

# *The* GEAR *of* THETA TAU



*Spring, 1929*

VOLUME XVIII

NUMBER 2



P1

*The* GEAR *of*  
THETA TAU



SPRING, 1929

VOLUME XVIII

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## Employment Bureau Notice

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### **Petroleum Engineer Wanted**

A Petroleum Engineer is needed by a State University in one of the petroleum producing states. Salary will depend on the experience and qualifications of the man selected, probably \$3500 as a maximum at the start. Ample time will exist for outside consulting practice. Duties will consist of teaching courses in Petroleum Engineering. Actual field experience rather than advanced academic training is desired. If interested write Petroleum Engineer, care of GEAR OF THETA TAU, 101N Engineering Hall, Iowa City, Iowa.



# The GEAR of THETA TAU

OFFICIAL PUBLICATION OF THE FRATERNITY

DONALD D. CURTIS, OMICRON '19

EDITOR AND BUSINESS MANAGER

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Founded at the University of Minnesota  
October 15, 1904

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W. MURRAY LEWIS

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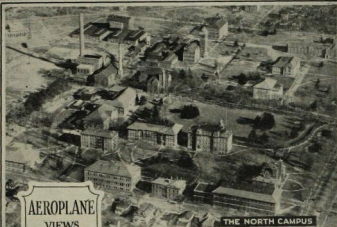
- J. SIDNEY MARINE, Eta '18 . . . . . *Past Grand Regent*  
7 East 42nd Street, New York City

## Alumni Associations

- Central Ohio*—Emmett E. Knorr, 1970 N. High Street, Columbus, Ohio.
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- Pittsburgh*—Prof. Chas. R. Fettke, Carnegie "Tech," Pittsburgh, Pa.
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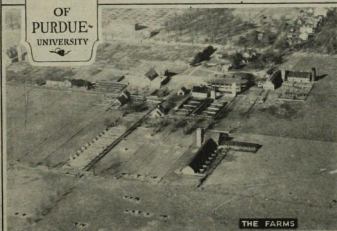
## CHAPTERS

- ALPHA, *Founded October 15, 1904* - - - University of Minnesota  
(Chapter house) 629 Washington Ave., S. E., Minneapolis, Minn.
- BETA, *Established March 26, 1906* Michigan College of Mining and Tech.  
(Chapter house) Theta Tau Fraternity, Houghton, Mich.
- GAMMA, *Established November 8, 1907* - - Colorado School of Mines  
P. O. Box 12, Golden, Colorado
- DELTA, *Established May 23, 1911* - - Case School of Applied Science  
Case School of Applied Science, Cleveland, Ohio
- EPSILON, *Established May 4, 1911* - - - University of California  
Box, Hearst Mining Bldg., University of California, Berkeley, Calif.
- ZETA, *Established April 17, 1912* - - - University of Kansas  
(Chapter house) 1409 Tennessee Street, Lawrence, Kansas
- ETA, *Established May 23, 1912* - Massachusetts Institute of Technology  
Care of Prof. James Jack, M. I. T., Cambridge Mass.
- THETA, *Established May 26, 1914* - - - Columbia University  
Care of Prof. T. H. Harrington, Columbia University, New York City
- IOTA, *Established February 5, 1916* - - - Missouri School of Mines  
P. O. Box 629, Rolla, Missouri
- KAPPA, *Established March 25, 1916* - - - University of Illinois  
P. O. Box 516, Station A, Champaign, Illinois
- LAMBDA, *Established April 29, 1920* - - - University of Utah  
Box 101, University of Utah, Salt Lake City, Utah
- MU, *Established January 3, 1922* - - - University of Alabama  
P. O. Box 724, University, Alabama
- NU, *Established January 1, 1922* - - Carnegie Institute of Technology  
P. O. Box 114, Carnegie Institute of Technology, Pittsburgh, Pa.
- XI, *Established January 13, 1923* - - - University of Wisconsin  
Inactive
- OMICRON, *Established February 3, 1923* - - - University of Iowa  
(Chapter house) 715 Iowa Avenue, Iowa City, Iowa
- PI, *Established May 26, 1923* - - - University of Virginia  
P. O. Box 54, University, Virginia
- RHO, *Established February 16, 1924* N. C. State College of Ag. and Eng.  
P. O. Box 252-A, State College Station, Raleigh, N. C.
- SIGMA, *Established November 29, 1924* - - - Ohio State University  
(Chapter house) 70 East 18th Avenue, Columbus, Ohio
- TAU, *Established December 12, 1925* - - - Syracuse University  
P. O. Box 11, University Station, Syracuse, New York
- UPSILON, *Established April 7, 1928* - - - University of Arkansas  
P. O. Box 96, University Station, Fayetteville, Arkansas
- PHI, *Established April 21, 1928* - - - Purdue University  
(Chapter house) 40 N. Salisbury St., West Lafayette, Ind.



AEROPLANE  
VIEWS  
OF  
PURDUE  
UNIVERSITY

THE NORTH CAMPUS



THE FARMS

# THE HISTORY OF PURDUE UNIVERSITY AND PHI CHAPTER

By THOMAS MUELLER, Phi '29

Purdue University is a "Land Grant College," and, in common with all such institutions, owes its origin to the Morrill Act passed by Congress on July 2, 1862. This act offered grants of public land to the several states for the purpose of aiding in the maintenance of colleges whose "leading objects" should be, "without excluding other scientific or classical studies, and including military tactics, to teach such branches of learning as are related to Agriculture and the Mechanic Arts."

Purdue University was founded by the General Assembly of the State of Indiana in 1869, and was named in honor of John Purdue, a prominent citizen of Lafayette, who gave liberally of his energies and resources in helping to establish the University. Financial support comes from the State with some assistance from the National Government.

## PHI CHAPTER



*Third Row (left to right): Kirkham, Walmsmith, Fawcett, Mueller, Stradling, Moss, Ropp, Myers, Hanson.*

*Second Row: Divan, Keiser, Van Meter, Adkins, Rinehart, Pence, Scott, Wilson, Kapps.*

*Front Row: Garman, McLaren, Pike, Hoskinson (Prof.), Moran, Burns, McMahan, Bower, Zwinger, Hallowell.*

The University has enjoyed a steady growth since its inception. There are now enrolled 3700 students from forty-one states and fifteen foreign countries. The faculty and staff number nearly 500. On the campus are thirty-six principal buildings, housing the teaching and research departments for Engineering, Agriculture, Science, Home Economics, and Pharmacy.

Ever since the founding of the University it has been primarily an Engineering school. The enrollment in the schools of Chemical, Civil, Electrical, and Mechanical Engineering constitutes about two-thirds of the total enrollment of the University. At the present time Purdue and the Massachusetts Institute of Technology are the two largest engineering schools in the United States. Six thousand five hundred engineers have been graduated and several thousand others have studied at Purdue University one or more years. For forty-three years graduates of this school have been doing their share in the work of world advancement, performing their services effectively and quietly.

Separate buildings are provided for each of the engineering schools. These buildings contain classrooms, lecture rooms, and laboratories equipped for practical instruction in testing materials, hydraulics, electrical, chemical, steam and gas, railway, and automotive engineering. There is a 600,000 volt high tension laboratory, and transmission lines; a locomotive testing laboratory, the first of its kind, supplemented by a locomotive museum; an air brake testing laboratory and a laboratory for testing draft gears, both engaged in important research work for the American Railway Association.



CIVIL ENGINEERING BUILDING, PURDUE UNIVERSITY



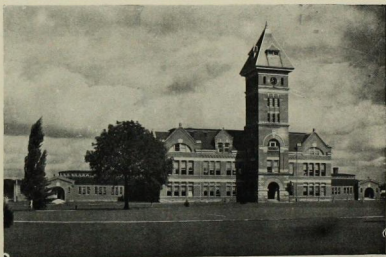
The University is served by a modern power plant which is available for instructional and experimental testing in power engineering.

There are at present about one hundred teachers offering 250 technical courses to about 2700 engineering students. In addition to these, there are teachers in English, History, Economics, Science, Mathematics, Languages, and other courses who are instructing engineering students. The Purdue engineering student devotes more than a third of his time to subjects which are acceptable for a Bachelor of Arts degree at any Liberal Arts college.

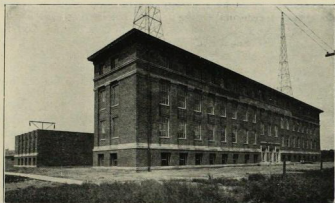
The Engineering Experiment Station, organized in 1917, conducts researches in the field of engineering, coöperates with Engineering Societies, and publishes in bulletin form the results of its work. About one hundred engineering students devote their full time to engineering research.

It is fitting to say that Purdue University has clung rather closely to the purposes for which it was established. The main purpose of the institution has been to train men for service in the fields of engineering, agriculture, and science; and at the present time there are about ten thousand graduates and nearly twice that number of former students engaged in technical and scientific pursuits all over the world.

Phi Chapter had its origin in the club Torque fraternity, which was founded in the spring of 1921, and organized with the idea of setting up a new type of fraternity at Purdue University. The purpose of the new organization was to bring together in a fraternal group engineering students of superior ideals and scholastic ability who could maintain a uniformly high scholarship and at the same time participate in campus activities and athletics. Thus, high standards of college work could be emphasized, a closer bond could be formed between the faculty and the student, loyalty to the profession could be



MECHANICAL ENGINEERING BUILDING, PURDUE UNIVERSITY

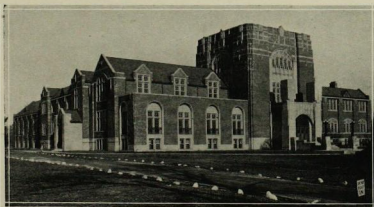


ELECTRICAL ENGINEERING BUILDING, PURDUE UNIVERSITY

strengthened, and the engineering profession as a whole could be aided in a practical manner.

A house was leased immediately and the organization took its place along side the other thirty-four fraternities. As the fraternity grew, its position became firmly established and succeeding years were even more successful. Many of the leading men of the engineering schools were among its initiates, and it was well represented in athletics and other activities. For more than seven years Torque was recognized for its high scholastic standing, never ranking lower than ninth on the campus. The selection of faculty members has proved very fortunate, for they have been without exception men who have ably assisted in the development of the fraternity.

It has been active in a social way without trying to compete with other so-

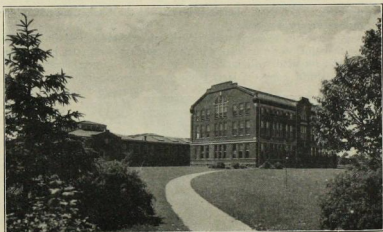


MEMORIAL UNION BUILDING, PURDUE UNIVERSITY



cial organizations on the campus. A formal dance is given in the spring, and two or three other dances are held during the school year. Four years ago an annual faculty smoker was instituted at the chapter for all members of the Engineering Faculty. This event has always met with splendid response.

Torque fraternity petitioned for admittance into Theta Tau. A charter was granted by the national convention in December of 1927. Formal installation took place the following spring on April 21, when nineteen charter members were initiated.



MICHAEL GOLDEN SHOPS, PURDUE UNIVERSITY

With the added prestige of being Theta Tau, the chapter has progressed substantially since its installation. It has moved to a more desirable home and the membership has been strengthened appreciably.

In conclusion, Phi chapter wishes to renew its pledge to uphold the high standards of Theta Tau and to increase its influence in the engineering schools of Purdue.

---

Prof. Frank R. Van Horn, Delta Hon. '92, expects to leave May 16th on a trip to various foreign countries to be gone until early in October. Among the places he expects to visit are Berlin, Bremen, Frankfort, Antwerp, Brussels, and possibly Paris. He will sail from Southampton on June 21st to attend the Fifteenth International Geological Congress at Pretoria, South Africa. While in Africa he intends to visit the Kimberley Diamond Fields and also the Johannesburg Gold Fields.

## THE WORLD'S LARGEST ELECTRIFIED METAL MINE

By M. R. BUDD, Gamma '24, Publicity Department, General Electric Company  
(Excerpt from *Colorado School of Mines Magazine*)

What Miner hasn't been to Bingham Canon? This interesting mining town, familiar land mark for nearly every mining inspection trip sponsored by the Colorado School of Mines, is to lose the steam locomotives which have picturesquely chugged along the benches of the Utah Copper Co. open-cut property for many years.

Just as electricity replaced steam in the giant shovels used in excavation work on the mine, so electrification of the tramping system has been ordered, which, when installed, will make this property the largest electrified metal mine in the world using the largest number of electric locomotives ever applied to an open-cut mine.

In order to complete the electrification, a minimum of twenty electric locomotives, and a maximum of approximately 40, have been ordered by the company. It is estimated that between two and three years will be required to complete the undertaking, though the first units are being delivered in the fall.

The Utah Copper Co. project, at Bingham Canon, is one of the most interesting mines in the country. Stripping from more than a score of benches, tiered above one another on the mountain side; mining enormous quantities of copper ore by huge electric shovels; mining with profit an ore having but a low copper content; and hauling its waste to dumps which are veritable moun-



M. R. BUDD, GAMMA '24

tains in themselves, the huge undertaking is a tribute to the genius of the mining engineering profession.

Because of the many benches, all connected by switch backs, there is much more trackage than would be found in an underground ore body of the same size. This presents a transportation problem which is highly involved, and which also must be operated economically because of the low percentage of copper in the ore.

After great success in electrifying actual mining operations, the company officials decided to experiment with electric trammimg. The result has been the order to electrify the entire haulage system.

Beginning the series of experiments, lasting over a year, the first installation was a 60 ton Diesel oil-electric locomotive, manufactured jointly by Ingersoll-Rand, the American Locomotive Co., and General Electric. Altho the actual operation of this locomotive was satisfactory, yet it could not be adopted because of its great overall length which was a serious drawback in the switch backs, and also because of its high cost.

A trolley type of locomotive was then considered, and this, supplemented by storage batteries and cable reel connections, was finally adopted, after tests for about a year. The original locomotive was a 75-ton unit specially designed for service at this mine, the peculiar arrangement of the "benches"



ELECTRIC LOCOMOTIVE IN ACTION

making it necessary to operate locomotives by means of each and all of the power collection devices described.

This preliminary electrification worked out so satisfactorily that the Utah Copper Company decided on an initial installation of 20 General Electric locomotives of similar type, to be put in operation as early as possible. Additional locomotives will be built by the General Electric Company at the company shops in Erie, Pa., and put in service later. Of the first 20 locomotives, however, only two will be equipped with storage batteries similar to the original trial unit, the remainder omitting this accessory and drawing the power from overhead and side-arm pantagraph trolleys, or from a trailing cable.

Each locomotive is designed to operate from a single 750-volt contact wire. Two substations will be required. The power will be obtained from the Utah Power and Light Company's system at 132,000 volts, alternating current; transformed at Magna to 44,000 volts; transmitted over a double cir-

cuit copper line to Bingham, and then transformed to 550 volts, alternating current, following which four 1000 kw. synchronous converters convert it from alternating current at 550 volts to direct current at 750 volts.

These substations will be of the latest type with automatic control including load-responsive starting and stopping. Because of this automatic equipment, no operators will be required. In addition to the substations, an extensive system of electrification will be needed to distribute the power to various points where it will be needed. The locomotives, which are said to be the most powerful, and most compact industrial locomotives ever built, are equipped with four 250-hp. motors. They will operate from overhead contact wires on the heavy grades and so-called permanent tracks, but where track movements are more frequent, and the liability of injury to overhead construction great, the locomotives will operate from a contact wire placed on either side and at some distance from the center of the track.

The new locomotives are described as being of the articulated truck, steeple-cab type with rigid frame, made of heavy steel plate sides carried on combination semielliptic and helical springs. The main cab of the storage battery locomotive is over ten feet square, and in this cab is the engineer's seat and control stations with necessary electric equipment.

The four large totally-enclosed electric motors are controlled by a single-unit, the three-speed control being arranged for series, series parallel and parallel operation. Resistors of sufficient capacity for the specified service are cut in and out by solenoid-operated contractors of proper size to open and close the power circuits. Complete protection and metering equipment is provided by suitable relays and instruments.

The overhead pantograph trolley on each locomotive is raised by a spring and lowered by air. Both operations are controlled by the engineer in the cab. In addition, there are two side-arm pantograph trolleys, one mounted on each side of the cab room. These trolleys are extended and withdrawn by air, under control of the engineer.

The electric cable reel, mounted under the platform beneath the cab, carries a suitable length of flexible rubber-covered cable, and is of the vertical axis type driven by a motor which automatically winds or unwinds the required length of cable.

In the storage battery locomotives, a ball bearing battery-charging motor-generator set in the locomotive cab is arranged to charge the battery through its control without the use of a charging resistor, and is complete with all the necessary control and protection.

A two-stage railway type air compressor, also in the locomotive cab, provides the necessary air for operating the double-end locomotive air brake equipment.

The electric locomotives will haul the ore cars up the side of the mountain by means of switchbacks, over the various benches, to the shovels where the cars will be loaded and then bring them back to the foot of the mountain. There the ore cars will be made up into long trains and transported 17 miles to the mill at Magna over the Bingham & Garfield Railroad.

## THE AMERICAN ENGINEER AND LATIN AMERICA

By R. S. CANNON, Kappa '26

The average young American engineer doesn't give a thought to the vast wealthy territory lying south of the Rio Grande River, comprising the countries known as Latin America, for the reason that he is unfamiliar with Spanish, which is the universal language except in Brazil, where Portuguese is spoken mainly. He may occasionally read a distorted account in the news papers of some local revolution, and his general idea of the whole of Mexico, Central, and South America is that of a hot, unhealthy expanse of tropical swamps, where revolutions and banditry are the favorite pastimes of ignorant natives.

