

Lucile Harris

THE BRIDGE of Eta Kappa Nu



Volume XXI

Number 3

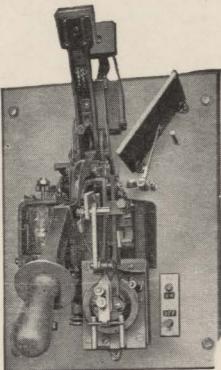
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Volume XXI

Number 3

THE BRIDGE OF Eta Kappa Nu



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MARCH, 1925

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∴ Please Send in Your Questionnaire ∴

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Should an Electrical Student Choose Communication Engineering

By H. M. Turner, A '10

Assistant Professor of Electrical Engineering, Sheffield Scientific School,
Yale University

SOONER or later the student is confronted with the problems of deciding definitely what his life's work is to be. Towards the end of his senior year the matter is pressing. Making a decision is a matter of importance and should be given serious consideration.

Before deciding on a particular phase of electrical engineering the student will do well to make a critical examination of his qualifications and natural inclinations. Is he of the technical or non-technical type? Is he interested in the rough or more refined processes? Is he a leader of men or an individual worker? What are his strong and weak points? What are his likes and dislikes? Does he want to locate in a large or a small community? Does he want a permanent location or a traveling position? Would foreign assignments appeal to him? The selection should depend to a large extent upon his personal taste. Others may offer suggestions, but the final decision is absolutely up to him. It is his responsibility. Fortunate is he who discovers his dominant line of interest for it is likely to be a happy choice.

Representatives from the large companies who visit Universities for the purpose of selecting recruits are giving increasing attention to the proper placement of student apprentices. They employ with a hope of permanence so as to profit by the cumulative experiences of the individual employees. It is recognized as poor policy to employ technically trained men who are likely to become dissatisfied and leave the company in a short time. It is costly for the company and of questionable benefit to the individual. Frequent changes of employment during the first few years out of college is usually unwise, hence the importance of choosing wisely in the beginning.

There are many phases of electrical engineering that are attractive and worthy of consideration. This does not mean that they are all equally suited to a given individual. If it requires a 35,000 kw. turbo-generator or a 200,000-volt transmission line to give the student a thrill—to stimulate him to his best efforts—perhaps he should enter the power field. Not that the love of

big things necessarily indicates a capacity in this direction. I recall the experience of a boy who ordered a dozen fried oysters. When served with extra large ones he discovered that he had very much over-estimated his capacity. If a student's greatest interest is in Communication the chances are that he will do his best work and be happiest in this field.

Out of any given class in electrical engineering usually about 20% are definitely of the power type. They are interested in the kind of work power engineers do. I should have no hesitancy in recommending that they follow their natural inclination. Another 20% are especially fitted by personal qualifications and training to take up the technical responsibilities of communication engineering. Of the remainder some will find their greatest opportunity in organization and administration outside the purely

technical, but where their technical training will give a point of view of great value. These, in general, are not so decided as to whether they follow power or communication engineering. In one or the other of these fields they will find work suited to their abilities.

There are many advantages which make communication engineering attractive. Positions of large responsibilities are held by young men. The field is growing rapidly. With expansion opportunities come to the engineer who is capable of assuming responsibility. The turn-over in technical personnel is almost negligible. It offers steady employment. Advancement is sufficiently rapid to be encouraging. In general the men are satisfied and few care to leave for other fields of activity. The work is of the creative type. There is opportunity and necessity for continued study. The individual grows. In addition to his contact with Engineers and Executives, in Research and Development he is associated with Chemists, Physicists, Mathematicians, Patent Attorneys. The product of the communication engineer is service.

In spite of its appeal there will be phases of the work that will be less attractive. It should be borne in mind that in entering any industrial organization the student, no matter how brilliant, is apt to find himself totally

eclipsed by men of more extensive training, wider experience and greater maturity. The time of totality will depend almost entirely upon the energy and intelligence applied to the task in hand. It corresponds to the time that the football player cheerfully tackles the dummy before he makes the Varsity. The driving power must come from within. It will require close application to get started, but if no effort were required success would be without significance. In this as in other fields success comes to him who goes after it. If he has an agreeable personality he may confidently count on the sympathetic support of his associates.

If one contemplates engaging in Communication engineering what preparation is needed? Is it desirable to specialize as an undergraduate? If by specialization is meant enrollment in courses placing emphasis upon equipment details and industrial applications I am very definitely of the opinion that it is not. In his eagerness to get started in his profession, the student often desires to acquire familiarity with the art as practiced, little realizing that such information and experience has practically no value to him in his later work. There are plenty of men available to do routine work. The details of practice should be left to the industry concerned. Such training in schools would be largely a waste of time and would tend to develop technicians rather than broadly trained engineers.

If by specialization is meant enrollment in courses applying the principles of mathematics and physics to the solution of problems selected largely from the communication field, I can conceive of no better way to develop mental alertness and the power of analysis. It would emphasize the importance of these underlying sciences as related to engineering. It would give the student a closer insight into the laws of physics and it would give him facility and confidence in the use of mathematics—a most effective tool in research and engineering. In the communication field is found a wide variety of the most splendid examples in physical science, involving frequencies from zero to several million cycles, complex wave forms, phenomena of wave propagation, reflection, many types of complicated circuits, filters, electronic phenomena, precise measurements, all of which have direct application in power engineering, but are seldom included in power courses. I have only suggested a few of the almost unlimited possibilities. Such a course would broaden the training of electrical engineers by including at least an introduction to the analytical study of networks, transient phenomena, dielectric phenomena, wave propagation, electrical wave filters, wave form analysis, electronic theory and provide a mental feast for the technically inclined. It would in no sense be a highly specialized course for students expecting to follow communication, but would have general application and

be equally good for students planning to go into power engineering.

It is important that schools confine their efforts to the teaching of fundamental principles upon which practice is based. These are common to the various fields of activity and do not change. Where such courses are taken the student is free to postpone the selection of his life's work until near the end of his senior year when he is in a better position to decide which field makes the greater appeal.

It may be worth while to emphasize the fact that in general the attitude of Communication companies is in harmony with the point of view already presented. When they employ a technical graduate they do not expect nor do they desire that he be familiar with their equipment and circuits. This they can give him far better than the University. They do expect him to be broadly trained in the fundamental principles and this the University can do far better than the industry. They employ technical graduates with the expectation that in time they will be able to solve new problems and lead the way. They are not seeking the merely routine worker. I have before me a letter from a large Radio Company giving the specifications for the type of men they want which I shall quote in part:

"A thorough fundamental knowledge of alternating current circuits, transmission line theory and kindred subjects which are immediately applicable to radio communication. We are more interested in the fact that he understands the principles underlying telephony and radio communication than we are in his having taken a so-called 'radio course,' which deals with the apparatus employed."

