kansas</i> '52 |
| | 13 Sona Lane, Saint Louis, Missouri 63141 |
| GRAND TREASURER | CHARLES W. BRITZIUS, <i>Minnesota</i> '33 |
| | 662 Cromwell Avenue, St. Paul, Minnesota 55114 |
| GRAND MARSHAL | RICHARD LYNCH, <i>Wayne State</i> '53 |
| | 31675 Shiawassee, Apt. 4, Farmington, Michigan 48024 |
| GRAND INNER GUARD | JAY N. THORPE, <i>Utah</i> '57 |
| | 5208—119th Avenue, S.E., Bellevue, Washington 98004 |
| GRAND OUTER GUARD | GEORGE C. DODD (Dr.), <i>Kansas</i> '60 |
| | 29451 Cunningham Drive, Warren, Michigan 48092 |
| DELEGATE-AT-LARGE | WILLIAM K. REY (Prof.), <i>Alabama</i> '45 |
| | P. O. Box 664, University, Alabama 35486 |

CENTRAL OFFICE

- ROBERT E. POPE, *Kansas* '52, Executive Secretary 13 Sona Lane, Saint Louis, Missouri 63141

REGIONAL DIRECTORS

- | | |
|----------|--|
| NORTHERN | JAMES L. REYNOLDS, <i>Minnesota</i> '58, Mechanical Engineering Department, University of Minnesota, Minneapolis, Minnesota 55455 (Alpha, Beta, Xi, Omicron) |
| SOUTHERN | FRED E. ARMSTRONG, JR., <i>Alabama</i> '61, 1442 Tullie Road, N.E., Atlanta, Georgia 30329 (Zeta, Iota, Mu, Upsilon, Eta Beta, Kappa Beta) |
| CENTRAL | LAWRENCE F. FELDSEN, <i>Minnesota</i> '62, Battelle Memorial Institute, 505 King Ave., Columbus, Ohio 43214 (Delta, Sigma, Phi, Delta Beta, Epsilon Beta, Iota Beta) |
| EASTERN | JOHN M. DEALY (Dr.), <i>Kansas</i> '58, Department of Chemical Engineering, McGill University, Montreal 2, Quebec, Canada (Theta, Pi, Rho, Tau, Gamma Beta) |
| WESTERN | GARN HATCH, <i>Utah State</i> '56, 2011 Bryan Avenue, Salt Lake City, Utah 84108 (Gamma, Epsilon, Lambda, Chi, Psi, Omega, Zeta Beta, Theta Beta) |

SPECIAL APPOINTMENTS

- | | |
|---------------------------------------|--|
| ARCHIVIST | MILTON S. WUNDERLICH, <i>Minnesota</i> '19, 545 Mount Curve Blvd., St. Paul, Minn. 55116 |
| SPECIAL REPRESENTATIVE FOR CALIFORNIA | JACK E. PAYNE, <i>Utah</i> '62, 1142 McKendrie, San Jose, California 95126 |

CHAPTERS AND CHAPTER ADVISERS

ALPHA	Founded October 15, 1904 _____ University of Minnesota 515 Tenth Avenue, S. E., Minneapolis, Minnesota 55414* Adviser: DR. MILES S. KERSTEN, 247 Experimental Engineering, University of Minnesota, Minneapolis, Minnesota 55455
BETA	Established March 26, 1906 _____ Michigan Technological University U. S. Highway 41, Houghton, Michigan 49931* Adviser: PROF. HERBERT W. HAWN, Mechanical Engineering Department, Michigan Technological University, Houghton, Michigan 49931
GAMMA	Established November 8, 1907 _____ Colorado School of Mines Box 134, Colorado School of Mines, Golden, Colorado 80401 Adviser: DR. L. W. LeROY, Department of Geology, Colorado School of Mines, Golden, Colorado 80401
DELTA	Established May 23, 1911 _____ Case Western Reserve University Theta Tau Box, Case Western Reserve University, Cleveland, Ohio 44106 Adviser: DR. THOMAS P. KICHER, 1513 Sherbrook Road, South Euclid, Ohio 44121
EPSILON	Established May 4, 1911 _____ University of California Theta Tau, North Gate Hall, University of California, Berkeley, California 94720 Adviser: DR. JAMES M. CARMAN, School of Business Administration, University of California, Berkeley, California 94704
ZETA	Established April 17, 1912 _____ University of Kansas P. O. Box B, Lawrence, Kansas 66044 Adviser: PROF. F. H. C. SMITHMEYER, 2130 Owens Lane, Lawrence, Kansas 66044
THETA	Established May 26, 1914 _____ Columbia University c/o Dean's Office, School of Engineering, Columbia U., New York, N. Y. 10027 Adviser: DR. ELMER L. GADEN, Department of Chemical Engineering, Columbia University, New York, New York 10027
IOTA	Established February 5, 1916 _____ University of Missouri at Rolla Student Union, University of Missouri at Rolla, Rolla, Missouri 65401 Adviser: PROF. FRANK J. CAPEK, Civil Engineering Department, University of Missouri at Rolla, Rolla, Missouri 65401
LAMBDA	Established April 29, 1920 _____ University of Utah Merrill Engineering Building, University of Utah, Salt Lake City, Utah 84112 Adviser: PROF. PRESTON D. LINFORD, Civil Engineering Department, University of Utah, Salt Lake City, Utah 84112
MU	Established January 3, 1922 _____ University of Alabama 300 Thomas Street, Tuscaloosa, Alabama 35401* Adviser: PROF. WILLIAM K. REY, P. O. Box 664, University, Alabama 35486
XI	Established January 13, 1923 _____ University of Wisconsin 1633-35 Monroe Street, Madison, Wisconsin 53711* Adviser: DR. JOHN W. MITCHELL, Department of Mechanical Engineering, University of Wisconsin, Madison, Wisconsin 53706
OMICRON	Established February 3, 1923 _____ University of Iowa Theta Tau Box, Engineering Building, Iowa City, Iowa 52240 Adviser: DR. DONALD H. MADSEN, Engineering Building, Iowa City, Iowa 52240
PI	Established May 26, 1923 _____ University of Virginia Thornton Hall, University of Virginia, Charlottesville, Virginia 22903 Adviser: DR. GEORGE B. MATTHEWS, Department of Aerospace Engineering, University of Virginia, Charlottesville, Virginia 22903
RHO	Established February 16, 1924 _____ North Carolina State University at Raleigh P. O. Box 5282, State College Station, Raleigh, North Carolina 27607 Adviser: DR. FORREST W. LANCASTER, P. O. Box 5367, State College Station, Raleigh, North Carolina 27607
SIGMA	Established November 29, 1924 _____ Ohio State University 1946 Indianola Avenue, Columbus, Ohio 43201* Adviser: JAY P. MITCHELL, 52 W. California Ave., Columbus, Ohio 43202