Such, however, is far from the case. For instance: very few Americans know that there are colleges and universities in some of these countries founded years before Harvard was ever thought of. Most Americans would be greatly surprised to know that the temperature in Mexico City almost never goes above 80°, and that snow stays on two nearby mountain peaks all year round; that Guatemala City, San Salvador, and Tegucigalpa, Honduras, never know the extreme heat felt in most parts of the United States during the summer months.

In July, 1928, the writer made a trip overland from Tegucigalpa, Honduras, across Salvador, Guatemala, and Mexico, entering the United States at El Paso, and proceeding across Texas to Little Rock, Arkansas. He was at sea level at La Union, Salvador, practically at sea level from Suchiate (on the border between Mexico and Guatemala) to San Geronimo, Mexico, and again at Vera Cruz, and at no time during the trip was the heat so intense as in the states of Texas and Arkansas.

Honduras and Nicaragua seem to be the weak sisters, due perhaps to the rugged mountainous profile of the land, and a lack of natural resources, but with these two exceptions the people in Latin America are progressive, energetic, courteous, and, compared with Chicago, very peaceful. Even the lowest peon could give the average well educated American lessons in courtesy.

To be sure, none of these countries have anywhere near reached the state of industrial or agricultural development, or the wealth per capita of the United States. Granted that a large



R. S. CANNON, KAPPA '26



CHURCH IN COMAYAGUELA

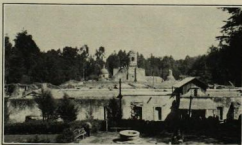
education, and is slowly but surely coming to the front. American capitalists are realizing that there is much more to be gained by developing rather than by exploiting, and Latin America is showing her appreciation of this change of attitude by ordering American equipment, employing American engineers, and sending men to the United States to study American methods of business.

Three great engineering projects are at present under way, which, when completed, will develop and add materially to the wealth of the countries participating. The one of these receiving the most publicity is a grand international highway, extending from Ottawa, Canada, passing through Washington, D. C., entering Mexico at Laredo, Texas, through Mexico City, Guatemala City, San Salvador, and on down through Central America and the west coast of South America as far south as Valparaiso, Chile; then across to Buenos Aires and up to Rio de Janeiro, Brazil.

Any engineer can readily realize the immensity of this undertaking, particularly in view of the topography of some of the countries through which the road will pass. However, it is not merely the wild idea of some cracked highway engineer, nor of a cement manufacturer dreaming of the amount of cement he could sell for concreting such a road. In fact, a number of conferences have already been held by competent engineers representing the various countries, and a great deal of study has been given to selecting the best possible routes, and to methods of financing such a gigantic undertaking. Mexico has started work on the Laredo to Mexico City lap of this road, expecting to have it opened for traffic in two years and completed in five. Other countries are building roads that will eventually form a part of this extensive system.

For a long time, an international railway, following more or less the same route as the high-

percentage of the land is undeveloped and uninhabitable except for the ignorant Indians who have lived there for centuries, and that by far the greater proportion of the population of these countries is made up of these ignorant Indians; nevertheless the fact remains that all of Spanish America is progressing, building roads, draining swamps, erecting schools and adopting compulsory

GENERAL VIEW OF RUINS OF CONVENT BUILT IN 1606  
IN DESIERTO DE LOS LEONES



way, has been under consideration. Stretches of this road are already in operation in Guatemala, Salvador, and Nicaragua, and it is planned to connect these up, and further to connect them with existing railroads in Mexico, Costa Rica, and Panama, completing the rail connection from the United States to Panama by 1933, and eventually extending the route as far south as San Diego, Chile.



FROM WINDOW OF ROOM IN Y. M. C. A. LOOKING NORTH ON BALDERAS

The United States government has for a long time considered the building of an ocean-to-ocean canal through Nicaragua, and has purchased from the Nicaraguan government an option on the route to be followed. When ocean shipping has increased to the point that the capacity of the Panama Canal is overtaxed, the one through Nicaragua will be built. This canal will cut a number of days off the New York to San Francisco water route, and it will be a benefit to all of North America.

These three are perhaps the major projects under consideration at present, but there are many more smaller ones—railroads, both steam and electric, light and power developments, highways, mines, drainage, city paving, and countless others.

Now, what has all this work, either under construction or proposed, to do with the American engineer? In the first place, most of the equipment necessary to carry on this work is being or will be bought from United States manufacturers. In the second place, there are comparatively few engineers in Central and most of South America, due to a lack of money for good engineering schools, and to the general preference of Latin Americans for professions other than engineering. For this reason American engineers are being and probably will be depended upon for some time for most of the major undertakings.

European engineers and manufacturers are making a strong bid for this business, but American material and engineers have been generally preferred.

In order to hold this preference, however, Americans must change some of their tactics. One frequently sees an American holding a responsible position who knows about fifty Spanish words, ten of which, perhaps, are swear words, and attempting to make this limited vocabulary suffice for all occasions; but one rarely sees an European in Latin America who does not speak Spanish fluently and is not well acquainted with Spanish customs and courtesy. In consequence, European engineers are often employed by American owned companies operating in Central and South America.



VIEW OF RUINS OF CONVENT AT DESIERTO  
DE LOS LEONES

ought to be opportunities, and a few letters to American firms operating or doing business in Spanish America will convince him that there *are* opportunities—for a good engineer *who can speak Spanish fluently*. That is the joker which will prevent a wholesale rush to the countries south of the Rio Grande River. The number of American engineers who speak any Spanish at all is very small, and those who speak it fluently are almost as scarce as the proverbial hen's teeth.

Considering the amount of engineering work at present going on in Latin America, and the enormous amount under consideration for the near future, the young American engineer who is wise will become better acquainted with these sister countries in North and South America, and will begin an intensive study of Spanish, in order to prepare himself for the big opportunities that are sure to come in this field.

Capitalists in the United States are thoroughly sold on the idea of investing money in Latin America, and billions have already been invested. It is about time that the American engineer wakes up to the opportunities offered for employment in these countries. An economic survey and study will convince him that *there*

---

We ask that all members keep us informed as to their own changes of address and also those of other brothers they may happen to know. We should like to have you give special consideration to the names on our Lost List as these are men about whom we have little if any information and we are anxious to know about them. We hope to issue a directory supplement next fall and want to have the latest and best possible data available for all members.



## LETTERS FROM THE CHAPTERS

### ALPHA

The year of 1928-29 so far has been a very successful one for Alpha. We were very fortunate to be able to begin our school year with twenty-eight active members and eight pledges. Up to the present time we have had two initiations: one during the fall quarter and the other in the winter quarter. The initiates were: Clifford O. Anderson, William A. Eckley, Carroll L. Elliott, James B. Finch, Jr., Rudolph M. Hanson, Stanley C. High, Donald B. Kendall, Ray E. Kullberg, Warren C. Mielke, Irving E. Sommermeyer, and Alfred J. Werner. At the present time we are making plans for the initiation which will be held during the spring quarter.

Alpha's rushing program has been very successful so far this year, and has all the indications of continuing as such. Our fall quarter smoker was well attended and served its purpose in getting the chapter acquainted with prospective rushees. We now have ten pledges, which is none too many since we lose thirteen seniors through graduation this spring.

Our first professional meeting this year was arranged for by Brothers Lockhart and Sanders. They were fortunate in being able to secure Professor Raymond E. Kirk of the Chemistry Department of the University of Minnesota who gave an interesting talk on the history and present development of "High Explosives." Professor Kirk was employed by the government during the World War to do research work in explosives so it is evident that the talk covered both the theoretical and practical aspects. The second professional meeting was arranged for by Brother Young, who succeeded in obtaining Mr. McGowan, Service Engineer for the Universal Portland Cement Company to lead the meeting. Mr. McGowan gave one of the most interesting talks on Portland Cement that we have ever heard. His talk was supplemented by a film put out by the Portland Cement Company showing the manufacture of cement. One of the high lights in the talk was the explanation of the water cement ration as used in high early strength concrete. We are greatly indebted to Brother Young for securing such a speaker. Plans are now in progress for at least two more professional meetings before school dismisses this spring.

One of the strong points in the chapter's interfraternity athletic relations was the winning of the professional fraternity basketball championship this year. Also, the team lost to the Phi Delta Theta for the all-fraternity championship by a score of ten to twelve. It was anybody's game until the final whistle and was a game that could have made some of the Big Ten games look small. The members of the team to whom the credit goes for bringing another cup to our procession are: Brothers Englund, Hindermann, Krueger, Langenberg, Sanders, Sommermeyer, pledgeman Oberg and Manager Brother Miller. We have not been so fortunate in other branches of athletics, but have entered most everything only to be beat in the final game. Alpha has excellent prospects for the basketball championship again next year as only three members will be lost by graduation this spring.

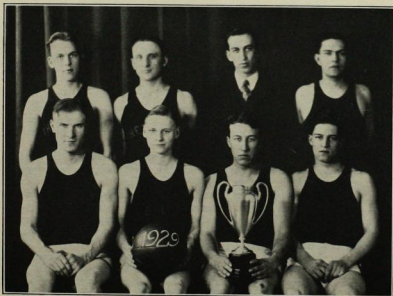
Alpha has as usual carried its share of honors in outside activities. Brothers Langenberg and Sommermeyer both made their letters on the football B

team. Brother Davies *again* upheld our prestige in wrestling by making the varsity wrestling squad. At the present time Brother Finch is out for track while Brothers Hindermann and Langenberg are out for baseball. We are also well represented in organizations on the campus other than athletics. Brother Felthous was elected to the presidency of the student branch of A. S. M. E. and at the same time to the presidency of the Arabs, the engineering dramatic society. Brother Elliott is president of the student branch of A. I. E. E., while Brother Crippen was on the general arrangement committee for the Junior Ball. Brother Werner and pledgeman Hauge are on the Techno-Log staff. Brother Fenton made a good showing on the Hockey squad until a week of illness set him back, but he has good chances for next year. We also had members named to other committees in outside activities.

Scholastically Alpha has great hopes of raising her average for this year and present indications point toward realization of these. We now have Brothers Felthous and Ringer in Pi Tau Sigma and pledgeman Anderson in Chi Epsilon. By the end of the spring quarter we expect to have our list of honoraries increased.

Financially the chapter is in good condition, due to the fact that the house is filled to capacity. We have nineteen men staying at the house, and have an average of twenty to thirty men a day for luncheon and almost as many for dinner.

#### ALPHA BASKETBALL TEAM



Back Row (left to right): Oberg, Krueger, Miller, Sanders.  
Front Row: Langenberg, England, Hindermann, I. Sommermeyer.

We are sorry to say that Brothers Friis and High had to leave school on account of poor health, but both will be back with us again next year. Brother Dick Gile who was working for his Ph.D. in geology is now working in Oklahoma with an Oil Company. Brother E. John Miller returned at the beginning of the winter quarter and is now staying at the house.

Brother LaTendresse, who had just recently returned from Africa, was at the house several times during the winter quarter. Other alumni who have been around are: Brothers Bailey, Barthelemy, Erck, Foker, Grettum, Johnson, Kranzfelder, Middleton, Moore, Nelson, Witt and Wjts. Alpha would like to hear from alumni members and have them visit us when around Minneapolis. You are always welcome.

During the school year we have had two enjoyable parties at the house. One was during the fall quarter and the other during the winter quarter. Both were well attended and a great time was had by all. We are looking forward to our spring party and to our annual canoe trip which will be given some time during this coming quarter.

Alpha hereby takes this opportunity of sending greetings to all Theta Taus and to extend an invitation to visit us when around.

ADOLPH G. RINGER '30

Minneapolis, Minnesota, March 11, 1929

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## BETA

When school opened last fall, conditions indicated a very successful year for Beta chapter. However, on November 24th, we suffered a severe setback. A fire damaged our house beyond use. Quite a bit of our furniture was burned or damaged in its hasty removal from the house. It also caused personal property loss of considerable extent to several of the members.

We were getting along nicely; in fact, were sitting on top of the world. We were clearing up the old debt, and would undoubtedly have had it in our history rather than on our books by the end of the year. The fire, which we hate to mention or even think about now, took us off the firing line and put us in a position in which we had to find a home in a very short time in order to prevent separation of the members. The old Beta house which was still vacant, but in need of repair, was the only possible place. The owner refused to rent it, so Brother Duggan bought the house, had the heating plant repaired, paid the taxes and insurance for one year, and sold it to us on a rental basis, \$2000 down and \$100 per month for five years, at the end of which time we will have paid \$8000. This will distribute the load between the present and future active chapters. It must be understood, however, that even though the deal had to be completed in a very short time, it was given all of the consideration that the finance committee, made up of the officers and faculty members, could give it.

Again we must give credit to our housekeeper, Mrs. Malfroid. She did an immense amount of work in establishing the fraternity in its new quarters. We are now comfortably situated, the boys having done all of the work of redecoration themselves. Since this is our home, we feel as though any improvements we make on it will be of permanent benefit.

We are still holding our position on the campus, two of our members having

been elected to Tau Beta Pi. These men are Brothers Longacre and Rockwell. Our scholarship is high, as may be expected.

We have men in the three leading parts in this year's college play, "The Poor Nut," which is to be given in April. These men are Brothers Bush, Thomas, and Kropf.

The latter, by the way, is one of the four men that we have initiated since Christmas. They are: R. B. Kropf, Madison, Wis.; J. A. Rowley, Richmond, Mich.; G. N. Thresher, Hermansville, Mich.; H. H. Zwart, Kalamazoo, Mich.

The Michigan Tech Lode is practically published by Theta Tau men. Brother Redman is editor-in-chief. News editors are Brothers Adams and Kennedy; Brother Adams is also business manager. Brother Thomas is advertising manager, and Brother Thresher is his assistant.

Brother Adams is chairman of the Get-together committee and president of the Winter Sports Club. Brother Madison is vice-president of the Electrical Club, and, best of all, Brother Zwart is captain of next year's football team, succeeding Brother Kennedy.

We are leading the field in inter-fraternity basketball, not having lost a single game. We have also a very good chance for the hockey championship as we have not lost a single game to date.

In the newly organized R. O. T. C. engineering unit here, Brothers Adams and Thomas are the two highest ranking officers, although permanent commissions have not yet been assigned.

We entered a very constructive float in the winter carnival here. It was an eighteen-foot model of the new Ambassador Bridge which spans the Detroit River.

Our social activity has been rather lax, but our one party was the best given on the campus this year. We had some new ideas in programs, and gave the girls some very nice favors.

We are well situated now, having already had our share of hard luck, and we hope to finish the year successfully.

HARRY W. THOMAS, Jr., '31

Houghton, Michigan, February 25, 1929

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### GAMMA

Among the speakers at the informal dinners held by Gamma chapter this year have been C. N. Bell, mining engineer, who talked on "Problems of the Mining Industry;" R. K. Goddard, chief of the U. S. secret service in the Rocky Mountain region, who related some of his experiences as a secret service man; and B. C. Essig (Gamma '15) district manager of the Gardner-Denver Company, whose subject was "Methods and Application of Deep Hole Drilling."

The dinners have been held at the various fraternity houses on the campus in rotation, each fraternity giving over its house to Theta Tau for the evening in question.

The chapter has been very actively represented as to scholarship, athletics, and honors this year. "Tiny" Lewis captained the football team on which "Red" Wells, Phil Simmons, Kenneth Dickey, and Floyd Carr were regulars; Carr is captain-elect for next year. Hial Gernert and "Red" Wells

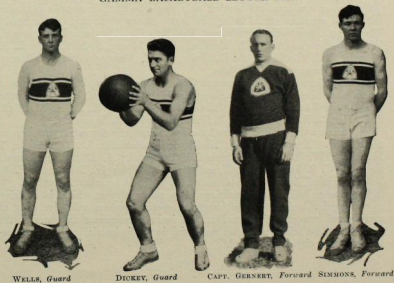
## GAMMA CHAPTER



*Fourth Row (left to right): Jenkins, Barney, Carter, Allen, Smith, Daley.  
 Third Row: Patten, Eads, Williams, Bowie, Kerr, Marsh.  
 Second Row: R. W. Wells, Cline, Adams, Lewis, Zwisch, Carr.  
 First Row: Conger, Pulver, Dickey, Thorley, Simmons.*

were members of the basketball team, Gernert being captain. George Allen is football coach. "Red" Wells, Phil Simmons and Charley Jenkins received

## GAMMA BASKETBALL LETTER MEN



WELLS, Guard

DICKEY, Guard

CAPT. GERNERT, Forward SIMMONS, Forward

trophies for three years participation in major sports. Nearly half the active chapter are letter men.

"Tiny" Lewis, Charley Jenkins, "Red" Wells, Marvin Marsh and "Socks" Conger are members of Tau Beta Pi. Jenkins and Conger are president of the Senior and Junior classes, respectively.

Eleven men will be lost to the chapter through graduation. Of these, five are taking degrees in Mining, one in Metallurgy, three in Geology, and two in Petroleum Geology.

Four men were initiated at a dinner on February 13th held at Denver. Twelve prominent men in the Junior class are now pledged for spring initiation.

The annual Theta Tau spring dance was held in Guggenheim Hall, March 15th. In addition to its other activities, the chapter is continuing its monthly dinner lectures.

THOMAS L. WELLS '28

Golden, Colorado, March 7, 1929

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## DELTA

Delta chapter began the college year at Case School of Applied Science with eleven active members, all of whom are seniors.