The attitude of the telephone officials is the same. They are not so much concerned with the name of the course as its content. Does it provide real mental discipline? Does it teach the student to think? Does it develop his analytical ability?

It should be kept in mind that schools do not produce finished engineers. They merely lay the foundation. Experience in addition to technical training is required. It involves other factors than those taught in the class room. If the engineer occupies the position that he should, he soon expands beyond the strictly technical and has to do with economics, finance, organization, administration, and with the larger problems of public service. This is true even though his early work is entirely of a technical nature. While it is necessary for the communication engineer to be proficient in his specialty he will become more effective as his knowledge of related departments increases and he sees the relation of what he is doing to the system as a whole. In general, large success demands capacity for directing the work of others. His leadership and success depends more upon his alertness, his ability to determine

the essentials and arrive at decisions, and his general knowledge than it does upon details of equipment which change from time to time. We must not forget the man who devotes his life to individual research and technical pursuit. Many times his reward is a grateful public, sometimes coupled with a financial return. It offers opportunities for personal satisfaction in the work one does that cannot be measured directly in money value. There is a definite need for this type. He is the man who discovers new laws and extends the limits of our knowledge.

At the end of the senior year the student has before him the question whether he will take up commercial work or return for graduate study. It is generally admitted that where high school graduates have the capacity and can afford it, a college education is desirable. It is a definite move towards better citizenship and greater opportunities, and gives them an advantage over their less fortunate fellow, at the same time reducing the competition in the non-technical group.

I do not mean to imply that a considerable percentage should return, but certainly 10% more or less would be benefitted. During the undergraduate period

students have so many different interests and their efforts are so scattered that development is not always carried far enough. The graduate year offers an excellent opportunity for going further into the subjects previously mentioned developing technic and a greater mastery over the laws upon which the art is based. It should prepare him for positions of greater technical responsibility. These are the positions that are difficult to fill. In industrial organizations one's study is usually along the line of his productive effort and there is not the opportunity or time for the type of training I have in mind. Where one's full time is devoted to his mental development his efficiency is higher. After leaving school there will be many years in which to obtain practical experience and reap the reward of his additional training.

Qualities that will have an important bearing on the individual's success after leaving college are a pleasing personality, strength of character and moral courage, capacity for judgment, ability to think clearly, open-mindedness, imagination, and ability to evaluate men—to discover their capabilities and their limitations and bring out the best that is in them.

Telephone Engineering in the Bell System

By R. I. Rees

Assistant Vice President, American Telephone and Telegraph Company

THE Bell System is organized on the fundamental basis of centralized control and decentralized operation. Under the guidance of the American Telephone and Telegraph Company, the parent company, which furnishes expert advice and assistance in connection with development, research, operations, engineering, accounts, finance, personnel and administration, the Associated Operating Companies in their independent contiguous territories operate the telephone plant, and welded together by the interconnecting Long Lines Department, renders a nation wide telephone service.

The Bell Telephone Laboratories, the largest industrial research organization in the world, with its staff of engineers and scientists working in close cooperation with those of the parent company, is continually making its demand upon nature to give us its secrets to the service of man in the ever higher development of the art of communication.

Finally there is the Western Electric Company, with its great manufacturing establishments at Hawthorne and Kearny, which meets every demand of the operating companies for telephone apparatus, equipment and

supplies in the extension, development and maintenance of the plant.

Here is a great organization dedicated to the social and industrial well being of our country—to making a neighborhood of the nation. Its one impelling motive is that of service.

Yet, large as it is, through the principle of decentralized operation, there is every opportunity for the individual telephone man to express himself and to apply his qualities of initiative, creative ability, and leadership. The operating companies are distinctly autonomous organizations with management responsibilities separate and clearly defined. Within each operating company there is a further decentralization of operation into territorial divisions and of the divisions into districts. Fundamental to the solution of this enormous operating problem is the further division of the work performed in these territorial organizations into functional departments. Success is achieved through the close cooperative relationships which obtain between the departments. Briefly these are:

The Plant Department, whose function it is to construct and maintain the line and station plant to fully

meet the operating demands of the Traffic Department. Its engineering problems include the design of the plant and the plans and estimates of costs of the construction.

The Traffic Department is the firing line organization which actually gives the service to telephone users. It keeps up a continual engineering study of requirements for additional central office equipment and all additional trunk and toll circuits to meet the growth in business and furnishes the traffic data for the fundamental plan.

The Commercial Department is the business organization responsible in general for all business transactions with existing or prospective subscribers. Its studies involve the collecting and interpreting of data upon which is based the prediction of growth in business and for use in the development of the fundamental plan.

The Engineering Department is charged with the development of the technical standards employed in the design, construction and operation of the plant. It is responsible for preparing general plans and estimates for buildings, and specifications and estimates for central office equipment in conjunction with the Traffic Engineer and the Western Electric Company. It studies and makes application of the technical standards for construction materials and methods, equipment, transmission and protection and other general engineering standards recommended by the American Telephone and Telegraph Company. It is also responsible for the preparation of the fundamental plan which in its essence is a far look into the future development of the business and furnishes a guide for the expansion program.

The Plant, Traffic and Commercial Departments necessarily have responsibilities that localize over the whole territory of each company, with working forces correspondingly located. The Engineering Department, however, is a part of the general headquarters staff of each company.

So much for organization, now we may well ask what are the scientific and engineering fundamentals upon which this communication industry is built and which inspire the workers in the organization described. The electrical engineer's interests today lie in the problems of the electric communications industry, the electric power industry, and the manufacturing processes which furnish the tools to carry on those industries. It might be well for a moment to consider certain underlying differences between the problems of the power engineer and the communication engineer.

In a very fundamental sense the difference between the two arts is one of numbers. The power engineer is concerned with a few units of great size, the telephone engineer with an enormous number of units of mod-

erate size. The former fixes his attention on a single frequency, the latter on a broad electrical spectrum extending from zero to millions of cycles per second. The former sets his connections up for long periods of time; the latter must provide through his central offices and switchboards for the making and unmaking of his connections at the rate of about 40 millions per day. This involves extensive signalling equipment. It also gives scope for almost unlimited probability and statistical research in order that the connections be set up as required with the use of a minimum of apparatus. The power engineer thinks of his main distributing lines as for the most part electrically short and not inductively related; the telephone engineer has closely packed lines most of which are electrically very long, paralleling one another and transmitting such frequencies that unique and intricate problems of cross-talk, reflection and transients arise. His circuits also parallel power lines and the resulting inductive interference requires that the matter of transpositions be carefully studied.