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CHI	Established April 23, 1930 _____ University of Arizona 1614 East Speedway Boulevard, Tucson, Arizona 85719* <i>Adviser:</i> PROF. PHILIP B. NEWLIN, Civil Engineering Department, University of Arizona, Tucson, Arizona 85719
PSI	Established May 7, 1932 _____ Montana College of Mineral Science & Technology Residence Hall, Montana College of Mineral Science & Tech., Butte, Montana 59701 <i>Adviser:</i> PROF. WILLIAM J. VAN MATRE, Department of Mining Engineering, Montana College of Mineral Science & Technology, Butte, Montana 59701
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DELTA BETA	Established May 20, 1939 _____ University of Louisville 2022 South First Street, Louisville, Kentucky 40208* <i>Adviser:</i> WILLIAM T. McDONALD, 2315 Napoleon Blvd., Louisville, Ky. 40205
EPSILON BETA	Established May 19, 1951 _____ Wayne State University 478 West Alexandrine, Detroit, Michigan 48201 <i>Adviser:</i> DR. HAROLD C. DONNELLY, Chemical and Metallurgical Engineering Department, Wayne State University, Detroit, Michigan 48201
ZETA BETA	Established May 7, 1960 _____ Utah State University Box 254, Union Building, Utah State University, Logan, Utah 84321
ETA BETA	Established May 13, 1961 _____ University of Houston 2551 North MacGregor, Houston, Texas 77004* <i>Adviser:</i> PROF. WILLIAM J. LEACH, Assistant Dean, Cullen College of Engineering, University of Houston, Houston, Texas 77004
THETA BETA	Established March 2, 1963 _____ University of Washington c/o General Engineering Building, University of Washington, Seattle, Wash. 98105 <i>Adviser:</i> PROF. W. BURNETT BONOW, General Engineering, University of Washington, Seattle, Washington 98105
IOTA BETA	Established February 15, 1964 _____ University of Detroit Theta Tau, University of Detroit, Detroit, Michigan 48221 <i>Adviser:</i> DR. LAWRENCE N. CANJAR, Dean of Engineering, University of Detroit, Detroit, Michigan 48221
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Our cover features twelve outstanding members of Theta Tau who have appeared on the covers of nationally circulated magazines. Shown at the far left (top to bottom) are STANLEY LEARNED, *Kansas '24*, vice chairman of the board, Phillips Petroleum Company; CHARLES LUCKMAN, *Illinois '30*, president, Charles Luckman Associates, former president, Lever Brothers Company; GENERAL CURTIS E. LEMAY, *Ohio State '29*, chairman of the board, Networks Electronic Corporation, former chief of staff, U.S. Air Force; CHARLES E. SPAHR, *Kansas '34*, president, Standard Oil Company (Ohio); and WILLIAM B. MURPHY, *Wisconsin '28*, president, Campbell Soup Company. On the top diagonal (left to right) are C. MAXWELL STANLEY, *Iowa '26*, president, Stanley Engineering Company; MUIR L. FREY, *Missouri at Rolla '22*, consulting metallurgist; and PAUL ENDACOTT, *Kansas '23*, former vice chairman of the board, Phillips Petroleum Company. At the far right is W. MAXEY JARMAN, *MIT '25*, chairman, Genesco, Inc. On the bottom diagonal (left to right) are HARRY DARBY, *Illinois '17*, chairman, The Darby Corporation, former U.S. Senator; WALDO G. BOWMAN, *Kansas '23*, former editor and publisher, *Engineering News-Record*; and ROBERT R. GILRUTH, *Minnesota '35*, director, NASA's Manned Spacecraft Center. We have a few other covers featuring Theta Taus on file, and when enough are accumulated, another cover of this type will be featured. Readers are invited to contribute any they may have.