On December 4th the pledges were initiated into Theta Tau. The initiation followed a dinner held in the rooms of the Cleveland Engineering Society. Those initiated were: M. V. Brown, H. E. Cable, J. C. Carpenter, C. A. Davies, L. W. Fraser, W. J. Hotkiewicz, J. S. Hudson, S. McCuskey, C. W. Meininger, J. E. Pierce, C. B. Spangenberg, W. E. Stevens, W. A. Thomas, A. J. Tyler, Jr., S. N. Van Voorhis, E. W. Vaughan, E. B. Volmar, T. D. West, R. R. Wilson, and C. E. Windecker.

Great care was exercised to select only men who by their records in studies and school activities would bring real honor to the fraternity. As a result, Theta Tau claims twelve members of Tau Beta Pi. They are: D. Crawford, W. J. Hotkiewicz, A. D. H. Marshall, F. R. Mautz, S. McCuskey, E. F. Morrill, R. S. Shankland, A. D. Siedle, W. E. Slabaugh, W. A. Thomas, S. N. Van Voorhis, and R. Wilson.

Seven of the members have earned Case Honor Keys which are given as a recognition of commendable participation in student activities. Those who were awarded keys are: H. E. Cable, J. O. Herbster, A. D. H. Marshall, E. F. Morrill, R. H. Rupp, W. E. Slabaugh, and E. B. Volmar.

Fourteen varsity athletic letters have been earned by the active members of the chapter. They are: W. J. Hotkiewicz, basketball; S. A. Midnight, 2 basketball; W. E. Slabaugh, basketball and track; A. D. Siedle, football manager; C. B. Spangenberg, 2 football; A. J. Tyler Jr., 2 football; E. B. Volmar, football, basketball, and track; and C. E. Windecker, 2 football.

We plan to hold regular meetings every two weeks at which, in addition to the regular business of the fraternity, special speakers will give talks of professional interest. The speakers will include prominent members of the faculty of Case School and men successful in the industrial and business activities of the city of Cleveland.



A great deal of the success of Theta Tau at Case School during the past six years and especially at present, is due to the active leadership and guidance of Dr. Frank R. Van Horn, Professor of Geology and Mineralogy. The meetings are held in the lecture room of this department and Dr. Van Horn is active in securing speakers for the meetings.

R. S. SHANKLAND, '29

Cleveland, Ohio, December 8, 1928

### EPSILON

Epsilon started the fall semester of 1928 with but fifteen active members which necessitated that each member take the responsibility offered by either an office or a committee. If a small active roll tends toward closer union, that virtue has certainly been upheld by Epsilon chapter this semester, for each of our semi-monthly meetings held at the Hearst Memorial Mining Building has been opened with the entire chapter present. For this reason and because we are in contact with each other daily our fraternal bond has made us an inseparable unit.

Weekly luncheons are held every Wednesday and are well attended by our faculty brothers and those alumni who wander back to Berkeley for a short stay. These luncheons offer an excellent opportunity for scrutiny of prospective members and the opportunity is well taken care of.

Our open house was successful in that many invited guests were present, some of whom have since become our brothers in Theta Tau. Dr. Channey, a paleo-botanist of the University of California, and one of the few paleo-botanists in the country, gave us a very interesting illustrated account of his extensive research along the western coast of North America and the eastern coast of Asia. We were surprised to learn that our much cherished redwoods of California were at one time thriving in China.

In the line of athletics, we entertain much pride in Irvine Phillips, who is captain of the California varsity football team and who has in the last two years accumulated points for California in the national intercollegiate track meets as a discus and shot heaver. Donald Koch holds down a regular berth as a guard on the football team and is also Phillips' teammate in the shot and discus. Harold Gilmore has taken to the more aquatic sport and pulls a mean oar in the Junior varsity shell.

Our initiation was held on Saturday, November 10th, and the day was enjoyably ended at a banquet given at the Hotel Mark Hopkins in San Francisco. The initiates were C. F. Bedford, R. W. Burger, T. J. Etherington, H. V. Gilmore, J. E. Gosline, J. C. Hazzard, and J. D. Ross. Brother Ernest Behr gave the opening after-dinner address and told us much about the early life of Epsilon chapter.

Epsilon is yet without an active alumni chapter, but favorable steps are being taken to establish a chapter in Los Angeles where many of our alumni are engaged in petroleum geology and engineering. Several dinners have been held as a get-together for the alumni and we plan to instigate measures that will further the move. Direct contact of the active chapter with the alumni is practically impossible and mail correspondence, therefore, is invaluable as a connecting link. Many alumni are in constant communication with the chapter and thereby stimulate greater activity.

As a whole, our affairs have been running smoothly with the exception that the chapter is upset by the report of the death of our much beloved brother, Lawrence O'Sullivan, who was drowned in the harbor of Hong Kong, China, while on a round-the-world tour as a cadet on a Dollar Liner. We mourn him greatly as does everyone who has ever met him.

We, of Epsilon, extend to all chapters and alumni of Theta Tau our hearty greetings for prosperity and success throughout the coming year.

C. JENSEN '29

Berkeley, California, November 21, 1928

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## ETA

Perhaps there never has been a more promising year in the history of Eta chapter than the present one. With a large number of eligible men to draw from, the chapter has had the opportunity of selecting pledges from a group of enthusiastic engineers.

The following pledges joined Theta Tau at the formal initiation and banquet held at the University Club in Boston on February 14th: A. S. Allen Jr., J. F. Bennett, E. G. Blake, H. S. D. Botzow, E. M. Hawkins Jr., D. Horton Jr., D. T. Houston, R. W. Ide Jr., C. C. Ladd, O. M. Lissak, W. W. McDowell, T. A. Riehl, J. A. Simmons, H. Wallace, D. Q. Wells, and J. T. Wight.

Eta chapter is proud of the showing that its members have made in the various activities at the Institute. Lawrence Hamlin, John Booth, and Harold Fairchild are members of Tau Beta Pi, and John Bennett and Tullis Houston have just recently been elected. We are well represented in the Inter-Fraternity Conference with John McCaskey as president, Fischer Hills as vice-president, and Ed Ware as secretary. Harold Fairchild is captain of the Gym Team; Curt McCune is vice-president of the Senior class; Bill Thomas is president of the M. I. T. A. A.; Ralph Vezin is managing editor of Technique; Clarence Worthen is captain of the Cross Country Team; Ed Yates is captain of the Golf Team and treasurer of the M. I. T. A. A. and Chic Dolben is on the varsity Crew.

Almost all of our men hold positions in outside activities. Art Allen is secretary and treasurer of the Combined Professional Societies; Jack Bennett is president of the Junior class and chairman of the Junior Prom Committee; Herman Botzow is publicity manager of Technique; Edgar Hawkins is manager of the varsity Crew; Tullis Houston is general manager of the Tech and vice-president of the Junior class; Roy Ide is manager of the Gym Team; Chuck Ladd is general manager of the Tech Engineering News; Bill McDowell is on the varsity basketball team; Ted Riehl is treasurer of the Technology Christian Association; Hugh Wallace is art editor of Voo Doo; Joe Wight is manager of the tennis team; and Dave Wells is on the Gym Team.

In addition to these honors held by our Brothers, Eta chapter is well represented on the Institute Committee, the Junior Prom Committee and in other honorary fraternities at Tech.

We are starting the new term with a bang, and, with carefully planned



meetings made interesting as well as educational by talks delivered by the faculty and student members, are looking forward to a very successful semester.

WILLIAM G. HOUCK, Jr., '29

Boston, Massachusetts, February 14, 1929

#### ETA CHAPTER



*Back Row (left to right):* Rich, Barbour, Root, N. Wells, Riley, Ware, Smith, Fairchild.  
*Front Row:* Stricker, Houck, Guest, Yates, Jack (Prof.), Vezin, Hill.

#### IOTA

This school year has been a very prosperous one for Iota. We had twenty-two actives to start the school year last fall. At the close of the first semester in January, we lost three members through graduation. They were: Brothers W. B. Davis, G. T. McCrorey and L. K. Snyder. Two others, Brothers R. L. Richardson and A. C. Williams, dropped out and plan to return next fall.

Fourteen seniors will receive degrees in May. They are: Brothers, H. C. Bolon, M. L. Clark, R. S. Dittmer, W. F. Fruit, E. A. Godat, T. H. Green, E. J. Gregory, A. H. Kemp, O. W. Morris, A. Mueller, R. H. Parker, R. B. Sherrill, Jr., J. V. Sundstrom, and J. Williamson, Jr. Brother R. K. Grantham will receive his Master's in Chemistry this spring; he received his B. S. in Chemistry last year.

The school grade report for the first semester was very favorable for us. Our average was .988, rating a plus one with the school average as zero. Brother H. C. Bolon was initiated into Tau Beta Pi this year. He has established an enviable scholastic record during his four years in M. S. M. It might also be said that he completed four years as a regular tackle on the Miner eleven—another proof that great athletes can be good students. Iota has always held up its end in athletics. Brothers J. C. DeFoe and W. T. Sharp have both played football, the latter winning his letter last year.

Brothers M. L. Clark and H. R. Osterwald have accounted favorably for themselves on the track team in their three years at Rolla. Brother T. H. Green was the outstanding man on the Miner basketball quintet during the past two seasons. The small but mighty "Tommy" was feared by every team

that opposed us. He has been high-point man on the Miner team the past two seasons; he will be greatly missed next year. Iota likewise is holding down its share of other campus activities. Brother J. R. Jarboe is president of the Junior class, which is a highly important position since the Juniors put on the annual St. Patrick's celebration, when all Rolla is a center of gayety for four days. Brothers A. P. Heiser and G. F. Heath are serving as Joe's right hand men in his St. Pat's plans.

It is worthy of mention that the last four presidents of the Junior class have been Theta Taus; also that last year the president, secretary, and treasurer all came from our chapter. Brother A. H. Kemp, Iota's treasurer, might well be called the "little" keeper of shekels, for he was elected treasurer of the class of '29 for four successive years. Your reputation is mighty good, Pete. Many other positions are held by our men, including presidency and management of the M. S. M. Players. But rather than make this monotonous, I will give you some other miscellaneous news.

Eleven new men were initiated at the close of the fall semester. They are: Brothers J. E. Barton, H. C. Bolon, J. C. DeFoe, G. F. Heath, A. P. Heiser, J. R. Jarboe, K. R. Neal, R. H. Parker, R. L. Richardson, W. T.

#### IOTA CHAPTER



*Fourth Row (left to right):* Fruit, Crawford, Morris, Bolen, Dittmer, Parker.  
*Third Row:* Kemp, McRae, Sherrill, Sundstrom, Williamson, Jarboe, Heiser.  
*Second Row:* Thomas, Heath, Green, Richardson, Barton, Osterwald, Godat.  
*Front Row:* Mueller, Dover, Long, Clark, Sharp, Gregory.

Sharp, and M. F. Thomas. We have twelve prospective members this semester, so it looks as though we will have a good chapter to start with next September.

Plans are under way for our annual Spring Dance to be held in April; a similar affair was a great success last year. We have planned for two more open meetings before school closes this year, at which we have arranged for prominent engineering men to lecture. These open meetings have proved very successful and interesting in the past.

In closing, we urge the alumni to drop us a line once in a while. To all members of Theta Tau, we extend Fraternal Greetings and best wishes in H. & T.

R. S. DITTMER '29

Rolla, Missouri, March 8, 1929

### RHO

In spite of many handicaps, Rho chapter has held her place on State College campus this year.

Twenty-six members returned to begin the school year. Four new mem-

#### RHO CHAPTER



*Fifth Row (left to right): Brown, Koontz, Parrish, Tighe, Workman.  
Fourth Row: Hibbard, Bristow, Tansfeld, Hamrick, Smith.  
Third Row: Jones, Weltmer, Worth, Carpenter.  
Second Row: Grant, Worth, Cowhig, Calhoun, Ellis.  
Front Row: Barnhart, Smith, Tate, Freeman, Taylor, Whittenton.*

bers were initiated this fall, bringing the total chapter enrollment up to thirty.

The honors held by Rho men are many and varied. Brother Hibbard, president of the Senior Class, was also manager of the football team. Brother Parrish is president of the student chapter of the A. S. C. E. and manager of the wrestling team. Our Regent Thomas A. Grant is president of the student branch of A. S. M. E. Other honors have also been conferred upon him, too numerous to give in detail, but among which are: vice-president of The Order of Golden Chain, Senior Honorary, Business Manager of the Agromeck, Treasurer of the Y. M. C. A. and Treasurer of the Engineers Council.

Nine of our thirty members have been elected to Tau Beta Pi. Brothers Ellis and Tanfield are members of Phi Kappa Phi as well as of Tau Beta Pi.

Engineering students have been very busy during the winter term with preparations for the Engineers Fair, our annual Celebration of St. Patrick's day. Competition is keen among the different Engineering Departments, each vying with the other for special honors. Our parade will be on the night of March 14th and the leading float will be the GEAR Wheel of Theta Tau.

HOWARD M. ELLIS, '29

Raleigh, North Carolina, March 12, 1929

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## SIGMA

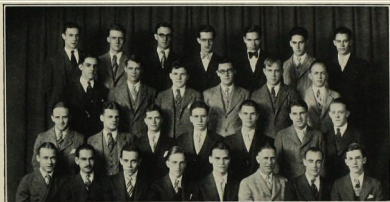
The names of two additional men have been added to the role of Sigma chapter during the winter quarter. They are Earl C. Petrie and W. Richard Fiedler. Since the pledge organization is now comprised of thirteen men, we shall probably add several more names during the spring quarter initiation.

Sigma chapter has had four professional dinner meetings since the last issue of the GEAR. On December 11th, Professor W. C. Ronan of the Department of Architecture delivered a talk, the subject of which was "The Relation of Architecture to Engineering." The subject of "Fading" was dealt with by W. L. Everitt of the Communication Department during the January meeting. Dr. K. Y. Tang, also a member of the Electrical Engineering faculty was a guest. The other two meetings were of a less technical nature but just as valuable. Mr. W. A. Grieves was the speaker on the first occasion, his subject being "Constituents of a Successful Engineering Career." Mr. Grieves is secretary of the Jeffrey Manufacturing Company, manufacturers of mining equipment, and a past chairman of the Industrial Relations Committee of the American Mining Congress. He is also engaged in the personnel work of his company and thus was well qualified to speak on the subject which he chose. Along the same line, Mr. B. B. Haddox, attorney-at-law, and a past president of the Columbus Bar Association, as guest of the evening of March 4, spoke on "Factors Contributing to Success in Life."

The end of the autumn and winter quarters has terminated the college careers of six of our brothers. Brothers Elmer F. Stansberry, Ray A. Snyder and W. Douglas Watters graduated in December. This quarter the depart-

ing brothers are Clifford S. LeVake, Charles P. Smith and Theodore J. Swain.

The Central Ohio Alumni Association at Columbus has now been chartered and is holding luncheon meetings at the Chittendon Hotel on the second and fourth Mondays of each month, promptly at 12 o'clock, noon. Composed largely of Sigma alumni, this organization will no doubt be of tremendous aid to the active chapter.



#### SIGMA CHAPTER

*Fourth Row (left to right):* Webster, Marshall, Cook, Shannon, Altwater, Falter, Swain.

*Third Row:* Dumbauld, Glass, Ashmead, Snyder, Waters, Jordan.

*Second Row:* Fenton, Stanbery, Osborn, Knox, Smith, Stansberry, Robinson.

*Front Row:* Gayer, Kale, Allison, Trout, Davis, Wall (Prof.), Anderson, Beer.

The Interfraternity Council of this university, of which Sigma chapter is a member, has instituted a dinner exchange system among its members. On each Wednesday evening two delegates of one organization are the guests of another at dinner. The purpose of this plan is to create a better understanding among the Greeks of one another's aims and objectives and to foster a more friendly spirit among the groups. Sigma feels this system will be of great value to her.

ELWOOD M. STANSBERRY, '30

EUGENE ASHMEAD, '29

Columbus, Ohio, March 15, 1929

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#### TAU

Owing to a rather upset school-year, the meetings of Tau chapter for the last semester were curtailed, but the outlook for the future is much brighter as we have several professional meetings planned and are endeavoring to make arrangements for others. As it is in the case of the professional meetings, so is it also with the social meetings. We are looking forward to the initiation banquet and an informal dinner, both of which are to be held in the near future.

We have not failed to corner our share of honors at Tau. Brother Deyoe was elected the most representative senior by a joint faculty and student committee. As a result of this election he received a medal from the college and has his name inscribed on the plaque which Tau is presenting to the college. Brother Casavant was elected to Phi Kappa Phi and several of the brothers were elected to Tau Beta Pi.

May we remark that all in all and considering the outlook for the rest of the year, we feel as though this year has been and will continue to be a success.

DAVID M. MACALPINE, Graduate Student.

Syracuse, New York, March 11, 1929

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### UPSILON

This is Upsilon's first chapter letter since its installation last April, so there is a great deal of territory that must be covered at one time. Of the twenty-two men who were initiated as Charter or Active members at the time of installation, ten returned to school this fall. Brother Carl Natho was drowned while rescuing a girl from a lake last August, while the remaining eleven either were graduated or are out working. All of the members who did return began pushing matters right along immediately after the opening of school so that six men were elected and initiated early in the fall. Two of the six were former members of our petitioning group and were not in the university last spring.

Upsilon has practically monopolized the ranking offices in the engineering college. All of the officers of the General Engineering Society are members of Theta Tau, as are all the elective staff members of the Arkansas Engineer except one. Not many of our varsity athletes are Theta Taus, although we do have this year's football captain and two former track captains. There are several others of the chapter who are members of Tau Beta Pi and other campus honor societies.