Because of the rapid switching which the operation of telephone lines requires, the telephone engineer has the problems attendant upon the employment, training and direction of large corps of operators. While both engineers are public servants, the power man has only to consider contact with the public at intervals of starting and discontinuing service, whereas the telephone man, directly or indirectly, comes in contact with each of his subscribers on the average of about five times every day. The result is that the element of public relations is intimately woven into all telephone problems. The difference of numbers also runs through the manufacturing aspects of these two fields of engineering. In addition, telephony involves a wide range of problems, peculiar to it alone, which touch many fields of science such as chemistry, metallurgy and acoustics.

From the foregoing, it will be apparent that the scope of communication engineering, and even that portion of it usually designated as telephone engineering, is extremely broad. Not since the early days has any one person been able to familiarize himself with all its branches.

Today there are many different kinds of telephone engineers, ranging from the research expert developing new devices in the laboratory to the commercial engineer engaged in population surveys and formulating estimates as to the trend and growth of various industries so as to foretell their effect on population growth and concentration. There are traffic engineers, charged with the operation of the 45,000,000 mile network of wires covering the country, who must study the conditions under which circuits are used and how best to adapt them to the varying loads; find improved

ways of dispatching traffic, and measure and improve the accuracy with which it is handled. There are plant engineers concerned with the installation and maintenance of the physical property of the Bell System which now represents an investment of over two billion dollars. There are the manufacturing engineers who must both steadily improve the quality and reduce the cost of making the present designs of apparatus and develop satisfactory processes for making new types. There are development engineers who must work in close cooperation with the plant and traffic people on the one hand to ascertain their practical needs and with the research laboratory on the other to see that full advantage is taken of its developments and discoveries.

The mechanical and electrical problems which arise in telephone engineering from the use of a wide range of frequencies and circuits which are complex, because of their great electrical length, their inductive interrelations, and the number of services which a single pair of wires is required to render, emphasize the fundamental importance of the sciences of physics and mathematics. In addition, the problems have the economic aspects which constitute such an important factor in all engineering problems, and which in large measure differentiate the work of the engineer from that of the scientist.

Relating to the broad aspects of this subject, Dr. F. B. Jewett, President of the Bell Telephone Laboratories, Inc., has said:

"The telephone industry with which I am connected is a highly technical one which is based on physics and chemistry and mathematics, but so are many of the big industries in our country and the more I see of them, the more convinced do I become that the directors of these industries, in the future, are going to be drawn more and more from men who have a thorough grounding in the fundamentals on which the industries are based. In the old days it was not so, but each day as we go on now, it becomes more clearly apparent that, because the industries are technical, because they are based on the fundamental science, they must be guided by men who have a thorough appreciation of the fundamentals, because business is hardly more than mixing the dollars and cents with physics and chemistry and mathematics."

The field of telephone engineering offers many opportunities for the young electrical engineer. He will find that in telephony his ambition is challenged by the breadth of the project. A young man in considering the possibilities of the future undoubtedly desires to enter an industry in which he can take pride. One of the elements in an industry which should be examined is the stability of its organization. Only an industry whose volume of business does not fluctuate greatly between periods of business expansion and depression

can offer steady employment for a long period of time. Only one whose normal earnings have been adequate to pay a fair return to investors in its securities with some surplus as a margin of safety can obtain on reasonable terms the additional capital needed to finance expansion. Such an organization is the Bell System. Another element which adds to opportunity is that of growth. Commenting upon the present rate of growth of the Bell System, Mr. Gifford, President of the American Telephone and Telegraph Company, said recently:

"This year (1924) for instance, we are building gross construction of \$360,000,000. In the planning and development of this work it is quite obvious that the greatest care must be taken that we always adopt the best, that we make no mistakes in our plans and that we engineer the entire program on sound lines. This is one of the reasons why we require so many technical men in the business."

Such a rate of growth—and there is every indication that it will continue far into the future—cannot but supply ample opportunity to the young man who is capable and ambitious.

Coupled with these elements of stability and growth goes a very enlightened policy of considering promotions and wage advances on the part of the Bell System. The aim throughout the entire organization without exception is to recognize ability. Promotions, both as regards responsibility and salary, in no way depend on length of service. Merit receives prompt and proportionate recognition. Another feature of the personnel policy is that of filling important vacancies from those within the organization. The fact that the Bell organization is one of the very largest does not interfere with promotion. Although it is large, it is nationwide and the great bulk of its work, as already indicated, is decentralized.

Educational opportunities are provided to prepare the individual employee for increased responsibility. Graduate engineers employed by whatever company in the organization devote their first period of service to training which gives them an overall picture of the work and a familiarity with the technique of the business. Further training opportunities are available in all the departments and throughout the whole period of service.

It is a privilege and a pleasure to deliver this telephone message to the Eta Kappa Nu through its fine magazine, THE BRIDGE. If it indicates to the alumni members some of the problems of one of the large electrical industries and helps the undergraduate even in a small way in the consideration of his life's problem, the writer will take great satisfaction.

Opportunities in the Telephone Industry

By F. W. Anderson, I '14

Western Electric Co.

Brother Anderson prepared at Drury Academy, Springfield, Mo. He graduated from Drury College in 1912, receiving the degree of B.S. He then took graduate work at the University of Missouri, receiving his E.E. degree in 1914.

He went with the Western Electric Co. upon graduation. After completing the student course at Hawthorne he started at the bottom of the Appar-

tus Drafting Division. He has risen thru the various grades of correspondent, investigator, chief of sub-section, of section and of department.

Brother Anderson is now Chief of a Sub-Division at the Hawthorne Plant, in charge of technical investigations of multiplex (carrier) telephone and telegraph systems, loading coils and telephone repeaters.

YOU Seniors are now looking forward to the time of your graduation with a number of unformed questions in your minds. Perhaps one of them is, "I wonder what the Telephone Industry is and whether my success will be greater in that line of endeavor or in some other?" Such a question is almost impossible to answer because of the immense number of variables that comprise the individualities of both Seniors and the telephone industry.

However, the more we know about any industry, the better able we are to judge whether or not a success can be made there. The writer will attempt to present his ideas to you so that you may have a little better picture than you now have. Before proceeding, however, it will be necessary to point out that the industry as a whole is too vast to be adequately described in these few paragraphs and that, consequently, the writer will, after a few general remarks, confine himself to the manufacturing phase of the industry where he has accumulated his experience.