Upsilon this year began to publish what will become a regular news letter, *The Target*. It is the policy of the editor to publish it hereafter each October, January, March, and May; the March number to be a special "Engineers Day" issue to especially urge alumni members to return at that time. We hope to see the new letter improve constantly and maintain a reasonably close touch with our alumni. So far the replies and interest of our alumni have been surprisingly satisfactory.

It was necessary for Brother Pond to quit school for the year because of trouble with his eyes. Brother Grace has transferred to the College of Business Administration for some work in the spring semester, but will re-register in the engineering college next fall. Brothers Richardson and Huckaby are leaving school at the end of this semester, having completed requirements for their degrees.

Members of the chapter were well pleased with the article of Brother Stough in the last number of the *GEAR*. We feel that Brother Stough brought credit to the school, the chapter, and to himself.

Upsilon has been exceedingly active in school activities this year. Besides

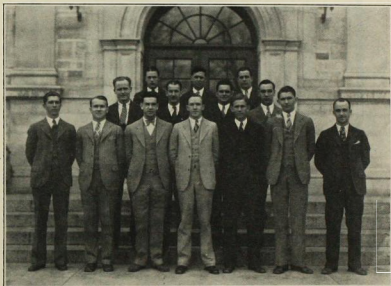


our own professional meetings we have been instrumental in furnishing two programs in the auditorium to which the general public was invited. Most of the spring activities will be in connection with "Engineers Day" which is March 15. Tuesday night, February 5, has been set aside as the date for election of new members. The initiation is to be held four weeks later, March 5, and with it another Initiation Banquet.

THOMAS L. HUCKABY '29

Fayetteville, Arkansas, January 28, 1929

#### UPSILON CHAPTER




*Third Row (left to right): Carruth, Stelzner, Richardson.*

*Second Row: Marks, Dixon, Camp, Winters.*

*Front Row: Burton, Leimer, Peter, Huckaby, Bowman, Stephens, Stokes.*

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We are always glad to receive the reaction of GEAR readers to the magazine. We want your opinions as to the presentation of the material, and appreciate any comments which will help us to make a better GEAR. It is only through the readers that we are able to know how the magazine "takes." If you yourself enjoy reading the GEAR try to get someone else to subscribe. The magazine must have the support of the fraternity members if it is to be a success.




## In Memoriam

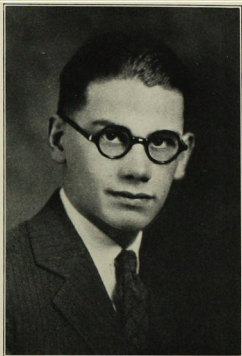
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The Executive Council Wishes To Express Its  
Deep Sorrow At The Passing Of The Fol-  
lowing Brothers, About Whom Details  
Are Not Available At This Time

PORTEOUS B. PALMER, Alpha '10  
CARL A. BRAUN, Delta ex '15







THOMAS F. ANDREWS, ALPHA '26

March 13, 1905—January 31, 1929

Thomas Franklin Andrews was born on March 13, 1905, at Minneapolis, Minnesota, and had reached the age of 23 years, 10 months and 17 days at the time of his death. He attended the public schools of Minneapolis, graduating from East High School in 1922. He entered the University of Minnesota in the fall of the same year and graduated with the Class of 1926 in the School of Mines.

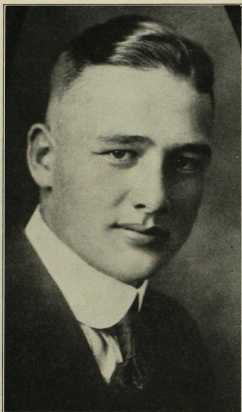
As an undergraduate at Minnesota he made a record of which any student might be proud. He was extremely active in extra-curricular work, having served as Mines editor of the Minnesota Techno-Log for two years as well as doing some work for the "Gopher" during his junior year. Chief among his scholastic attainments was his thesis on the "Theory of Ore Flotation" which won the Sigma Xi undergraduate prize, carrying with it his key in that fraternity. He was also a member of Tau Beta Pi, honorary engineering fraternity, and Scabbard and Blade, honorary military fraternity.

After graduation, Brother Andrews accepted a position as geologist for the Rhodesian Selection Trust and left for Africa in the fall of 1926. He was in Africa for over a year, returning to this country in March, 1928, at the time of the death of his father, George C. Andrews of the Andrews Heating Company. While in Minneapolis, "Tom" was a frequent visitor at the Chapter House and was invariably surrounded by a crowd of eager listeners to his accounts of his life in Africa. After a two months stay in Minneapolis he decided to return to Africa to continue his work in geology.

Brother Andrews met his death while on a duck hunting expedition near N'Dola, northern Rhodesia. He and his companion were both drowned when their boat upset.

He is survived by no immediate relatives, the closest being his aunt, Mrs. D. A. Field, 527 S. E. 5th Street, Minneapolis, Minnesota.

The untimely passing of Brother Andrews was mourned by his many friends and associates and the tributes paid him were numerous.



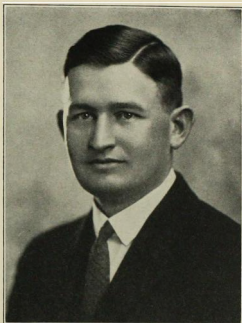
JULES C. BENBOW, GAMMA '20  
April 30, 1897—October 16, 1928

Jules C. Benbow was born in Colorado Springs, Colorado, April 30, 1897. Following his graduation from the Colorado Springs high school in 1916 he entered the Colorado School of Mines where he received a degree in mining geology in 1920. Brother Benbow was a good student and an athlete of some merit, having served on the football squad both while in high school and while in college.

After graduation from college he entered the mining business, which profession he continued until the time of his death. In 1922 he became associated with the Nevada Consolidated Copper Company at Ruth, Nevada. He made an excellent record with this company, having advanced to the position of assistant foreman at the Ruth Mine. He held this position until his death which came as a result of an operation for appendicitis.

While in college Brother Benbow was a member of Trowel Club (Masonic) and also Sigma Nu, social fraternity. He was a member of El Paso Lodge No. 13 A. F. & A. M. at Golden. Services for his funeral were conducted by the lodge from Law Chapel and interment was in Evergreen Cemetery.

He is survived by a wife, formerly Miss Edith Musgrove of Ruth, Nevada, whom he married in 1924, and a three year old son and by his parents, Mr. and Mrs. Horace E. Benbow, 1600 Cheyenne Blvd., Colorado Springs, Colorado.



ELBERT F. BURTON, PHI '14

January 7, 1891—October 10, 1928

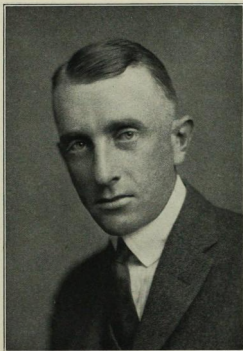
Elbert Franklin Burton, Assistant Professor of Mechanical Engineering at Purdue University, was killed in an automobile accident October 10, 1928, while attending, as a delegate, the National Convention of the American Legion at San Antonio, Texas.

Brother Burton was born near Sheridan, Indiana, January 7, 1891. After his elementary and high school education, he attended Purdue University, graduating with the degree of Bachelor of Science in Mechanical Engineering in 1914. Later he continued his university work and was awarded the degree of Mechanical Engineer in 1923. Following his discharge from the Army, where he served as an officer in the Air Service, he was engaged as assistant professor at Purdue and was serving in that capacity at the time of his death.

Professor Burton was very active in research work, specializing in Refrigeration Engineering. He organized the courses in Refrigeration at Purdue, and was widely recognized as an authority in his field. He presented several papers before the national meetings of the American Society of Refrigerating Engineers, and was a member of their research committee.

Although taken at the prime of his young manhood, Brother Burton had lived a life of full and varied experiences. He had a deep love of nature and spent many of his summer vacations among the sparkling Canadian lakes and along the rugged New England sea coast. To the students in his classes he was at once teacher and friend, and by his wholesome outlook on life and his genial personality set a fine example for them. Professor Burton's family life was marked by his devotion and loving care for his mother, and by the strong ties of love and understanding between him and his five sisters and one brother.

Brother Burton's judgments, modestly given, were valued; his friendships were many and warm; and his joy of living was a source of constant inspiration to all who knew him.



WENDELL P. CHAPMAN, ALPHA '14

November 6, 1892—August 19, 1928

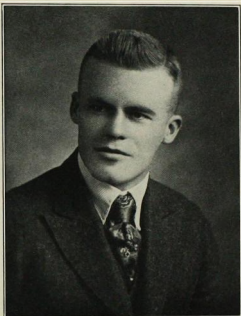
Wendell Phillips Chapman, Assistant Construction Engineer of the Minnesota Highway Department, died Sunday, August 19, from injuries received when he was struck by an automobile August 18. Brother Chapman had stopped to help a friend change a tire, on the pavement south of Anoka, Minnesota, and was returning to his own car when he was hit by a speeding automobile. His death came as a blow to his many friends both in the department and out.

\* "Joe" Chapman, as he was commonly known, was born in Garden City, Minnesota. After finishing high school he entered the University of Minnesota where he was graduated from the Engineering College in 1914. During his college life he was affiliated with Theta Tau and with Sigma Phi Epsilon, social fraternity. Following graduation from the University he served as assistant highway engineer of Olmstead County, Minnesota and later as highway engineer of Rice County, Minnesota. He left this position to enter the army during the World War. Upon his return he entered the State Highway Department of Minnesota and for several years was division engineer, having general supervision over state highway work in a dozen counties in southeastern Minnesota. Later he was promoted to assistant construction engineer, which position he held at the time of his death.

Our deceased brother is survived by a widow and three sons, his parents, Mr. and Mrs. J. M. Chapman of Garden City, Minnesota, and two brothers. He lived at 2200 Scudder Avenue, St. Paul.

"Joe" Chapman was beloved by all who knew him. He not only ranked high in his profession, but he was also a public spirited citizen, always ready to help others. He was active in the Hiwayan Club, serving for one year as its president, and was also an active member of the American Legion.

Alpha Chapter of Theta Tau extends sincere sympathy to Brother Chapman's surviving relatives and friends.



HOWARD T. FLINT

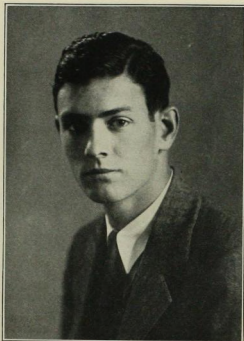
January 2, 1898—February 20, 1928

Howard Thomas Flint died at the home of his parents, Mr. and Mrs. James J. Flint, in Chula Vista, California, on February 20, 1928. Complications which set in following blood poisoning and pneumonia from which he had apparently recovered, were responsible for his early death. He was born in Denver, Colorado, January 2, 1898. He was not married. Two brothers and one sister also survive him.

Brother Flint received the degree of Engineer of Mines from the Colorado School of Mines in 1920. The following year he was employed in the research department of the Anaconda Copper Company at Anaconda, Montana. In 1921 he returned to Golden for post graduate work, and in 1922 received the first degree of Petroleum Engineer ever awarded by the Colorado School of Mines. During 1922 and 1923 he worked for The Midwest Refining Company in the Salt Creek field, Wyoming. In the spring of 1924 Brother Flint was employed by the Roxana Petroleum Company in Colorado, as a scout. Later he was transferred to Houston, Texas, where he worked in the land and leasing department of the same company up to December, 1927, when he contracted blood poisoning in a little finger.

Brother Flint was initiated into Theta Tau in 1919 by Gamma chapter. He had a large number of brothers in the fraternity and a host of devoted friends who are happy to have known him. The popularity he so readily won at school followed him wherever he worked, due to his pleasing personality and sincere personal interest in those with whom he associated. He was especially active and capable in his chosen work, and was highly regarded by all the companies with which he was connected. He was a member of Sigma Alpha Epsilon and a Mason.

Memory of Howard will always remain a bright and cheerful spot in the minds of everyone who had the good fortune to know him. His sudden and untimely passing has been a profound shock and a severe loss to his family, friends, and brothers in Theta Tau.



LAWRENCE C. O'SULLIVAN, EPSILON '29

January 11, 1906—October 22, 1928

Lawrence Cornelius O'Sullivan was born in Reno, Nevada, January 11, 1906. He was the son of Mr. and Mrs. John B. O'Sullivan, both members of old and distinguished California families. He left behind him his parents and two sisters, and scores of grieving friends.

"Larry" spent his early school days in Reno, Nevada. Later his family removed to Los Angeles, where he graduated from high school. Shortly after entering college he joined Psi Upsilon, social fraternity, of which he became one of the most popular and beloved brothers. During his second year in college he became a member of the Sophomore honor society, Ball and Chain. In his Junior year he was made Assistant Basketball Manager and became a member of the honor society, Winged Helmet, and a brother in Epsilon chapter of Theta Tau.

Early in life, "Larry" evinced an interest in nature and in consequence chose geology as his profession. During the summer between his sophomore and junior year in college he, in company with an older student geologist and Brother Theta Tau, worked back into one of the most rugged and inaccessible portions of the California Coast Ranges. It was here, confronted by the dangers and difficulties that beset the two, that the sterling merit of Larry and his courage and loyalty in the face of adversity first became known to Theta Tau. His election the following year was inevitable.

"Larry" was at heart a romanticist and adventurer. In the face of his senior year, adventure tugged so strongly at him that he resigned the house managership of his fraternity, took leave of absence from college, and enlisted as an ordinary seaman aboard the Dollar Liner S. S. *President Jackson*, sailing between the United States and the Orient. He never returned. On October 22, 1928, in the Bay of Hong Kong, Hong Kong, China, he was accidentally drowned.

Five weeks later, on November 30, 1928, Requiem Mass was said at St. Mary's Cathedral, San Francisco, by Monsignor Charles A. Ramm, a Regent and alumnus of the University of California, and acquainted with "Larry" from his birth. Larry was laid to rest surrounded by his family and fraternity brothers as well as a host of other friends. To all, his passing was a severe shock, but his memory will ever live in the hearts of his fellow members of Theta Tau.



## CHAPTER ACTIVITIES

Alpha chapter holds professional meetings once a month, and we have met with very good success with them. We find that men prominent in the engineering game are always more than ready to give talks on their lines of work.

We find that these meetings are of great help to the members, as they serve to bring them in closer contact with their profession and with members of the profession.

ADOLPH G. RINGER, Alpha '30

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This year Gamma chapter has carried out a plan of holding informal dinners once a month in addition to its regular business meetings. At these dinners members have had the opportunity to hear short talks, usually on engineering subjects, from engineers or professional men secured for the occasion. Attendance at the dinners has been excellent, and the idea of gathering together informally once a month seems to have had a generally wholesome effect in stimulating interest in the fraternity.

THOMAS L. WELLS, Gamma '30

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Delta has adopted a policy of having professional meetings every two weeks, and since our membership includes students from practically all the engineering departments at Case, we aim to bring the brothers in contact with some of the aspects of engineering and science which they would not get in their own individual departments.

FRED R. MAUTZ, Delta '29

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Of Zeta's activities, the Tri-Kappa-Theta Banquet is the most outstanding. Once a year the members of the three engineering fraternities, Triangle, Kappa Eta Kappa, and Theta Tau, come together for a friendly meeting around one big table for the purpose of promoting a more friendly spirit and for maintaining the highest ideals in the Engineering School. We are proud to say that Zeta chapter has been responsible for this occasion and that it is really held under our sponsorship. This annual affair will be held this year sometime in April.

We consider our professional meetings also an important factor in raising our standard within the fraternity and with the faculty. We have always made it a point to have one professional meeting a month. Twice a year we endeavor, however, to obtain a speaker not connected with the engineering profession. The purpose is to broaden our field of interests, realizing that the engineer has a tendency to become too narrow in his way of thinking.

Zeta chapter has been an active participant in Intra-Mural sports. In doing so we have built up a fine relation with the other professional fraternities. We have always maintained a high degree of sportsmanship, for which we have gained the respect and admiration of our opponents. We feel it displays the true engineering spirit.

Our own alumni association, the House Corporation, has attained a very

strong influence in matters regarding the fraternity and its financial condition. This excellent cooperation between the chapter and the association has made it possible for the chapter to be in as good a financial condition as it is.

At the present time the alumni association is formulating a plan which would further lighten our burden and make things better than they have ever been before. This association will probably be organized into a Kansas City Theta Tau Alumni Association. Zeta chapter is strongly behind this plan and gives its most hearty support. Before this year is over we hope to have made some progress in this matter.

The "News from Zeta," our alumni letter, has had a very pleasing influence in welding the bonds between the alumni and the active chapter. We have attempted to make the character of this letter of such a form as to make the graduate feel that he still knows the gang at the house and that they are interested in his welfare, as we are. As a result, we have had more news, more visits, and more personal contacts with the alumni than ever before. This newsletter presents an excellent opportunity.

Zeta hopes that the other chapters respond to the call issued by our Grand Regent so that we may help one another in the true fraternal spirit.

MARVIN S. HENSLEY, Zeta '30

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It is the policy of Lambda chapter at Utah to confine our activities mainly to professional interests, with just enough social indulgence to make the brothers feel that Lambda also knows how to engineer a frolic.

It has been the custom of the chapter to elect officers for the ensuing year at the close of the winter quarter which is usually about the middle of March. This gives the opportunity to the new men in office of working smoothly into the routine of Theta Tau and makes possible also at least eleven weeks of coaching in matters of ritual, chapter government and customs. Another feature is that election at such a time relieves officers who are seniors and probably loaded with "finishing courses." As the Constitution provides, the Regent, Vice-Regent, Scribe and Treasurer are elected and the offices of Marshal, Inner-Guard and Outer-Guard are left to the Regent for appointment.