The art of communication is very old and has engaged the minds of the best thinkers of all ages, but it has been only in the very recent years that modern inventions have advanced it to the state where it may be called an industry. There are hundreds of thousands of individuals today who are each charged with some duty to perform in the exceedingly intricate feat of providing and maintaining adequate communication services throughout this and other countries.

This army of people requires all of the intelligent planning and direction of their work that can be required by any industry however large or of whatever character. It requires men with special training in a variety of lines such as Law, Finance, Management and Engineering. Of more value than special training is the facility for clear thinking and prompt action. It is among these various executive functions that we are all striving to attain the top. To reach them is a long struggle which will require a training, as a preparation, much more severe and exacting than that which you are now encountering.

Every man will concede that when he leaves school his fund of knowledge is largely theoretical, but few realize to any extent how difficult it is to intelligently

apply his theory to the actual problems at hand. Realizing this fact, most corporations have made some progress in solving the problem by creating, under various names, courses of study and training which are planned with the idea of giving the College Graduate a better opportunity to become familiar with the policies and functions of their various organizations. It is in these "Student" courses that you, the college trained man, will encounter your opportunities. You will, at the same time, meet some of your most disappointing and discouraging moments.

While performing the duties outlined for you, you will be under the supervision of a corps of men trained in particular lines of endeavor, who will make an accurate inventory of your abilities and qualifications to ascertain the phase of the business to which you are best fitted.

This period of training is your first opportunity for paving the way to positions of trust and responsibility. Too often is it looked upon lightly, as just a certain amount of routine work to be done before regular duties are assigned. This is a mistake, because, from your reactions while undertaking the period of training under the supervision of the Personnel Director you arrive at a decision as to the best sort of work at which you may exercise your talents to the best advantage.

As an indication of the variety of chances that will be provided for a man to show his best, a few instances will be mentioned. At some period of the course of training the "Student" will come in contact with a problem which will require independent and original research. The nature or magnitude of the research is not so important as is the fact that the opportunity to exercise your ability has been presented and it is to your advantage to apply yourself to its solution as wholeheartedly as if thousands of dollars were depending on your solution and decision. Undoubtedly, there will come to light many problems that will call into play your knowledge of electricity, physics and chemistry in the regular work of the department responsible developing and perfecting new processes of manufacture. You will have an opportunity to exercise your common sense as trained by your class room

THE BRIDGE OF ETA KAPPA NU

work. If you are inclined to take delight in thinking up combinations of electrical and mechanical devices fit for the subject of some of the popular cartoons of today you will spend some time in the department where they design new machines to replace hand operations. If you have a strain of New England thrift in your blood you may find that your most interesting work will lie in the department where they undertake to reduce the cost of manufacturing by eliminating extra motions, saving and reducing scrap material or introducing machinery to replace hand work. It is possible that with all your training in Electrical Engineering you may discover that you would make an expert accountant or comptroller.

The processes of inspecting the myriad parts, assemblies and completed apparatus used in the telephone industry offers an unlimited field where the Electrical Engineer may exercise his training in simplifying circuits, tests and testing apparatus.

Problems of distributing all the various kinds of material and instruments to the customer will occur. One is constantly confronted with the problem of ordering, scheduling and producing parts in the most efficient and economical manner and great opportunity is given to the college man to exercise his powers of logical reasoning and produce order out of what seems a chaotic condition.

These are the things that are liable to be considered merely as a routine to be completed as soon as possible with little thought and effort. They are however the things from which your advance in the line of responsibility will start and the degree of success you achieve will depend upon the effort and thought you put into each problem with which you are confronted.

Next to your ability to think and act is your ability to judge men and associate with them harmoniously. This may seem a small item, but think it over. You will meet in the industrial world, people with little or no education and it will be necessary for you to over-

come a certain reserve before you can get full cooperation from such an individual. Again, you will meet types who think you are endeavoring to take their job. Others will have still different "Complexes" and to make the best of your training you will have to learn to deal with them all. You will find your training course of particular benefit in this regard because it affords unlimited opportunity for making friends.

Having encountered all of these phases of the business you will be called upon to express your desires as to the kind of work you are best fitted for. If your selection agrees with the observations of the Personnel Organization you are lucky. Usually they have arrived at quite a different solution. However, they will take great pains to tell you wherein their experience indicates that your talents lie along other lines.

The main thing is, after all, to get started. Then develop. Mr. Walter S. Gifford, now president of the American Telephone and Telegraph Company, started in a very lowly position in the Manufacturing Department of the Telephone Industry as did Mr. Harry B. Thayer, who is now the Chairman of the Board of Directors of the company of which Mr. Gifford is president. Other promotions within later years indicate that good executives are in demand and that your small opportunities are the stepping stones to the head of the line. It is the writer's observation that considerable time and money is spent trying to put men in places where they can make the most of their training. In other words, if you give the organization a square deal in the way of time and effort you will receive a square deal in remuneration and advancement.

Since the writer's experience has been in the manufacturing department alone, it is natural that the examples and illustrations used are taken from that branch of the industry. There is no doubt whatever that one familiar with other phases could cite as many or more examples of the opportunities that are presented to the college man in the Telephone Industry.

PLEASE SEND IN YOUR QUESTIONNAIRE

On March third, 1750 questionnaires, which had been prepared by Mr. Hammond of the Society for the Promotion of Engineering Education, were mailed to members of all classes prior to 1923. If you graduated in 1922 or earlier and did not receive a questionnaire, please notify the Editor who will be glad to send you a duplicate.

To date, 754 questionnaires have been returned. This is only about 43%. As a stamped envelope was sent out with each letter there does not seem to be any logical reason why more questionnaires have not

been returned. We believe that our old friend PROCRASTINATION is at the bottom of the trouble. If you laid the letter aside when it was received, dig it out now. It will only take a few minutes to fill it out. Put it in the envelope. MAIL IT.

The Society for the Promotion of Engineering Education is looking to Eta Kappa Nu for some valuable statistics and opinions. Are we going to fail them? We most surely will if you don't rustle up that blank and send it back. We should have 100% returns. Speak about it to all the brothers you meet, also.

Again we repeat: PLEASE SEND IN YOUR QUESTIONNAIRE.

The BRIDGE OF Eta Kappa Nu

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The article by Brother Kenneth W. Pfleger, K '23, appearing under the above title in THE BRIDGE for May, 1924, and reprinted in THE BRIDGE for November, 1924, begins as follows:

WHICH JOB?
"Which position should I accept?" the puzzled senior asks himself. This question is a source of trouble to the otherwise happy undergraduate.—"

In my reading of this and other articles bearing on the subject, I have been impressed with the atmosphere of confusion and uncertainty which apparently surrounds the senior as he decides what he is to do after completing his undergraduate course. If such confusion and uncertainty do exist, it is wrong and should not be. Such a decision to be made by a senior during the closing days of his undergraduate life, though important to be sure, is no more important than some he has made previous to it and many he will have to make following it. If confusion and uncertainty exist, the senior ought to learn how to mitigate these and if possible, eliminate them entirely.