We hold meetings every other week on Wednesday at the comfortable apartment of Dr. Dorsey A. Lyon, Honorary member of Nu chapter and Director of the Department of Mining at the University of Utah. Meetings begin at 7:30 P. M. promptly, with a fine for tardiness or absence. We average 90% attendance. With about 12 to 15 members to start a school year, we end the year with about 25 to 30 men. There are 350 registered in the College of Engineering. We always have formal meetings because we feel that it helps to hold the brothers together by reminding them of the fraternal bond. Our meetings are orderly, no smoking; parliamentary rules prevail. We have formal opening, posting new men, voting on eligible men and other business first; then two ten-minute technical talks by active brothers (these are really good); then formal closing. Meetings last from one to two hours; seldom two.

Lambda brothers try to foster a general goodwill among all engineers at college and are without question the life of the School of Mines and Engineering. To lead the group of engineers it is necessary to place our men in the responsible offices of the Engineering Society to which practically all of the

engineering school enrollment belongs. Last year (ending this week) Theta Tau brothers were in every office of the Society: President Funk, Vice-President Jones, Sec'y-Treas. Gowans, Yellmaster Smith. Their term of office has been one of activity and success; everyone gave support to the quartet. This year we have entered the field of politics again and expect to elect four junior Theta Taus to responsibility. Activities of the Society consist of weekly meetings and an annual "Oyster Stew" in the autumn quarter. The latter was instigated by our worthy Honorary member, Dr. H. T. Plumb of the G. E. who helped the Regent of Lambda engineer the whole affair. It was a wow and added enormously to the Engineering Spirit and school spirit in general. It is held on a Friday evening in October.

The Engineering event of the year is the St. Patrick's celebration. It is sung on that day that:

"St Patrick invented the Calculus

And handed it down to the rest of us."

Elaborate ceremonies are entered into. The boys in H & T see that everybody has a good time.

Brother Byron Jones, Student Body Second-Vice-President, has charge of the glorious "U-Day" in May when everyone turns out to give the old U on the Hill a new coating of whitewash, and some of the students as well. This is engineering, to have to plan a big job like that. Byron assures us that we shall have to help him take charge of the various broom, bucket, lime, shovel, and repair squads. The Engineers are acknowledged the life of the U and Theta Tau runs the Engineers or rather, leads them.

Another activity that has met with hearty approval, is the Tuesday Theta Tau Lunch Period, when all the brothers congregate into one room at high noon and exchange sandwiches and wrappings. Usually the exchange is without the consent or knowledge of both parties; sometimes an apple core misses! Such a gathering gives us a chance to meet new candidates. Everybody enjoys it.

Our initiations are usually held on Sundays at a cozy downtown banquet room. An average of six men go in at a time and we have the support of from five to fifteen alumni at the affairs. A banquet ensues and especially the initiates feel the better about it.

ROY E. LUNDQUIST, Lambda '29

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The functions of Nu chapter are limited principally to two types of meetings—business and social. With the chapter operating as it is in the midst of a rather heavy college curriculum, the time and opportunity for extensive activity are limited. The meeting program is usually so arranged that two meetings are held each month, one of each type, and so scheduled that the business meetings alternate with the social programs.

At the business meetings, which are frequently very short and concise, chapter operating routine is handled as the name suggests. The social meetings more nearly assume the proportions of technical or professional groups. An outside speaker prominent in some field of engineering in the Pittsburgh district is invited to talk, and on these occasions the attendance is increased by guests of members. Every effort is made to have these meetings as informal as

possible, and the speaker's talk is usually followed by an open discussion and question period.

Nu chapter has found that as an added incentive for attendance, and to promote generally a period of good fellowship, refreshments add much to the conclusion of chapter meetings, and the year's dues are assessed with this part of the budget in mind.

The group at Carnegie Tech is comparatively small, without a house, and meets in one of the offices of the Civil Engineering Department of our College of Engineering. Through the help and cooperation of Brother J. M. Daniels, Nu Honorary, and member of the College faculty, this room has been provided with a filing cabinet for the use of the chapter, and a large chest containing the chapter records and equipment is also kept here.

Nu chapter has a ruling that only men with a "C" average are eligible for membership in the fraternity. This is a comparatively high rating at Carnegie and eliminates a large portion of the upper classmen. Nu chapter initiates twice a year, taking in Juniors in the fall and Sophomores in the spring.

Nu's plan of chapter elections has been improved. Formerly, in the fall, as the members returned to school, the group was re-organized and new officers for the year were elected from the ranks depleted by spring graduation. Frequently it was a couple of months before the chapter was really running, due to lack of knowledge on the part of the newly elected officers and the general inertia of the entire group after an unorganized summer.

Now a new plan is in operation. The officers are elected at mid-year from Junior members or others who will be in school again the following year. In this way, they have the advantage of advice from Seniors for a semester and in the succeeding fall are able to gather up the loose ends where they were dropped and to continue functioning with as little delay as possible. It is now being planned to change officers twice a year in order to share more fairly the work of chapter offices and to give more men experience.

STEWART C. RALSTON, Nu '29

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Omicron has three distinct systems which might be of interest to other chapters. The first of these, which is for training pledges, is called the "Big Brother Plan." Every man, as soon as he is pledged, is assigned to one of the seniors or one of the older actives who is to be his big brother. The big brother is responsible for the conduct of the pledge and for teaching him the history and ideals of Theta Tau.

We have also instituted this year a new system of conducting our monthly professional meetings. The seniors are assigned responsibility in rotation for these meetings; when his turn comes, each senior is either to arrange for a speaker or to provide the program himself. Usually a speaker is obtained from the faculty of the University. As a result of this plan we have had some mighty fine professional meetings.

Our most comprehensive system is that controlling our finances; with it might be mentioned our alumni organization. In the last two years we have completely remodeled our financial plan and are now on a very substantial basis. In the first place we have introduced a rigid accounting system that cannot be explained advantageously here; the treasurer is writing a manual of

this system which will be available before school closes this spring. We have also a financial committee composed of one honorary, one alumnus, and one active, which audits the books of the treasurer each year and inspects the monthly financial statement that the treasurer is required to submit to the chapter each month. Our budget provides for a monthly payment of \$25 towards a furniture fund which is held in trust by the chairman of the financial committee who is a faculty member, in order to buy furniture for the new house we expect to build in the near future. The lot we expect to build on is being managed by an alumnus who is organizing an "alumni house building association" which will own the house and rent it to the active chapter. The chapter is now paying \$200 a month into this organization and each active and alumnus has signed \$50 in notes payable in four annual installments.

M. JEROME REID, Omicron, graduate student.

Pi chapter has been interested mainly in influencing prep school boys in taking engineering and pointing out the advantages of the University of Virginia.

Delegations of two to four men were sent to about ten of the leading preparatory and high schools of the state. All reported that there was great interest manifested by the prep school students.

We have done this work before. The Dean of Engineering reports that the results of this work are evidenced by the increased registration.

We hope that this year we will be more successful than ever before since the work was begun earlier and greater emphasis placed upon it.

CHARLES D. HARMAN, Pi '29

We will outline the plan which Sigma employs for conducting professional meetings. They are held the second Monday evening of each month. The usual weekly business meeting is foregone. A senior is placed in charge of such meetings by the Regent and the securing of a speaker and his subject are left in this brother's hands. He also acts as toastmaster of the dinner, thus obtaining experience in introducing a speaker as well as in securing him. Since many of the brothers have not been fortunate enough to meet engineers living in Columbus, at least half of the speakers belong to the University faculty, although they are not always engineers. The dinner is held at the chapter house and is financed by assessing all actives and pledges the price of the meal unless they have been previously excused. The menu is left to the discretion of the Steward, out of whose account the speaker's meal is paid. Notice of the dinner is sent to the faculty members as well as to Columbus alumni and a goodly percentage of them attend. It will be noted that the maintenance of a chapter house by Sigma aids her in conducting these meetings.

H. EUGENE ASHMEAD, Sigma '29

One of Tau chapter's most important activities is the managing of the Annual All-Engineers' Banquet. We are proud to let it be known that under the sponsorship of Tau chapter, this year's All-Engineers' Banquet, held on February 26th at the Onandaga Hotel, was the most successful banquet held to date. The most inspiring feature of the banquet was the number of

alumni who returned for the occasion. The class of '08, that of the speaker of the evening, Mr. Ray M. Hudson, was very well represented. We feel that the effort and worry incident to staging the banquet was well worth while, since the students, faculty, alumni, and engineers of the city are brought much closer together and meeting fosters mutual respect.

As has been the custom in the past, this year Tau is giving the College of Applied Science a gift. We intend to present a plaque of appropriate designs, upon which the names of the most representative seniors will be inscribed. It is hoped that the spirit of competition that will be promoted will help to stimulate scholarship and interest in college activities.

DAVID M. MACALPINE, Tau, Graduate Student.

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Upsilon has sponsored regular meetings of all engineers on the campus to discuss various phases of the engineering profession. We have already held four such meetings, and at each we have shown a few reels of moving pictures, obtained through the courtesy of manufactures of engineering equipment.

These meetings have been well attended, and judging from the comment and the interest manifested in the discussions, they have been of great benefit.

Our chapter has coöperated with the Extension Department of the University in conducting the annual Utility Men's Short Course, and the brothers have done much in making the visitors feel welcome and enjoy their course.

ROBERT H. CLARK, Upsilon '29

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Phi chapter at Purdue University has endeavored to place itself before the engineering students of the University by entering into campus professional activities.

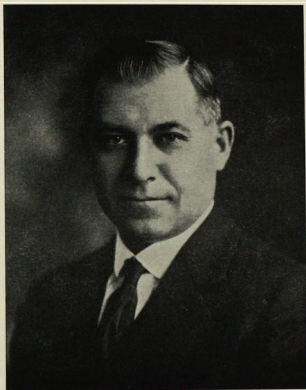
Brother Louis S. Divan, Regent of Phi Chapter, gave a talk before the combined meeting of the A. S. M. E. and the A. I. E. E. on October 30, 1928. His subject, "Student Apprenticeship," was based upon his experiences while employed by the Baldwin Locomotive Works. Brother Divan also wrote a rather detailed article on Diesel-Electric Locomotives in the December, 1928 issue of *The Purdue Engineer*.

Brother Marion Kapps, who has spent a number of years with the General Motors Corporation, addressed the A. S. M. E. on the subject, "The General Motors Proving Ground." A four reel moving picture of the Grounds made this talk very interesting.

Phi chapter helped sponsor the sale of tickets to the Second Annual All-Engineers Banquet held at the beginning of the current school year.

ROBERT E. STRADLING, Phi '31





ARTHUR J. WEINIG, GAMMA '08

It is particularly fitting that world wide recognition of the experimental plant of the Colorado School of Mines should come under the directorship of one of the school's graduates, Arthur J. Weinig, '08.

An engineer of prominence when he came to Golden to reorganize the mill, Mr. Weinig's reputation has been considerably enhanced by the work he has done as director and in the capacity of consulting engineer. It is not at all improper to venture the statement that he is the outstanding man in the milling profession.

In 1924 he became director of the experimental plant. Since that date, in a consulting capacity, he has done experimental work for many concerns.

Success of the experimental plant is attributable, primarily, to Mr. Weinig who derives much satisfaction in serving his alma mater while taking an active part in the development of the milling industry.—From the *Colorado School of Mines Magazine*.

*The* GEAR of THETA TAU  
OFFICIAL PUBLICATION OF THE FRATERNITY

DONALD D. CURTIS, OMICRON '19

EDITOR AND BUSINESS MANAGER

101N ENGINEERING HALL . . . . . IOWA CITY, IOWA

*Subscription \$2.00 a Year*

*Professional Card \$1.00 a Year*

VOLUME XVIII

SPRING, 1929

NUMBER 2

The editor wishes to take this opportunity to thank the brothers who replied to our recent circular with subscriptions. To save expense and time no acknowledgment was made of the subscriptions and this is offered as notice of receipt. Your interest and help are very much appreciated.

The Eighth Biennial Convention directed the Grand Treasurer to have the name of the Fraternity registered as a trade mark. Below is printed the official notice of this registration.

Registered Nov. 20, 1928.

Trade-Mark 249,585

UNITED STATES PATENT OFFICE

Theta Tau Fraternity, of Urbana, Illinois.

Act of February 20, 1905.

Application filed July 3, 1928. Serial No. 269,042.

ΘΤ

STATEMENT.

*To all whom it may concern:*

Be it known that Theta Tau Fraternity, a voluntary association having a regular and established place of business at 614 West Washington Boulevard, Urbana, Illinois has adopted and used the trade-mark shown in the accompanying drawing, for FRATERNITY BADGES, LAPEL BUTTONS; SCARF, LAPEL, AND BREAST PINS; CUFF LINKS, TIE CLASPS, CHARMS, FINGER RINGS, BELT BUCKLES, AND ORNAMENTAL SHIELDS, ALL OF PRECIOUS METAL, in Class 28, Jewelry and precious-

metal ware.

The trade mark has been continuously used in the business of said association and its predecessors since the year 1905.

The trade mark is usually applied or affixed to the goods by attaching a printed label to the packages containing the goods or by displaying the trade-mark on the goods themselves in any manner customarily employed in attaching trade marks to articles of jewelry.

THETA TAU FRATERNITY,  
By JAMISON VAWTER,  
*Grand Treasurer.*

*To All Members of Theta Tau  
Fraternal Greeting:*

You are hereby informed that

**Mr. W. K. Cole**

(Beta Roll No. 282)

**Is no longer a member of this Fraternity**

Please take notice of this and govern yourselves  
accordingly.

In H. & T.

**E. J. SCHRADER, Grand Scribe**

Jan. 1, 1929.

### AN INVITATION

Alpha chapter of Theta Tau hereby requests that the Executive Council consider Minneapolis, Minnesota as the location for the forthcoming Ninth Biennial Convention of Theta Tau fraternity. Our reasons for requesting that this Convention be held at Minneapolis are as follows:

1. Alpha chapter has not had a convention for a good many years.
2. Our active members have pledged 100% support.
3. Our chapter house is available and convenient to the campus if it is decided to hold the meetings on the campus.
4. The Twin City Alumni Association will coöperate with us and lend its support in attendance.

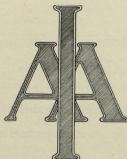
5. Minneapolis has several hotels that will give special rates if the Convention is to be carried out similar to the Chicago Convention.

6. Minneapolis is centrally located geographically and is conveniently reached by rail from all parts of the United States.

7. October 15, 1929 is the Twenty-fifth Anniversary of the founding of Theta Tau. We believe that this Ninth Biennial Convention should be held at the birthplace of the Fraternity in order that, in addition to the regular business of the Convention, it may serve to commemorate the founding of the Fraternity, and to do honor to those who guided its destinies through its early years.

We trust that the Executive Council will give the foregoing statements consideration when deciding upon a site for the Convention. We feel that the last of these in particular should be given serious consideration.

Alpha of Theta Tau,  
By DONALD ALDERSON, Regent



INTERMOUNTAIN  
ALUMNI ASSOCIATION  
OF

# THETA TAU

— — —  
ANNUAL  
DINNER-ELECTION

UNIVERSITY CLUB SALT LAKE CITY UTAH  
JANUARY 26, 1929

Reproduction (half-size) of blue-line print of Intermountain Alumni Association banquet program. Read what follows if you can.

## EUNM

BORLEST LACKTICO  
THERSOUN BUMGO

ECELYR

TEWES SLICKEP

GIRDELL BAML SPOCH NO TOTAS

AU RATING SEPATOOT

SEWET GRUSA NORC

HADE TELUCET 0010 LISDAN SEDRIGSN

TTT-TTHIFURU ACREMICE

TRESSED0 CESKA

RADDECH SHEEEC

SEATOD STEBN

FEFECO

## RAMGORP

1. TOTASRETMAS

George B. McLeese

2. LOVCA NECESSITOL

Mrs. Virginia Freeze Barker

accomp. by Mrs. Almeada E. Hall

3. TEH MICCERA DUSTINRY IN TAHU

R. A. Hart

4. HET HETHIG LIANIBEN VENNCONTIO

Howard Barker

5. HISTORISNIA TORPER

Otto Duke

6. GINTIDAU TEETMICOM TROREP

Vernon Bell, Chrm.

7. CESY-RESTA TROPER

M. E. Callahan, Jr.

8. MINNOGINTA MITETOMEC PROTER

Otto Herres, chrm.

9. TA DAMNORA

Those Present

## UNIVERSITY NEWS

Brother T. Lesley Hinckley, Alpha Hon. '05, has forwarded the GEAR a copy of the printed prospectus of the Division of Municipal and Industrial Research of the Massachusetts Institute of Technology. We excerpt from it as follows:

The Division of Municipal and Industrial Research was established at Massachusetts Institute of Technology in 1926 with a view to meeting the growing need for community research covering many elements in community life which hitherto seldom have been studied in their relation to one another. Its purpose is to provide communities with competent advisory service in respect to their industrial and other community problems. The Division comprises a competent staff experienced in dealing with the various industrial, commercial, and civic problems of a community under the supervision of a director who has been closely identified with community research over a period of twenty years.

In addition to the service provided by the staff, the Division has the unexcelled scientific and professional resources of the Institute at its disposal, and the benefit of the advice of an Administrative Board.