As man lives he writes his own history. His past and present are always intimately known to himself. But his present was once his future. Thus, in a knowledge of the present he has every opportunity to see just how past future desires and plans have been changed in his life. Such knowledge allows him to extrapolate his past into the future, and the certainty of such extrapolation increases in proportion as his

present coincides with previous extrapolations.

In other words, at any time in life, a man has a wealth of experience from the past which will largely indicate to him his most reasonable future course, if he will but make use of it. The trouble is we too seldom use the lessons of the past to guide us in our future. I dare say that any senior, if he will spend an hour alone with himself, can amass enough evidence from his past experiences to indicate with great certainty his most reasonable future course. The next step then is to find the job that makes a continuation of this course possible. If the first man who comes along talks about something new that sounds "good," weigh it in the light of your past experience rather than alone by itself as a glittering gem which some have been able to wear, but which may be definitely unsuited to your own complexion. When, however, the man comes along with the proposition that seemingly best fits your extrapolated past, take it. By the above plan the senior provides a sieve which orderly sifts what is wheat to him from what is chaff to him.

I would not in the least depreciate the value of the experiences of others. These are of the greatest value and form a most refreshing and never-ending source of help, guidance, and inspiration. By recording such, those older in H.K.N. can help those younger in H.K.N. But such should be viewed by the younger man largely in the light of his own past as a means of determining which of the many widely differing, yet equally inspiring, experiences available best fit his own extrapolated past. Equally valuable is a knowledge of the past of the older man.

My contribution to the question at hand is therefore this. Let those older in H.K.N. record their experiences for the benefit of those younger. Let those older in H.K.N. record true photographs of the branches of the industry in which they find themselves. But let those younger in H.K.N. use these records together with their own past in determining their future, not in an atmosphere of confusion and uncertainty, but, in an atmosphere of confidence, inspired by past predictions. Nor need this method be confined to the senior. It is equally applicable to all as our lives are lived.

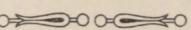
E. S. LEE, '13.

We regret exceedingly that it was necessary to reduce this number to thirty-two pages. You know the reason: LACK OF ALUMNI SUBSCRIPTIONS. It was necessary to omit the Alumni Chapter Reports, the Eta Kappa Nus and the Geographical Directory. Space and funds permitting, these will be published in the May number.

ACTIVE CHAPTERS

The subject assigned to the active chapter editors for discussion this time was: "What can the alumni do to assist the active chapters and to guide the new graduates?"

The following chapter letters bring out some very interesting points. ALUMNI, your younger brothers have expressed their views, desires and needs. WHAT ARE YOU GOING TO DO TO HELP THEM?



Alpha Chapter

University of Illinois

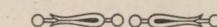
There are few ways in which the alumni can assist the active chapters, but there are numerous ways in which they can be of assistance to the new graduate.

Where alumni are near an active chapter they may help that chapter a great deal if the men from different branches of the industry would address the active chapter on the opportunities, disadvantages, etc., of their various branches. We feel that the advice of one with experience would greatly benefit the undergraduates who are about to choose what branch of the electrical industry they wish to enter. In only a few cases, however, are there alumni and active chapters in the same vicinity, so it will be possible to help only a few of the active chapters in this way. Some of the active chapters are so located as to be practically isolated from alumni due to the fact that the active chapters are far from any electrical center. In such cases, unless some of the alumni because of their interest in the undergraduate sacrifice time and money to travel to the active chapters the means of reaching the chapters must be through the pages of THE BRIDGE. At the present time this method is being carried out, and we of Alpha Chapter appreciate the work of the alumni in this matter. We believe that the article on different phases of the industry and the articles on salary statistics should be continued.

The annual relay carnival will be held in the Armory on the afternoon and evening of February 28. With the entry of Georgetown and Penn. for the two mile relay, it begins to look as though there will be some record breaking performances. A distinguished field of stars are entered in all events and Alpha Chapter is looking forward to seeing Brother J. C. Koonz show his heels to a choice field when the Illini take the mark for the mile relay.

Alpha Chapter extends her best wishes to all the chapters and wishes them success in their second semester's work.

M. S. LUTHRINGER,
Associate Editor.



Beta Chapter

Purdue University

The first and most important thing the alumni can do is show a lively interest in new graduates, and in undergraduate work in the active chapters.

Alumni know the problems of the new graduate and can often help him

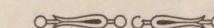
to avoid the common mistakes in the choosing of his work, or assist him in sidestepping errors they have made as new men in the field of engineering. "A word to the wise is sufficient," as the old adage goes, and undergraduates are more than willing to gain advice from a reliable source, from men who have been through the same problems, and have learned by experience.

If each alumnus, when he comes in contact with an undergraduate, would explain the nature of his job and its opportunities; it would do much to clear up hazy notions of the requirements of that occupation in the mind of the undergraduate and thus give him a basis on which to form an opinion.

Another and also an important way in which the alumni can assist the new graduates is by bringing them into contact with leaders in their profession at the various meetings and conventions. The recent alumni banquet in New York at the time of the A. I. E. E. convention is an example.

The service at present so well given in the feature articles of THE BRIDGE is another item in this method of acquainting the undergraduate with the varied occupations in his field, for this is the most important decision he has to make: "What job shall I take?"

B. F. TELLKAMP,
Associate Editor.



Gamma Chapter

Ohio State University

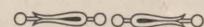
Concerning that very pertinent question of alumni relations, to what extent are alumni services available and to what extent are they appreciated?

It seems that the most valuable service that the alumni can render is to keep undergraduates acquainted with the practical and practicing side of the profession. Probably the best method for doing this is a closer relationship between those alumni who are so situated as to location that they may take a semi-interest in undergraduate affairs with no particular inconvenience to themselves. This occasional contact with the practicing engineer will undoubtedly give the student an entirely different light on the profession than he could possibly obtain otherwise. It is also possible that this practical slant on the profession obtained in this

manner might have more influence in the matter of job getting than any other help the alumni could give.

Shortly after the second quarter of the school year began, Gamma Chapter initiated eleven new men. They consisted of three seniors and eight juniors among whom was J. J. Wrasmann, who was compelled to leave school last year due to illness shortly after his election and before the initiation took place.

J. N. HEED,
Associate Editor.



Delta Chapter

Armour Institute of Technology

The alumni can aid the active chapter and guide the graduates in the following ways:

(1) The first thing that the alumnus should do is to join the nearest alumni chapter and become an active member. In this way they could keep up a strong vigorous alumni association, one which graduates would be anxious to join and which the active chapters will be proud to hold up to its new members as an example of what HKN really means.

(2) The alumni chapters should foster numerous joint meetings with the active chapters. The advantages of these are manifold. First and foremost, it gives a broadening contact to the undergraduate by meeting and conversing with older men in the same profession. Secondly, by hearing at these meetings topics of engineering, the undergraduate will be able to increase his store of first hand knowledge usually accessible only through experience.

(3) The alumni chapter could pick a committee of experienced men whose duty it would be to grant interviews to those undergraduates who so desire, and, by conversing with them, applying their lessons of experience in a frank analysis, help them to decide into what branch they are best fitted. This would allow the undergraduate to specialize somewhat before leaving school.

(4) The alumni by their intimate contact with the profession having aided the graduate in the choice of his lifework, could also aid him in getting an opening in his chosen branch of endeavor. They might also compile some statistics as to the probable chance of

advancement in the different lines, so that the graduate may have some idea of the department or branch in which he is entering.

As an aid in making the name of HKN known throughout the lower classes of the Department of Electrical Engineering, Delta Chapter has an annual essay contest on engineering topics, the winner of which is presented with a Standard Handbook. Last year when the contest was first inaugurated, the competition was keen and a large number of excellent essays were received. It not only served as a good publicity stunt, but also enabled us to get a "line" on a number of men as suitable material for future members.

Just now the chapter room is littered with bulletins from a number of eastern colleges. Quite a few of the brothers are planning to take post-graduate courses down east. Brother Tweedle entering Harvard, while Brothers Myer and Taylor are going to M. I. T. Others are still trying to decide whether to barricade themselves with additional knowledge or go right out into the "cold, cold world" this June.

The Senior class at the institute has been especially fortunate of late in a number of excellent inspection trips around the city. On February 7th, largely due to the efforts of Brother Stemwedel, the Armour Chapter AIEE, took an inspection trip through the lines of the Chicago Tunnel Company. The tunnel is of rather unique construction 7 feet 6 inches high and 6 feet and 6 inches wide with arched roof. The equipment used were 3 ton 250V locomotives running on 24 inch gauge. The tunnel serves practically all the buildings in the Chicago "Loop" both for bringing in freight, and also for removal of ashes. The latter are hauled direct to the lake front and used in reclamation work, by this means the city is building up its world famous park system.

On the ninth of February the entire Senior Electrical Class at the Institute were the guests of the Goodman Manufacturing Co., Halsted street and 48th place, Chicago. After listening to a most instructive and excellently illustrated lecture on the mining machinery which they manufacture, cars were provided to take us over to the Parker Cafe at 51st and the lake. Here an excellent luncheon awaited us. After luncheon we were divided into groups of four to an engineer and an all-afternoon trip taken through their plant.

W. J. PATTERSON,
Associate Editor.

Epsilon Chapter

Pennsylvania State College

As the glories of spring gather about us up here in the center of the Pennsylvania hills, we are filled with the desire to get out-of-doors where "man do be a man," but it happens to be our unlucky fate to have to write a letter to THE BRIDGE; so here goes.

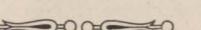
Epsilon Chapter is rejoicing in the fact that we—that is, all the members of the Senior Class—have taken our "final" final exams. By this I mean to infer that the college authorities have passed a new ruling which states that all seniors are exempt from the June exams. (But the instructors can give exams if they wish to do so). Even at that, it is a great feeling.

Now as to what the alumni can do

to assist the active chapters—that is a big question. We feel that the biggest help to us would be to have them aid us in the selection of new men.

This is a problem that confronts every chapter, and we feel that aid and advice from the older men would help greatly in this matter. Then to the "Big Men" in the ranks of Eta Kappa Nu, we, as undergraduates, want to say that any advice or information that they might be able to give us, through the columns of THE BRIDGE, will be fully appreciated and greatly enjoyed. We believe that there is nothing that develops a young man as fast as associations and friendships with older men; so in this matter, the alumni can be of great assistance. Therefore, we would say to the older men of our profession, and our fraternity, get acquainted with us, the younger men, and give us all the good advice that you can. We need both.

FORD C. PETHICK,
Associate Editor.



Zeta Chapter

Case School of Applied Science

The things which an alumnus can do to help his active chapter or any other chapter are very numerous. The main problem is not in finding things which the alumnus can do, but to find the one who will do them.

To keep the interest of a graduate in his active chapter is not easy. The man who is most active in his school days is bound to be the most active alumnus, because he is the most interested. He got more out of his work in school and it still sticks by him after graduation.

Now just what does all this discussion tend to drive at? The point is that many chapters of this fraternity and also other similar organizations do not hold a man's interest while he is active. Why is this? Because each and every brother does not put enough of the good old spirit of cooperation into the job that is his in the chapter.

John Jones does not feel that he should spend a lot of time doing this or that thing if Tom Brown is laying down on the other. And Tom Brown is getting nothing whatever out of his membership. He puts nothing into it and by the law of conservation of energy, he can get nothing out of it.

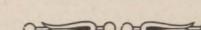
What kind of alumnus will a man of these views make? Will he have initiative and the desire to help an active

chapter that is doing the same thing that it did when he was in school?

The remedy is easy and lies with every individual in any active chapter. Let's get down to work and make the chapter hum. Make it mean something to every man in it; have some fun; put Eta Kappa Nu on the map so that it will mean something. Then it is not going to become a thing of the past as soon as we graduate, but will be a center of active interest in years to come.

The active chapter must help itself before the alumnus can do anything whatsoever.

G. E. BURWELL,
Associate Editor.



Theta Chapter

University of Wisconsin

It was about a week before our final exams that the topic was received for chapter discussion. From then on through the two weeks of exams we had no meetings and thus it was impossible to have a very good prepared discussion, however, a few suggestions were given in our last meeting a few hours ago.

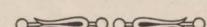
As far as helping our chapter in one way or another is concerned, we have had no sign of volunteers. At one of our initiation banquets, however, we had a brother from the Milwaukee Alumni Chapter as speaker and he related to us the various unusualities, difficulties, advantages and wages encountered in different lines of work in Milwaukee particularly. We thus received some very practical information. Alumni are engaged in every different kind of engineering imaginable. Whenever and wherever possible then, alumni should be invited or volunteer to give experiences met with in their particular line of work. Alumni can't do it alone; chapters must cooperate.