In establishing the Division of Municipal and Industrial Research an important objective in mind was to provide a means of making comprehensive industrial surveys of communities. Naturally both the limits of the area to be included and the precise scope of the work to be done will be influenced by local conditions, but an economic or industrial survey of any community generally should give appropriate recognition to the following matters:

1. Making a descriptive inventory of the community industrial and business resources, ascertaining just what enterprises comprise the industrial and business life of the community, and procuring information relating to their economic condition and requirements for different kinds of service.

2. Reviewing in considerable detail the transportation facilities of the community, together with those concerned with furnishing of electric power, water supply, and other utility service, for the purpose of ascertaining the adequacy of these facilities to meet community requirements, and the equity of charges made.

3. Making an appropriate study of labor conditions with particular reference to conditions influencing employment, cost of living, and the character and sufficiency of housing accommodations available.

Supplementing the above, an economic or industrial study of any community should likewise include an appropriate study of conditions attending the administration of local government with respect to governing policies and administrative methods employed.

The service of the Division of Municipal and Industrial Research constitutes a new approach to an old field of endeavor. The fact that it provides for an integrated survey of all essentially community problems perhaps should constitute one of its most valuable contributions to community research. Being planned on a community basis, the type of economic information that a study of this sort should develop will apply to general industrial and commercial problems rather than to the problems of individual industrial es-

tablishments the solution of which is within the province of the industrial engineer. Moreover the Division does not undertake to provide communities with specific advice involving city planning or the design of public works. The service provided, however, makes available basic information with regard to the community which can be used for these purposes, if desired, and likewise provides a sound foundation upon which a more effective business and community structure can be erected.

Work already completed by the Division plainly demonstrates the nature of the service offered and the constructive character of its recommendations.

A comprehensive industrial survey was made during 1927 of Metropolitan Providence, Rhode Island. This included the cities of Providence, Pawtucket, and Cranston and the towns of North Providence and East Providence. Among the outstanding conditions disclosed by this survey which were important in their influence on the economic future of the metropolitan area was the need for an enlargement of port facilities so as to encourage water transportation. The desirability of railroad competition and a reorganization of community distribution facilities with a view of eliminating market congestion and reducing the cost of handling foodstuffs was also disclosed. In the case of a leading local industry, that of jewelry manufacture, the need for the coordination of the many subdivisions of that industry and the opportunity for establishing locally a cooperative selling market were clearly revealed. The necessity for reducing the cost of local municipal government through the introduction of improved methods of financing was also emphasized. Since the survey was completed, action in line with its recommendation in regard to transportation and the jewelry industry has been taken and a special committee of leading citizens has been named to consider the local financial problem. Also plans are under consideration to provide additional medium-priced housing accommodations in and about Providence, the substantial need for which was disclosed in the survey.

Other cities, including Norwood, Massachusetts, Bangor, Maine, and Meriden, Connecticut, have also made use of the services and recommendations of the Division and help to prove the value of the work it performs.

Brother Hinckley is a member of the staff of the Division of Municipal and Industrial Research.

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Columbia University lent \$77,000 to students in 1927. In practically no cases were loans made from the general fund for purposes other than the payment of tuition fees.

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Purdue University has started on the first of its \$3,500,000 building plan, four minor buildings having been built during the past summer. Nearly 1,600 freshmen are reported to be enrolled at the university this fall, this being nearly 200 more than ever before.

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University of Virginia alumni are now conducting a campaign to keep girls from entering that school, on the grounds that it will lower the moral standard, Professor Oshea said.



"Standards at the university, in fact in most Virginia schools, are unusually high," Professor Oshea said, "and it is generally felt this is due to the fact that women are not admitted."

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Decrease in the number of students in schools of mining and metallurgy has been marked in recent years. According to the U. S. Bureau of Education the 1928 figures show 3256 in such schools as contrasted with 20,211 in electrical, 14,073 in civil, and 11,273 in mechanical engineering. Since our industry is, in fact, expanding, these figures, doubtless, in large part reflect the new type of organization and higher degree of specialization which leads to men in the mining industry preparing for it by more special training than the older courses gave.

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Belief in the value of actual contact with mine conditions has led the Colorado School of Mines to devote the entire month of March to visiting mines, oil fields, and steel mills in various Western states. Four separate trips and itineraries were made out, each one emphasizing a different aspect of mining engineering. These trips were made under the charge of the professors of the head of the particular branch of engineering with which the trip dealt. Cost accounting and practical operations are being studied.

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Enrollment at the Michigan College of Mining and Technology at Houghton is 390. Of the 158 freshmen in the college—the largest entering class in the history of the institution—48 are registered for mining engineering; 17 for metallurgical engineering; 9 for chemical engineering; 4 for chemistry; 21 for civil engineering; 22 for electrical engineering; 14 for general engineering; 18 for mechanical engineering; and 5 for geology.

Registration in mining and metallurgy is almost identical with last year. The increase is in additional courses which the last Michigan Legislature authorized. The increase is taken to indicate how the action of the Legislature enables the college to serve the needs of technical education in the Upper Peninsula of Michigan more fully than ever before.

More than 60 students are taking work in electrical engineering, one of the new courses.

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The University of Utah department of mining and metallurgy will begin immediately the study of problems connected with geophysics. This announcement followed the course of lectures given in Salt Lake on geophysics by Dr. C. A. Heiland, of the Colorado School of Mines, and J. J. Jakosky, Zeta '20, consulting engineer of the Radiore Company, under the auspices of the department and the Utah Society of Engineers.

Research will center around accumulation of data regarding electrical phenomena observed in various types of mineralized deposits, in the hope that such research may facilitate the interpretation of results obtained in geophysical prospecting. At present electrical prospecting as well as other geophysical

methods will only indicate the presence of an orebody without giving any clew to its value, it is said. It is in this latter direction that the department officials will particularly turn their efforts.

Two years' work, part of a ten-year program in mapping rock and ore formations of the Keweenaw copper-bearing series, in the Michigan copper district, has been completed by the geological department of the Michigan College of Mining and Technology, which is coöperating with the Michigan Geological Survey. Prof. W. A. Seaman and a staff of assistants plotted an area, three to four miles in width, from the LaSalle mine to Portage Lake, in 1927. This year, an area of similar width from Portage Lake to Eleven Mile Lake, south of Painesdale, was plotted. Champion Copper Company coöperated in this latter work. Outcrops, drill holes, shafts, roads, streams, and closely run magnetic dip-needle readings are designated on the maps.

A dip-needle is affected by magnetite, which is quite abundant in some parts of the formation, and the relative amount of magnetite is indicated by the readings. It is especially affected by some of the heavier traps, which have an ophite character.

The Bureau of Education, Department of Interior, has announced that enrollment in 148 engineering schools in the United States has increased from 62,312 in 1926-27 to 65,520 in 1927-28.

The ranking schools in regard to the number of enrollments were:

M. I. T. ....	2,250	U of Cincinnati .....	1,565
Purdue .....	2,226	Lehigh .....	1,510
Illinois .....	1,820	Northeastern U .....	1,471
Georgia Tech. ....	1,596	Penn State .....	1,444
Michigan .....	1,593	Texas A and M .....	1,441
Ohio State .....	1,546	Rensselaer .....	1,414

The professional grouping from these institutions gives numerical results as follows:

Electrical Engineering .....	20,210	Textile .....	320
Civil .....	14,073	Agricultural .....	214
Mechanical .....	11,273	Geological .....	211
Chemical .....	5,987	Gas .....	101
Architectural .....	3,256	Electro-chemical .....	99
Mining and Metallurgy .....	2,143	Railway .....	49
Industrial and Commercial .....	2,135	Sugar .....	44
Aeronautical .....	614	Sanitary and Municipal .....	33
General .....	438	Marine .....	16
Petroleum .....	372	Flour mill .....	9

## ALUMNI NOTES

### ALPHA CHAPTER

- WM. D. EMMONS, '97, is a member of the Committee on Processes of Ore Deposition in the Division of Geology and Geography of the National Research Council.
- SAM R. HAMILTON, '28, is employed in the Commercial Engineering Department of the Union Switch & Signal Company, Swissvale, Pa.
- KENNETH A. JOHNSTON, '20, has been appointed Mining Engineer for the Lafayette Fluor Spar Company at Mexico, Kentucky. He was formerly with the Oliver Iron Mining Company at Virginia, Minn.
- ADRIAN A. KEARNEY, '23, is with the Manila Electric Company at Manila, Philippine Islands.
- GLEN M. LARSON, '23, is Mechanical Engineer for the Famous-Players-Lasky Corporation. He resides at 5412 Virginia Avenue, Los Angeles.
- JOHN L. MIDDLETON, '23, is in French Congo, Africa doing geological exploration work. Brother Middleton visited Alpha chapter this past winter after four years in the Belgian Congo.
- MAX F. QUINN, '12, for some years Superintendent of the Taviche Unit of the Cia. Asarco at Ocotlan, Oax., Mexico can now be addressed c/o Chamber of Commerce, Inglewood, California, where he has established himself as a consulting mining engineer.
- CHARLES T. SKAROLID, '24, has been appointed wire chief for the Bell Telephone Company at Fargo, North Dakota.
- LLOYD V. BERKNER, '27, is with the Byrd Antarctic Expedition as radio operator Alpha chapter has received radiograms from him; we are giving a copy of one below.

Received	RADIOGRAM	Transmitted
From WFBT	Experimental Radio Station	To .....
Time 2:45 A. M.	9XI	Time ....M
Date 10, 6 1928	University of Minnesota	Date ..1928
Sine Jacobson		Sine.....
HR MSG FM .....	WFBT	NR 3 10-6-28 OK....
(Office of Orig.)	(Orig. Station)	(Orig. Date)

TO: Theta Tau Fraternity.

We are below the equator under furled sails stop

Best wishes for a most successful year.

(Signed) LLOYD BERKNER.

### BETA CHAPTER

- LIEUT. HARRY S. ALDRICH, '17, is located at Peking, China.
- PAUL COOPER, '31, was recently married to Miss Adele Fraser of Chassell, Mich.
- RITSON H. GRAVES, '28, is now working as metallurgist for the United States Metals Refining Company of Woodbridge, N. J.

- JOHN M. HARRINGTON, '17—a son was born recently to Brother and Mrs. Harrington. Brother Harrington is Assistant Professor of Mathematics and Physics at M. C. M. & T.
- HERBERT W. HAWN, '28, was married during the Christmas holidays to Miss Bessie Opie of Houghton. Brother Hawn is instructor in the Mechanical Engineering Department at M. C. M. & T.
- J. MADISON JOHNSTON, '24, delegate to the convention at Iowa City in 1923-24 is now living at 715 Fourth Ave., Salt Lake City. He is agent for the Ziz Steel and Wire Company.
- C. W. NICHOLSON, '16, is General Manager for the Canam Metals Co., Ltd., at Joplin, Missouri.
- ARTHUR E. SEAMAN, Hon. '95, during the last year resigned his position as head of the Geology Department at M. C. M. & T. Brother Seaman has been with the college for thirty-eight years and will continue as curator of the mineralogical museum.
- CLARENCE F. SEAMAN, '28, is Chief Inspector for the Keeler Brass Works of Grand Rapids, Michigan.
- LLOYD L. SEESTEDT, '28, was married the past summer to Miss Margaret Duyore of Houghton. The couple reside in San Angelo, Texas where Brother Seestedt is engaged in sub-surface work in the Geological Department of the Republic Production Company.
- LYLE P. TONNE, '28, is working as an underground engineer in the Dunwoody Mine for the Orwell Iron Company at Chisholm, Minn.
- WM. O. VANDERBURG, '23, is Mine Superintendent of the Tonopah Extension Mining Company at Tonopah, Nevada.

#### GAMMA CHAPTER

- EARLE B. BLICKENSTAFF, '25, is now mine superintendent of the American Tin Company, his address being 1476 West 11th Street, Riverside, Calif.
- PAUL D. BLISS, '26, is in the Engineering Department of the International Nickel Company of Canada, Ltd., Copper Cliff, Ontario.
- LIONEL BROOKE, '14, is superintendent of the Exchequer Mines Company, Goffs, Calif.
- LUTHER J. BUCK, '20, has just received the appointment of assistant superintendent of the Alton, Illinois plant of the American Smelting & Refining Company. Brother Buck held the same position with the company's plant in Durango, Colorado for several years.
- JAY J. BURNS, '16, is once more residing in the United States. He has recently removed from El Molino, Sonora, Mexico to Patagonia, Arizona, where he is mill superintendent of the Big Jim Mines.
- SAMUEL J. BURRIS, JR., '15, is in charge of the erection of a large mill for his company, the St. Louis Smelting and Refining Co., at Baxter Springs, Kan.
- JAMES E. DICK, '12, is in California doing geophysical work. His headquarters are in Santa Monica.
- JOHN H. EAST, JR., '10, has recently removed from Pennsylvania to Albaster, Michigan where he is with the U. S. Gypsum Company.
- J. E. EDGEWORTH, '21, is with the Union Pacific Coal Co. at Rock Springs, Wyoming.
- BENJ. F. ESSIG, '15, had a narrow escape from death in an automobile acci-

dent near Longmont, Colorado. Gas escaping from the exhaust and entering through the car heater overcame him and he lost consciousness. His car left the road and landed top down in a small mountain stream. Water entering the wrecked car revived him and he was able to get free from the wreck. Brother Essig is district manager of the Gardner-Denver Company in Denver.

E. PAUL EVANS, '26 and Mrs. Evans of Wellston, Ohio announce the birth of a daughter, Diane, born in Columbus, Ohio, September 2, 1928.

THOS. G. FOULKES, '22, has been appointed Research metallurgist for the Bethlehem Steel Co. at Bethlehem, Pa.

EUGENE F. GALLAGHER, JR., '28, is now in Wichita Falls, Texas with the Continental Oil Company. He is engaged in sub-surface studies as a petroleum engineer.

HOMER A. GODDARD, JR., '25, is with the Bethlehem Steel Corporation. His address is No. 7 Washington Apts., Bluefield, West Virginia.

DONALD C. GREGG, '22, is with the Cia. Minera de Penoles at Esmeralda, Coahuila, Mexico. He was a visitor in Golden during the Christmas holidays.

RAYMOND R. KNILL, '23, and CARL T. LINDERHOLM, '23, are with the Union Pacific Coal Co., at Rock Springs, Wyoming.

VERNON L. MATTSOON, '26, and Miss Carrie Bell of Washington, D. C. were married on August 9, 1928. They will make their home in Huntington, West Virginia.

PHILIPP J. MCGUIRE, '15, is engineer for the Oliver United Filters Corporation in Los Angeles. He was seriously ill for about six weeks this winter.

JOE MCNEILL, '28, who has been with the Ingersoll Rand Company at Phillipsburg, New Jersey, has been transferred to the New York office. His mailing address is 382 Bement Avenue, Staten Island, New York.

MILWARD MILLER, '26, announces a daughter born Jan. 24, 1929. Brother Miller is with the Humble Oil and Refining Co., and for a while will be located at Shreveport, La., address 3861 Fairfield Ave.

FITCH ROBERTSON, '20, who is with the American Smelting & Refining Company has been transferred to the San Francisco office. Mail will reach him care of that company, 405 Montgomery Street.

ROGER M. SCHADE, '21, is with the Allis Chalmers Manufacturing Company in St. Louis, Missouri.

DOUGLAS M. SHAW, '28, is Division Engineer with the Montezuma Copper Co. at Pilares de Nocozi, Sonora, Mexico.

HALE M. STROCK, '22, is with the Anaconda Copper Mining Company in Butte, Mont.

THOMAS WELLS, '28, son of Buckley Wells, well known mine operator, has purchased the Noam mine, a gold and silver producer at Whitecross, near Lake City, Colorado. He is employed by Ulen & Company of New York City. This company was recently awarded a contract to build 600 miles of railroad in Persia.

ROGER F. WHITE, '18, has acquired new offices in the Hellman Bank Building, Los Angeles, California where he will continue his practice as Petroleum Geologist and Engineer.

ROLLAND H. WOODS, '24, recently participated in a series of Polo games between the Wichita Falls and Midland, Texas teams.

ROBERT W. WELLS and PHILIP W. SIMMONS, both '28, have accepted positions with the Ingersoll-Rand Co. and will be stationed at the Phillipsburg, New Jersey, plant. W. G. Lofgren, E. R. Loche, and Joe McNeill, all '28, are with the same company.

#### DELTA CHAPTER

JOHN M. BYRNS, '27, formerly with the U. S. Bureau of Mines, Lakewood, Ohio, is now Metallurgist for the Crucible Steel Company of America, Oliver Building, Pittsburgh, Pa.

ALBERT C. ELLSWORTH, '28, is employed as Metallurgist for Steel and Tubes, Inc., at Cleveland, Ohio. His mailing address is 2904 Warrington Road.

EDW. D. KEMBLE, '28, is student engineer for the Delco-Remy Company at Anderson, Indiana.

WALTER F. MECKEL, '27, is with the Anaconda Copper Mining Company, Anaconda, Mont.

ROBERT W. OSTERHOLM, '28, is working as sub-station engineer for the Ohio Power Company, Canton, Ohio.

GRANT R. RUBLY, '28, is in Miami, Arizona. He is mining engineer for the Miami Copper Company.

ROBT. F. SIMOKAT, '28, is employed by the Autocall Company of Shelby, Ohio.

KEITH C. STEVENS, '28, is with the Marietta Concrete Corporation, 416 Bellevue Street, Marietta, Ohio.

ANDREW G. THAILING, '28, has secured a position with the Austin Company at Cleveland, Ohio.

OTTO TICHY, '28, is working in the Engineering Department of the Perfection Stove Company at Cleveland, Ohio.