One of the points brought up was, that it was not definitely known just what is being done by the alumni to help graduates when they enter a particular line of endeavor. Alumni should greet the incoming graduate in a certain place of employment and make him feel at home at his work and in the, perhaps, strange city, as soon as possible. This is being done as we understand in localities where alumni chapters exist. It should also be done in other places. If there is any alumnus at such a place he should be alert

to find out the college students receiving employment, and endeavor to find out whether he is a brother. We doubt if he has any other way to come upon a man outside of perhaps being informed by THE BRIDGE, or his mother chapter of which the new man may have been an active member, or by accidentally meeting him.

Let it suffice to say that all alumni and their chapters particularly should aid in making the active chapters what they ought to and purpose to be, and in getting the "jump" on a beginning graduate. We wish the alumni chapters would tell us what their methods are, so that we may cooperate with the one in whose locality we shall be when we leave our alma mater and enter the cruel world.

EUGENE O. BERGHOLZ,
Associate Editor.



Iota Chapter

University of Missouri

While in school the student although he may think a great deal of the work for which he is fitting himself, has for the most part a rather hazy, indefinite idea as to what the actual work is like. He may read many articles and descriptions of the work he intends to follow and in a general way learn of the work, but these articles lack personal assurance and detail. It is here where the alumni can help the undergraduate. If each alumnus would send in to the chapter from which he came a letter, giving in detail, a description of his work, what he thinks of his work, whether or not it is a good place to work, and whether or not he thinks the new graduate should follow this line of work. Also some suggestion as to what elective or special courses the undergraduate should take while in school. Letters of this sort from the alumni would undoubtedly carry personal assurance of the work to the new graduate, and be a valuable source of information to him. I am in hopes some of our alumni will take this hint, and send us some good letters, especially some of the older members whom we have not heard from for some time.

Activities in Iota chapter have been about the same this year as usual. Our chapter roll was increased in the fall by the initiation of the following men: S. C. Algermissen, J. G. Leff, O. W. Palmer, P. J. Zilles, T. D. Cunningham, O. S. McDaniel and J. W. McCune, and by the winter initiation of N. V. Smith, W. A. Gum, M. A. Franco and

M. W. Levy. The winter initiation followed by a banquet, at Jimmie's College Inn, was more interesting than usual. The customary initiation showed much preparation and thought. Especially interesting were the papers on "The present outlook of the main line electrification," by N. V. Smith and the "Inertiaire Transformer," by M. A. Franco. After the paper on the transformer was read the seniors all voted that with this additional knowledge that the paper gave on transformers, that it would not be necessary to attend the lecture on transformers the next day, but Professor Lanier overruled the vote.

A second Ag-Eng. dance is to be given on February 27, and soon after that St. Pat's, so the rest of the school year will not be entirely void of excitement.

UEL L. SMITH,
Associate Editor.

Kappa Chapter

Cornell University

There are many ways in which the alumnus may make himself a great aid to his Alma Mater. He may achieve success in the commercial world, which reflects credit on her name, or he may endow her with material things which tend toward her growth and expansion. There are still nameless other means of proving himself a credit to the university from which he graduates; but for his college and especially the associations with which he is connected he can do even more. Here the bond is closer and his sympathies and activities are generally more in tune with the majority.

Perhaps the greatest thing which the alumnus can do to help the undergraduate in his final choice of life's work is to keep him informed of the activities in which he may become involved upon graduation. The average senior has little more than a general idea of the world of commerce and industry into which he is to go after June finals. It is true that many of the larger concerns send their representatives to the various schools expressly for the purpose of explaining the opportunities which they offer. But oftentimes they are misrepresented and only the bright side of the proposition is explained to the student, and the inevitable result is that he finds too late that he has made a mistake. There is no one who is better able to give a correct repre-

sentation of the facts in any given case than one who has actually been through the mill and knows whereof he speaks.

Each alumnus should consider it his duty, to those who are to come after him, to keep the active chapter informed of the opportunities and obligations which his employers offer. This, to me, is the greatest help which the alumni can give to his active chapter, since it will aid all of the members and will tend to decrease the number of fatal errors which so many students make.

There are other ways, too, in which the alumnus may be of value to the active chapter. His suggestions of elective courses which would be valuable are always welcome, and information concerning modern developments which are in progress makes interesting subject-matter for discussion in meetings.

Whether or not the alumnus takes an interest in his active chapter, the active chapter is interested in him, and his work, and he should therefore consider it a further duty, whether he fulfills the others or not, to keep them informed of his whereabouts. The "Lost Souls" column is altogether too large, and the least that each man can do is to send in his name and address whenever he changes location. As the active chapter depends on him for support, he should look to the active chapter for inspiration and help, and should remember that a lost member is as good as none at all. Of little avail is the key that he wears if he severs all relations with the organization which it represents. Let him then consider these things which he may do to help us, as undergrads, and when the final reckoning comes may he not be found wanting.

GLENN R. TAFT,
Associate Editor.

Lambda Chapter

University of Pennsylvania

No Report Received

Mu Chapter

University of California

Mu Chapter is on the jump nowadays! By the time this is published we will have initiated about 9 or 10 neophytes. They are good looking HKN material too. Getting this initiation under way has been keeping us all busy for this semester.

After this comes the big blowout. Plans are being formed and the committees beginning to function for an HKN dance. This is somewhat of a new field for Mu Chapter but we believe we can shake the wicked hoof right well—just ask us if you don't think so. We're hoping for a big crowd of the alumni with us then.

Engineers' day, another time when all HKN men are on the job, comes the 23rd of March.

Between initiations, dances, classes, laboratories, or in fact most any other time, the one word that has ruled supreme for the last few weeks is—job. Yes we're just pure human beings and have to eat and sleep. Working helps the appetite; we like to sleep after we eat. Thus we deduce the logical conclusion that it is work that we need to make us eat and sleep properly.

Lawrence Dodds, our president, T. M. Chubb, and R. C. Brosemer seem to have settled this problem. They are going back to Schenectady. Larry tells us that he is going to make the trip with a friend in one of those lower type of the animal species commonly known by the name of Ford. We wish you luck Larry, and hope that you don't have to walk more than the last two thousand miles.

Talking about jobs brings us to the alumni. No, we don't want you to get us all jobs with fat salaries and nothing to do. But, brother alumnus, what are the questions we ask you when you drop around to the chapter at initiation time? What kind of work does X Company have? Is the company well organized? Are most of the men satisfied? Are the chances for advancement good? We do not have to get this information except through you and yet we should know it to make an intelligent decision as to our future work. Drop around to the chapter occasionally, alumni, and tell us what you are doing. We'd like to keep in touch with you.