#### EPSILON CHAPTER

CHARLES A. ANDERSON, '24, and Mrs. Anderson are the proud parents of a baby boy born last fall.

FRANCIS W. ANDERSON, '28, is with the North Lily Mining Company at Eureka, Utah.

CECIL L. BARTON, '28, is with the California State Mining Bureau located in Los Angeles.

EDGAR A. BOADWAY, '25, has recovered from his last accident and is again flying.

JAMES P. BRADLEY, '28, is Superintendent of the Spanish Mine, Washington, Calif.

ARTHUR B. BROWN, '25, is married and residing at 1727 Baker Street, Bakersfield, Calif.

JOHN P. BUWALDA, '12, was recently appointed by the Secretary of the Interior to a Federal Advisory Commission of three to study and plan future developments in Yosemite Park relative to a better utilization of the valley and its attractive features. This extensive development project is to cost several millions.



- MILTON K. CAMPBELL, JR., '14, was married to Miss Elsie Tonnesen of Sante Fe.
- JAMES R. DORRANCE, '22, is now geologist for the Texas Company in California.
- DUBOIS E. EASTMAN, '28, is in the petroleum engineering department of the Texas Company located at Long Beach.
- KENNETH A. GOW, '26, is geologist for the Union Oil Company at Fort Collins, Colo.
- GORDON W. HEID, '25, by this time has established himself in Java for the Standard Oil Company of California. He expects to stay four years doing geology.
- MASON L. HILL, '26, is geologist for the Shell Oil Company of California, Higgins Building, Los Angeles, California.
- FRANK J. HOENIGMANN, '16, as representative of the Moline Plow Company, spoke before the Engineering students of the University of Iowa on February 21st. He addressed the Student Branch of the A. S. M. E. in the afternoon and the members of Tau Beta Pi in the evening.
- HENRY V. HOWE, '16, has been named a member of the Sub-Committee on Micro-Paleontology of the Division of Geology and Geography of the National Research Council.
- GEO. L. KLINGAMAN, '20, is with the California Company at Iraan, Texas.
- CLARENCE E. KREBS, '22, is now at Santa Rita, New Mexico.
- GEO. D. LOUDERBACK, '96,—the following is taken from a California paper—"Professor G. D. Louderback of the Geology Department of the University of California will sail tomorrow afternoon on the President Pierce from San Francisco. He will be accompanied by Mrs. Louderback and after the science meeting they will travel in India and the Orient during the summer, returning home in time for the opening of the fall semester at the University."
- JOHN MAHONEY, '24, has returned from Venezuela and is now with the Standard Oil Company at Taft, California.
- FRANK A. MORGAN, '20, independent geologist and petroleum engineer, recently discovered the new Elwood Field in Santa Barbara County for the Rio Grande and Barnsdall Oil Companies. Extract from "Munger Oil Information" July, 1928—"The Elwood structure stands out unique from all other costal structures; in other words, there is nothing like it anywhere in the State of California.—The honor of working out the geology and the discovering of this new and unique oil goes direct to Frank A. Morgan. Morgan is one of the younger generation of petroleum geologists but from now on he will need no introduction."
- VINCENT D. PERRY, '22, is chief geologist for the Greene Cananea Copper Company at Cananea, Sonora, Mexico.
- FRANK H. PROBERT, Hon. '97, will attend the International Mining Congress meet at Tokyo, Japan, this summer.
- DAVID C. SHARPSTONE, '24, is chief geologist for the Roan Antelope Copper Mines Limited, N'dola, Northern Rhodesia.
- PHILLIP J. SHENON, '22 has been appointed assistant professor of geology at the Montana State School of Mines in Butte, Montana. Dr. Shenon

- received his Ph.D. in geology at the University of Minnesota a few years ago.
- V. LAWRENCE VANDER HOOF, '28, is in Texas collecting vertebrate fossils for the Paleontology Department of the University of California.
- HERMAN W. WEDDLE, '28, is geologist for the Standard of California at Berkeley.
- GLOYD M. WILES, '23, has resigned his position as mine superintendent of the Treadwell Yukon, in the Sudbury District of northern Ontario. Brother Wiles has held this position for the past three years.

## ZETA CHAPTER

- GLENN L. ALT, '16, announces the arrival of Glenn Jr. on October 3rd.
- LELAND C. ANGEVINE, '13, is manager of the water and electrical utilities at McPherson, Kansas and is also city engineer. He was recently elected president of the Kansas Municipal Electrical Association.
- VIRGIL S. CARRIER, '29, was married to Miss Florence Johnson of Kansas City on November 18th.
- LAWRENCE E. COLE, '16, was married to Ioline Cox on October 23rd.
- GEORGE L. HAWLEY, '23, is with the Transmission Department of the Southwestern Bell Telephone Company at Kansas City, Missouri. His address is Hotel Ricardo, 811 East Armour Blvd.
- JAY J. JAKOSKY, '20, has discovered a device for locating ores by means of Radio.
- J. PERRY MAY, '28, is student engineer for the General Electric Company at Scotia, New York.
- WM. C. MCNOWN, Hon. '03, has been named a member of the Committee on Economic Theory of Highway Improvement in the Division of Engineering and Industrial Research of the National Research Council.
- G. EDMUND ROSE, '23, who has been in Topeka with the Southwestern Bell has been transferred to Kansas City in the Transmission Department.
- J. RALPH STAGG, '24,—Brother and Mrs. Stagg announce the birth of a daughter on October 19th.
- JAMES D. STOKES, '28 was married to Miss Dorothy Prietley on November 25th.
- RICHARD L. TEMPLIN, '15, is chief engineer of test with the Aluminum Corporation of America in Parnassus, Pennsylvania.
- THEO C. THEE, '27, was a visitor at Upsilon chapter this winter. Brother Thee is employed by the U. S. Bureau of Public Roads.

## ETA CHAPTER

- ELLIOTT B. GROVER, '28, is employed as mill engineer for the Ponemah Mills, at Taftville, Conn.
- JOHN C. MELCHER, '28, is salesman for the Leeds Northrup Company at Philadelphia, Pa.
- ARTHUR A. NICHOLS, '28, is with the Goodyear Tire and Rubber Company at Akron, Ohio.
- PAUL E. RUCH, '28, is in Akron with the Goodyear people.
- FORD W. SAMMIS, '28, is at 318 West 57th Street, New York City. He is employed by Henry L. Doherty and Company.

EDWARD A. TAYLOR, '24, who was formerly in Philadelphia is now at Buffalo, N. Y.

CHAS. H. TOPPING, '28, is located at Maracaibo, Venezuela, South America. He is with the Lago Petroleum Corporation.

CHARLES E. WORTHEN, '28, is assistant engineer for the General Radio Company at Haverhill, Mass.

### IOTA CHAPTER

RUPERT P. BAUMGARTNER, '28, is with the Westinghouse Company at Wilkesburg, Pa.

HOWARD HISTED, '28, has a position with the Wellington Mines Leasing Company at Breckenridge, Colorado.

HAROLD R. KILPATRICK, '28, is employed as salesman for the LaCledé Steel Company at St. Louis, Missouri.

CLAIR V. MANN, Hon. '14, Professor of Engineering Drawing at Missouri School of Mines, is on sabbatical leave for the school year 1928-29, studying toward his doctor's degree at the University of Iowa. Professor Mann will base his work at Iowa on the research work he has done in engineering education at the School of Mines during the last four years. A special part of his program will be the study and further development of objective type tests in engineering drawing and descriptive geometry, such as has been used with considerable success in the Drawing Department of the School of Mines the past year. The project upon which Professor Mann is entering is considered by engineering educators as a radical departure from orthodox methods of training engineering teachers. This is one of the first, if not the first, venture of the kind undertaken in this country.

HAROLD F. SHORE, '22, is working for the Geophysical Research Corporation at Fort Worth, Texas.

WM. D. TURNER, Hon. '17, has been granted a second year's leave of absence from his duties as Head of the Department of Chemistry, Missouri School of Mines, and will continue his work in New York.

### LAMBDA CHAPTER

VERNON L. BELL, '25, is with the O. S. L. R. R. Company in the Maintenance of Way Department with headquarters in Salt Lake.

WM. M. HAYDEN, '28, is taking graduate work at Columbia University.

WALTER B. LEAF, '11, is with the Aluminate Products Company at Denver, Colorado.

MICHAEL N. MALTSEFF, '28, is Designer and Draftsman for the Utah Copper Company at Salt Lake City.

JAMES MATHER, '28, is Research Fellow in the Civil Engineering Department at the University of Illinois.

GEO. B. MCLEESE, '24, is assistant engineer in the Bridge and Building Department of the O. S. L. R. R. Company. He was recently elected president of Theta Tau Intermountain Alumni Association.

OLIVER D. SEELEY, '26, is Efficiency Expert for a large mail order house in Chicago.

BARR W. SMEDLEY, '28, is Draftsman for the Uinta Pipe Line Company at Bountiful, Utah.

- ALTON H. SORENSEN, '25, is bridge and concrete inspector for the Engineering Service Company at Aurora, Illinois.
- JOHN R. SUTHERLAND, ex '17, is in the Engineer Bridges and Buildings Design Room of the O. S. L. R. R. at Salt Lake.
- FRED E. THACKWELL, '28, is surveying instructor and draftsman in the School of Mines at the University of Idaho.
- SPENCER E. WEBB, '22, is design and construction engineer for the New Glendale Airport at Glendale, Calif.
- J. EARL WOOD, '28, is with the Bureau of Public Roads at Oakland, California.

### NU CHAPTER

- DONALD H. CALLEN, '28, is with the Duquesne Light Company at Pittsburgh.
- PAUL W. DAVIS, '28, is located in Pittsburgh. He is with the Truscon Steel Company.
- JOHN E. JACOBS, '28, is working at the Pittsburgh Experiment Station of the United States Bureau of Mines on a fellowship from Carnegie Tech. He expects to qualify for his Master's degree within a few months.
- JAMES G. KAESTER, '29, is working in the engineering department of the Reick-McJunkin Dairy Company. He is stationed at one of the company plants in Butler, Pa.
- RALPH E. KRAMER, '24, who is employed by the Sullivan Machinery Company, has been transferred to their branch office in Japan. His address is Mitsui Bussan Kaisha, No. 1, Ni-Chome, Honcho., Nihonbashi-Ku, Tokyo, Japan.
- SAMUEL A. McMULLAN, '28, is Testing Engineer for the Aluminum Company of America at New Kensington, Pa.
- DONALD L. PUTT, '28, applying his engineering to flying, is still with the Army training school in Texas, being one of the fortunate few capable of resisting the "washing out" process.
- GERALD L. SEIBERT, '28, is now in Cleveland, Ohio.
- DORR M. SHEPPARD, '28, is employed by Goldsburg and Roberts at Pittsburgh.
- AMBROSE W. STAUDT, '28, is with the DuPont Rayon Company at Canton, Ohio.
- EDW. E. STEIDLE, '11, one of Nu Chapter founders, and for a long time one of the administrative heads of the Department of Mining and Metallurgical Engineering at Carnegie Tech., is very well settled and quite happy in his new work as head of a similar department at Pennsylvania State College, his alma mater.
- HOWARD E. STRONG, '28, is a special agent for Goldsburg and Roberts, 1812 Clark Building, Pittsburgh.

### OMICRON CHAPTER

- ARTHUR C. BOECKE, '26, was married to Ester Flynn on January 30th at Evanston.

- FRANK W. EDWARDS, '28, is now working for the Management and Engineering Corporation at Dubuque. Frank was formerly with the Central Station Institute in Chicago.
- WALLACE A. ELLIOTT, '28, is with the Roxana Petroleum Corporation at Wood River, Illinois.
- JOHN H. FOLWELL, '28, is with the Eastman Kodak Company at Rochester, New York.
- G. GILL FREYDER, '25, is first assistant to the sales manager in charge of the electric refrigeration in the Comman's Electric Company of Chicago.
- THOMAS L. HERRICK, '23 and Mrs. Herrick of Chicago announce the birth of a daughter, Patricia Jane, born February 20th.
- MARSHAL B. HURD, '28, is working for a Light and Power Company at Humboldt, Ia.
- FRANCIS L. KLINE, '28, is employed by the Des Moines Electric Light Company, 312 Sixth Avenue, Des Moines, Iowa.
- PAUL B. MARNER, '24, is assistant engineer for the sanitary district of Chicago, 910 S. Michigan Avenue. His residence address is 832 Reba Place, Evanston, Ill.
- CARL MENZER, '21, announcer and director of station WSUI, Iowa City, spent a week in Canada the past winter directing the repair and reconstruction of radio station CJHS at Saskatoon, Saskatchewan. Brother Menzer was called to Saskatoon by the directors of the station to repair the apparatus.
- JOHN R. MCGUIRE, '28, is employed at Milwaukee, Wisconsin with the Wisconsin Highway Commission.
- FLOYD E. SCHNEIDER, '28, is with the American Bridge Company, 420 Marshall Street, Gary, Indiana.
- MAX STANLEY, '26, and Mrs. Stanley announce the birth of a baby boy.
- LEO L. VOGT, '23, is assistant engineer for the DuPage county highway, Illinois highway commission, 234 Villa Street, Elgin, Illinois. He is living at 311 Ryerson Avenue.
- KENNETH J. WEIR, '24, is contracting engineer of the Pittsburgh-Des Moines Steel Company, 1278 First National Bank Building. He is living at 1812 Chase Avenue, Chicago.
- WILBUR H. WICKHAM, '28, is with the Commonwealth Edison Company, Room 950, 72 W. Adams Street, Chicago.

## RHO CHAPTER

- ROBERT D. BREAM, '26, is Assistant Engineer for the North Carolina State Board of Health, Raleigh, North Carolina.
- ROY M. CURRIN, JR., '26, is working as Power Engineer for the New York and Queens Light Company at Long Island City, New York.
- JEFFERSON C. DAVIS, '28, is with the Southern Bell Telephone and Telegraph Company at Jacksonville, Florida.
- J. EDWARD GRIFFITH, '26, is located at Danville, Virginia. He is Junior Engineer of the Piedmont Division of the Southern Railway system.
- J. LYNNE ROBERTSON, JR., '25, is now employed as Sanitary Engineer for the U. S. Public Health Service Company, Washington, D. C.
- HUBBARD L. SULLIVAN, '28, is working as Architectural Draftsman at Knoxville, Tennessee.

WM. E. SWAIN, '28, is in Norfolk, Virginia. He is Field Surveyor for the Sanborn Map Company.

KENNON V. WAINWRIGHT, '28, is employed by the Mobile County Highway Department at Mobile, Alabama.

### SIGMA CHAPTER

RAYMOND Q. ARMINGTON, '28, is working as a member of the technical staff of the B. F. Goodrich Company at Akron, Ohio. His mailing address is 1114 West Exchange St.

EDWIN L. BERISWILL, '27, is in the Grade Elimination Department at Cleveland, Ohio.

HAROLD L. DUTRO, '26, is superintendent in charge of coal and clay mining of the Claycraft Brick and Mining Company at Shawnee, Ohio.

RAYMOND J. EBNER, '28, has been married to Miss Thelma Sebring. Brother Ebner is now employed by the Ohio Bell Telephone Company at Columbus.

GLENN F. GRAF, '26, has been married to Miss Edyth Phillips.

MERLE S. KLINCK, '26; ROBT. M. KALB, '27, recently wrote in a letter to the Editor, the following: "The address of Merle Klinck has been unknown to the chapter since his graduation. One day this summer shortly after I came here from Columbus I rode from work on the train with another Ohio State man. He went on a few stations further than I, and the next day he come to me with a story. A man getting off at the next station after mine paused and asked him whether the person with whom he had been riding was not Kalb, of Ohio State. When he told that he was, the stranger gave my travelling companion his name and address, which was passed on to me the next morning. The name was that of Merle Klinck, who had been initiated at the same time I was and had not been heard of by the chapter for over two years. The next evening I went over to his house, which is only a few blocks from here, and found him working on the same old Dodge that used to haul eleven of us to the football games, including Bill Meiter on the bumper. Theta Taus are everywhere; it surely must be so!"

EMMET E. KNORR, '27, has been married to Miss Lois Parker. Brother Knorr is still living in Columbus and is taking a very active part in the Central Ohio Alumni Association.

WALTON O. LEEDY, '27, is still with the Ohio Inspection Bureau and has recently been transferred to Akron.

HARLAN H. MACE, '27, has recently returned from a trip through California and the Southwest. He visited Brother McNamer, '25, while in Los Angeles.

RAY A. SNYDER, '28, has accepted a position in the Research Department of the Westinghouse Electric & Mfg. Company. His address is 512 Holmes Street, Wilkinsburg, Pa.

ELMER F. STANSBERRY, '28, is with the Ohio State Highway Department, Hartman Building, Columbus, Ohio.

CLAUDE H. WALL, '20, announces the birth of an eight pound baby girl on February 28th of this year.

WM. D. WATTERS, '28, is now with the Toledo Edison Company at Toledo, Ohio.



## THETA TAU BADGES



## COMPARISON OF ORIGINAL AND PRESENT OFFICIAL BADGE

Pictures are about 1.6 normal size.

So much interest was shown by the younger brothers in the original Theta Tau badge Brother John C. Bush, Alpha '10, wore at the Chicago convention, that the editor presents a picture of it here by way of comparison with the present official badge.

Brother Erich Schrader was kind enough to furnish information which is used in this note. Brother Elwin L. Vinal, Alpha '07, is credited with the design of the badge. Almandite garnets were set in the eyeholes of the skull; the letters Theta Tau were inlaid in black enamel in the forehead; and the hammer and tongs replaced the cross bones of the ordinary death's head. The badge was somewhat smaller than the present official one, the tongs measuring .55 inch as compared with .7 inch on the present one.

The Hammer and Tongs were used to represent the name, in memory of that as the original name of the fraternity. The Greek letters were, of course, to identify the badge as that of the fraternity.

The first twenty badges were made in Minneapolis. The first one was Brother Schrader's, but is no longer in his possession, having been loaned many years ago to one of the early Beta members who had the misfortune to lose it. After the first manufacturing of the badge at Minneapolis, Wright, Kay and Company of Detroit were designated the official jewelers and manufactured the badge until the new design was adopted in 1911. In all, about 200 of the old type of badge were issued to members.

The present design was made by E. H. Snyder, Beta '12. The badges were manufactured by the Hoover and Smith Company until the present official jeweler, the L. G. Balfour Company, was given the contract in 1923.

## UTAH UNIVERSITY OFFERS FIVE FELLOWSHIPS IN MINING AND METALLURGY

The department of mining and metallurgical research of the Utah Engineering Experiment Station, University of Utah, is maintained in co-operation with the Intermountain Experiment Station of the U. S. Bureau of Mines. Five fellowships will be offered by this department for the year 1929-1930 and they are open to college graduates who have had the proper training in mining, metallurgy, or chemistry, and who are qualified to undertake research work. The income of each fellowship is \$720, beginning July 10 and ending June 4. Fellows are exempt from all university fees, except the general student body fee, the payment of which is optional.

Fellows will register as students in the department of mining and metallurgical research of the University of Utah and become candidates for the degree of master of science (unless this or an equivalent degree has been earned). Their class work in the university will be directed by the heads of the departments of instruction, but the greater part of their time will be spent in research work, on the problem assigned to them, under the direction of a member of the staff of the Intermountain Station of the Bureau of Mines or the department of mining and metallurgical research.

The purpose of this work is to undertake the solution of definite problems confronting the mining and metallurgical industries. For 1929-1930, fellowships will be granted in the following subjects:

1. Mining Problems.
  - (a) Ventilation Problems.
  - (b) Geophysical Prospecting.
  - (c) Subsidence Problems.
2. Microscopic Investigations in connection with the milling (Crushing and Grinding and Flotation) and subsequent metallurgical treatment of copper, lead, and zinc ores.
3. Crushing and Grinding Problems.
  - (a) Elutriation Problems.
  - (b) Crushing Resistance of Minerals.
4. Flotation. Fundamentals on flotation of pure minerals and gangue constituents.
  - (a) Physical-chemical Investigations.
  - (b) Experimental Investigations.
5. Pyrometallurgy. Problems met with in the smelting of complex lead-zinc ores.
6. Hydrometallurgy. Problems met with in the leaching of lead and zinc ores.

## FOURTEEN FELLOWSHIPS OFFERED AT UNIVERSITY OF ILLINOIS

To assist in the conduct of engineering research and to extend and strengthen the field of its graduate work in engineering, the University of Illinois maintains fourteen research graduate assistantships in the engineering experiment station. Two other such assistantships have been established under the patronage of the Illinois Gas Association. These assistantships, for each of which there is an annual stipend of \$600 and freedom from all fees except the matriculation and diploma fees, are open to graduates of approved American and foreign universities and technical schools who are prepared to undertake graduate study in engineering, physics, or applied chemistry.

Research and graduate study may be undertaken in architecture, architectural engineering, ceramic engineering, chemistry, civil engineering, electrical engineering, mechanical engineering, mining engineering, municipal and sanitary engineering, physics, railway engineering, and theoretical and applied mechanics.

Additional information may be obtained by addressing the director, Engineering Experiment Station, University of Illinois, Urbana, Ill.

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## ALABAMA HAS FOUR MINING FELLOWSHIPS AVAILABLE

The School of Mines of the College of Engineering of the University of Alabama offers four fellowships in mining and metallurgical research, in co-operation with the U. S. Bureau of Mines. These fellowships are open to graduates of universities and engineering schools who have proper qualifications to undertake research investigation. The value of each fellowship is \$675 per year of nine months, beginning Sept. 1, 1929.

Applicants should send a copy of their collegiate records from the registrar's office of the institution where they have graduated. They should also state their professional experiences and give the names and addresses of at least three persons who are familiar with the training and ability of the applicant. Letters of recommendation will be welcomed. Applications are due not later than June 1 and should be addressed to J. R. Cudworth, Acting Director, School of Mines, University of Alabama, University, Ala.

## LOST THETA TAU ALUMNI

NOTE: Mail has been returned from the best addresses available for the following:

### *Alpha Chapter*

Caddy, Howard T., '27  
Cleary, Harold F., '22  
Milne, Rufus H., '14

### *Beta Chapter*

Alsip, Albert A., '08  
Bardill, John D., '27  
Barton, Gerald M., ex '26  
Case, Raymond A., '12  
Corbett, James L., '22  
David, Joseph, '15  
Evans, Carl W., '11  
Fay, Wm. W., ex '22  
Fredericks, W. Carleton, '25  
Anderson, E. B., Hon. '05  
Hopkins, Harry H., ex '16  
Hughes, Wm. L., ex '13  
Huyge, Edw. J., Jr., '23  
Kendall, Arthur B., '17  
Kirkpatrick, Marsena R., '07  
Krumm, Geo. A., '24  
McLachlan, Benj. H., '11  
Moore, Chas. F., '27  
Nicole, Ira P., '23  
Riker, Eugene A., '10  
Smale, Laurence A., '22  
Wiggins, Ralph B., '14  
Wilkinson, Paul H., '05

### *Gamma Chapter*

Auman, Egbert E., '24  
Barney, Arthur Y., ex '28  
Clothier, Conrad F., '24  
Davis, Thomas, '25  
Delahunty, Frank E., '25  
Fiske, Harry M., '21  
Gahagan, Donald L., '27  
Gauthier, Chas. B., '16  
Gibson, Robt. W., '18  
Graham, David J., '21  
Hamby, Allen E., '23

Houselle, J. Kell, '22  
Hyland, Norbert W., '22  
Jones, David L., '22  
Linderholm, Carl T., '23  
Litchfield, Rufus E., '14  
Lynch, Victor J., '20  
Metzger, Otto H., '19  
Parkinson, Gerald H., '25  
Reicken, Hugo, '27  
Robertson, John, Jr., '22  
Stewart, Charles H., '26  
Stewart, Clifford H., '25  
Stanford, Joel G., '25  
Vorck, Chas. R., '14  
West, John R., '10  
Young, Guy K., '18

### *Delta Chapter*

Arms, Chas. S., '12  
Bailey, Harold L., '25  
Cotton, Cecil W., '15  
Dauber, Clarence A., '26  
Dietrich, Neff T., '23  
Ditchman, Jos. P., '27  
Fisher, Leonard C., '28  
Griffin, Boyd, '28  
Hampton, Donald V., '23  
Jenks, Karl E., '19  
Kaufmann, Vincent A., '24  
Moseley, Edgar T., '24  
Parmelee, Myron G., '26  
Scott, John C., ex '14  
Severin, Carl, '10  
Sprowl, Norman E., '17  
Wherry, Harry B., '23

### *Epsilon Chapter*

Chamberlin, James B., '24  
Clark, Clifton W., '13  
Craig, Eric K., '14  
Davis, Sherwin B., '12  
Duncan, Dan M., '18

Foulke, Ronald E., '18  
Folger, Anthony, '19  
Fraser, Sidney E., '18  
Letchworth, Pierre E., Jr., '24  
McDonald, Orlando G., '24  
Milburn, Geo. J., '21  
Miller, Wm. B., '16  
O'Neil, Frank E., '20  
Rand, Wm. W. B., '26  
Rhoades, Roy S., '15  
Rogers, John M., '21  
Salisbury, Ralph T., '21  
Schroeder, Walter H., '11  
Simpson, Edw. C., '21  
Vail, Randolph R., '11  
Wilson, Frank L., '12

### *Zeta Chapter*

Bartell, Albert R., '17  
Bear, Dannie M., '23  
Bell, Arnold A., '18  
Brehm, Wm. W., '23  
Brown, Nathan W., '15  
Davis, Clifford G., '26  
Deaver, Ray E., '17  
Herdson, Harold D., '23  
Holt, Hobart C., '18  
Kennedy, Mason H., '26  
La Mer, Jos. S., '19  
Madden, J. Edgar, '18  
McCune, Malcom L., '15  
Nutting, Floyd L., '15  
Painter, Chas. J., '15  
Patterson, Robt. S., '27  
Rutledge, Robt. M., '22  
Ward, Richard B., '13

### *Eta Chapter*

Ackerman, Gilbert J., '28  
Benton, Herbert G., '15  
Brotherton, Wm. G., '13  
Dickson, Benj. A., '22

Farthing, Wm. J., '16  
 Hereford, Rockwell, '24  
 O'Donnell, Ottomar, '13  
 Polley, Ernest E., ex '15  
 Rogers, Robt. W., '26  
 Stuart, Lyall L., '21  
 Swain, Winthrop C., '16  
 Wood, Thomas S., '28

#### *Theta Chapter*

Crawford, John, '22  
 Hadsell, Irving W., '14  
 Olstad, Martin H., '27  
 Porske, Norman J., '26  
 Somerville, Wm. B., Jr., '17

#### *Iota Chapter*

Burg, Robt. S., '16  
 Ehlers, Louis W., '16  
 Fleming, John W., '25  
 Gordon, John P., Jr., '23  
 Machin, Edwin G., '22  
 Machin, Wm. B., '28  
 Mann, Walter J., '19  
 McBride, Hollis E., '25  
 McCanless, Wm. A., '27  
 Nolte, Wm. J., '19  
 Robertson, Edw. E., '24  
 Scott, Guy R., '24  
 Stuart, Samuel H., '23  
 Valerius, Claude N., '25  
 Watkins, Marion W., '23  
 Wright, Kenneth M., '20

#### *Kappa Chapter*

Albert, Samuel K., '24  
 Arning, Henry U., '24  
 Bartlett, Chas. H., '21  
 Bates, Gardner O., '24  
 Blair, James A., '25  
 Borgeson, Carl A., '25  
 Bowersock, Wm., '19  
 Broderick, James R., '26  
 Buchanan, Donald P., '24

Haake, Harry G., '20  
 Happenny, John C., '25  
 Jackel, Herbert A., '25  
 Johnson, Ralph B., '20  
 McClelland, Ralph L., '22  
 McEvers, Ernest M., '20  
 Peterson, Donald E., '28  
 Reichelderfer, Harry, '18  
 Robinson, Geo. W., '24  
 Welsh, J. R., '24  
 Wharton, Russell, F., '22

#### *Lambda Chapter*

Adams, Thos. C., '22  
 Browning, Thos. C., ex '23  
 Caulfield, Jos. P., '22  
 Christensen, L. A., ex '11  
 Farnsworth, Wayne H., '24  
 Funk, Alfred M., '27  
 Greene, Kenneth S., '27  
 Grey, John S., '23  
 Hardy, Edw. V., '25  
 Hartman, Clarence W., '27  
 Haylor, Herbert C., '24  
 Hayward, John E., '20  
 Jacobsen, Wm. B., '28  
 Jennings, Brenton W., '24  
 Jones, Geo. M., '27  
 Maughn, Wm. B., '15  
 Mitchell, Theo. F., '24  
 Rumph, Lee M., '21  
 Shelley, Wayne L., '25  
 Smith, Wm. A., '22  
 Stephens, Leone R., ex '21  
 Wadsworth, Darrell B., '26  
 West, Harold R., '25  
 Whitney, Hardin A., ex '25

#### *Mu Chapter*

Cole, Guy M., '24  
 Hamilton, Wm. E., '23  
 Mallette, Reese E., '22  
 Nason, Geo. H., '25  
 Pearson, John W., '26

Shannon, John J., Jr., '25  
 Shotts, Claude C., '22

#### *Nu Chapter*

Baugh, Elbert A., '25  
 Jeffers, Chas. W., Jr., '23  
 Johnson, Edwin H., '22  
 Loughry, Thos. F., '24  
 Minetti, Albert C., '24  
 Mitcheltree, Walter F., '22  
 O'Connor, John M., '26  
 Porterfield, David C., '23  
 Schweitzer, Leslie C., '23

#### *Xi Chapter*

Greeley, Wm. B., '24  
 Highleyman, Chas. D., '27  
 Walker, Wesley S., '26

#### *Omicron Chapter*

Dethlefs, Robt. W., '21  
 Tock, Wilbur C., ex '29  
 Wolters, Louis M., ex '25

#### *Pi Chapter*

Kiener, Tyler B., '24  
 Mayers, Lloyd C., ex '27  
 Painter, Newton J., '23  
 Vought, Harry K., ex '26  
 Weir, Paul L., '23  
 Wise, Samuel G., '22

#### *Rho Chapter*

Biberstein, Richard V., '21  
 Jenkins, Donald B., '22  
 Smith, Perry M., '28  
 Studdert, Wm. W., '27  
 Sutton, Edw. A., '26

#### *Sigma Chapter*

Bozman, Wm. D., '26  
 Covert, Maurice D., '25  
 Keyerleber, Ernest F., '24

## THETA TAU PROFESSIONAL CARDS

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**DON C. BILLYCK**

Epsilon '13  
Petroleum Engineer  
Caribbean Petroleum Co.  
Maracaibo, Venezuela  
South America

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**J. D. BRANCE**

Mu '22  
Industrial Engineer  
Specialist to the Petroleum Industry  
1809 Post Dispatch Building  
Houston, Texas

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**V. A. BRUSSOLO**

Epsilon '20  
Engineer, Moctezuma Copper Co.  
Pilares De Nacozari  
Sonora, Mexico

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**T. W. CALLAHAN**

Gamma '14  
Geologist  
501 Texas Theatre  
San Antonio, Texas

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**FRED COFFMAN**

Lambda '15  
Asst. Chief Engineer  
Duke Construction Company  
(Builders of New Duke University)  
Durham, N. C.

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**W. V. DeCAMP, E. M.**

Gamma '08  
General Superintendent  
United Verde Copper Co.  
Jerome, Arizona

**GEORGE H. HARDING**

Sigma '26  
Coulson & Harding  
Civil and Municipal Engineers  
Land Developments, Power Investigations, Surveys—Air, Ground, Topographic or Harbor  
609-10 Gerke Building  
Cincinnati, Ohio  
Main 7611  
Any Size, Anywhere, Any Time

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**IRVING D. JAKOBSON**

Eta '21  
Marine Architect and Engineer  
Foot of 16th Avenue  
Brooklyn, N. Y.

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**PAUL A. LAURENCE CO., Inc.**

Alpha '11  
Builders  
Paper Mills—Power Plants  
Boiler Settings  
832 Builders Exchange  
Minneapolis, Minn.

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**PHIL J. LAURENCE**

Alpha '15  
Engineer for Johnson, Drake & Piper  
Hill Building  
Miami Beach, Fla.

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**J. SIDNEY MARINE**

Eta '18  
Vice-President and Secretary  
Arlando Marine Co., Inc.  
Quarry Sales Agents  
7 East 42nd Street  
New York City



**THETA TAU PROFESSIONAL CARDS****W. S. MORRIS**

Rho '24  
U. S. Bureau of Mines  
Petroleum Experiment Station  
Bartlesville, Oklahoma

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**DONALD F. PANCOAST**

Delta '17  
Moulton & Pancoast  
Consulting Engineers  
214 Hippodrome Building  
Cleveland, Ohio

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**E. N. PENNEBAKER**

Epsilon '24  
Mining Geologist  
Kimberly, Nevada

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**LYNN WM. RAYBOULD**

Lambda '22  
Architectural Engineer and Draftsman  
528 South West Temple Street  
Salt Lake City, Utah

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**ERICH J. SCHRADER**

Alpha '05  
Engineer of Mines  
Reno, Nevada  
*At present* General Superintendent  
Gold Circle Consolidated Mines  
Midas, Nevada

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**O. E. STONER**

Iota '20  
Petroleum Geologist  
112 Tulhoma Building  
Tulsa, Okla.

**H. R. THORNBURGH**

Epsilon '22  
Geophysicist  
Seismograph, Torison Balance, Magnetometer  
With Roxana Petroleum Corp.,  
Houston, Texas  
(Not open for outside engagements)

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**THOS. VARLEY**

Lambda '07  
Consulting Metallurgical Engineer  
Flotation, Ore Dressing and Metallurgical Tests  
Office and Laboratory  
453 South 10th East Street  
Salt Lake City, Utah

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**BEN B. WALLING**

Alpha '09  
Realtor, Specializing in Business and Industrial Properties  
1046 McKnight Building  
Minneapolis, Minn.

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**WALTER H. WHEELER, E. M.**

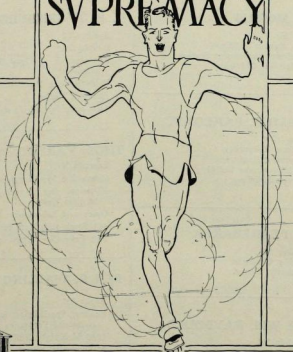
Alpha '06  
Designing and Consulting Engineer  
Investigations, Reports, Plans, Specifications, Supervision of Construction, Valuation for Structures, Bridges, Buildings, Dams, Manufacturing Plants, etc.  
Metropolitan Life Building  
Minneapolis, Minn.

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**GEORGE H. YEOKUM**

Zeta '17  
Gaines, Yeokum and Mackey  
Bridge Contractors  
Oklahoma City, Okla.

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