Incidentally our alumni in the San Francisco Bay region are sticking together and are enjoying it. Every Friday finds them at the Chancellor Ho-

tel, 433 Powell street, San Francisco, enjoying their weekly luncheon. They have asked me to give all HKN brothers who are in the Bay region at any time an invitation. The invitation is an urgent one. Just drop around at the time of the luncheon.

D. W. CONKLING,
Associate Editor.

Nu Chapter

Iowa State College

It is impossible to give an all-inclusive and final answer to either of the above questions, as the possibilities are almost as numerous as the problems that confront undergraduate and fledgling engineers alike. Ways in which he can assist and guide the younger members of the profession will present themselves to the engineer who maintains an active and intelligent interest in undergraduate affairs.

In fact, I believe that it is not an exaggeration to say that the maintenance of this spirit of friendly interest, of willingness to assist the man who "has the stuff" and is not afraid of work, in getting a start in the game, offers the largest single point of contact between the old-timers and the tenderfeet.

"What studies are most important to me—what are the rock-bottom, indispensable fundamentals of an engineer's training?" is a query often heard among student engineers. It is one on which any man who has been out of school for five years or more should be able to give an intelligent opinion, at least. And as it is an obvious though deplorable fact that equal and impartial attention to all subjects "taken?" is an ideal not to be realized, expert advice as to the relative merits of calc., English, etc., would be interesting and useful, in no small degree.

Another subject on which the undergraduate is often lamentably ill-informed is the probable relation of his acquired stock of scientific principles, facts and habits of thought to the problems of the practicing engineer. "Just what is 'engineering', anyway?" is a question that stumps all too many men who have spent four or five years trying to learn its fundamentals. Here is a wonderful opportunity for the alumnus who wants something to do—by articles and talks let the undergrads see what engineers are trying to do, what they will have to do in their turn if they are to carry on.

Xi of Eta Kappa Nu has had a very prosperous year so far and intends to keep the good work going. We have had several banquets and smokers that

proved to be quite interesting and enjoyable. This year we intend to put on an electrical show that will even surpass the one held last year and to that end is being directed all of our spare time and efforts. Xi sends greetings to all.

W. D. McLAREN,
Associate Editor.

Omicron Chapter

University of Minnesota

Seniors, once they graduate, seem to lose personal interest in chapter affairs and in the active members. This is particularly true at chapters established at large institutions where one does not have a large acquaintance outside of his graduating class. It is evident that there is no immediate solution for the general situation where enrollments are large but for HKN alumni there is room for much improvement in attitude and spirit of helpfulness shown active members in Eta Kappa Nu.

No doubt most of the new alumni are busily engaged holding down a job or trying to support a wife (or both), but a slight effort, perhaps only a letter or perhaps an evening with the chapter, might repay that person triple-fold in the way of a satisfaction that he may have helped in some small way a younger man settle certain questions.

As has been already intimated, alumni who have gone out on jobs could easily write of their experiences. We think such letters would be valuable. Particularly would this be true if four or five men who were established in different types of work as central stations, sales, test course, communications, etc., would write letters presenting a square interpretation of each situation. We could make comparisons as to qualifications for the type of men desirable for such positions.

Alumni, when visiting in the city in which their chapter is located, might notify an active officer of his willingness to meet with the chapter to offer advice and opinions. We think that in some instances the president would be glad to call a special meeting. This would tend to better the chapter spirit and at the same time would bring about a consciousness of the bond of brotherhood.

This is the first letter in which chapter news is included, and we are glad of the opportunity to relate some of the things we are doing.

We are at the halfway mark of our senior year and with a few things to be thankful for. It seems that the pros are not crowding us so heavily. Also we have only four months left before we get a chance to show our "stuff." It certainly is a great relief to spend our last year "free and easy" in our new building. Boys, it's a darr too. What a change from crawling over a lot of machinery stacked three-deep and with only enough room for three working groups to a long, well-lighted laboratory with apparatus and connection boards arranged conveniently and with space enough for eight AC groups and six DC groups working at the same time.

Despite the handicaps we have met for three years in the way of accommodations, five of our thirteen seniors collected further honors by membership in Tau Beta Pi. Brothers Reed, Keller, Hanft, Untinen and Peterson are the men so honored.

The seniors are busy bringing into shape plans for the Electrical Show, which comes off the latter part of April. We think we will have the best one ever. Especially so when it is realized that Brother Berkeley Lewis is general chairman. He is as busy as a beaver pounding the committee men on the "tail."

Most of the boys are looking forward to the first week in March when the honorary dance takes place. This is participated in by the members of all the honorary organizations in Engineering, Architecture and Chemistry.

Best wishes to all brothers in HKN from Omicron Chapter.

H. A. WURZBACH,
Associate Editor.

Pi Chapter

Oregon Agricultural College

The last regular meeting of Pi Chapter was postponed on account of a conference basketball game occurring the same night and, consequently there was no chapter discussion on the question, "What can the alumni do to assist the active chapters and to guide the new graduates?" Since then the associate editor has racked (wrecked) his brain trying to think of some answers for the question that he can fill up the space between the beginning and ending of this report.

One of the first and perhaps the easiest thing for an alumni member to do is to attend a chapter meeting

once in a while or at least, an initiation. The above of course is only logical when the alumni member is within "flivver" distance of the chapter. The alumni member, having had some of the hard bumps that necessarily must fall to the man just out of college, could assist the undergraduates and new graduates by telling them, more or less in the manner of father to son, just what to expect and how to avoid or make the best of the pitfalls they will encounter.

In addition to assisting the chapter the active alumni member can undoubtedly help and guide the neophyte along the tortuous paths of initiation. Some of our recently acquired brothers will testify as to the ability of Brothers Albert and McMillan in that respect.

If the alumni member is too far away from the chapter to attend meetings, a letter from him or better yet, a write-up by him in THE BRIDGE telling of his work and experiences would be of interest to all. The least thing an alumni member can do is to keep his name on the subscribers list and out of the "Lost Soul" list in THE BRIDGE.

Pi Chapter wishes to extend its greetings and best wishes to the other chapters and sincerely hopes that a few alumni members will take the above seriously.

KIRBY B. AUSTIN,
Associate Editor.

Rho Chapter

University of Colorado

We believe that the alumni can best assist the men in the active chapters by telling them of themselves and their jobs. In the past, Brothers DuVall, Coover and Eastom of the faculty of the electrical engineering school of the University of Colorado have encouraged the graduates to write letters telling of their problems and experiences in the engineering field. It has now become a habit and several letters a month are received. The juniors and seniors receive a great deal of help and encouragement from these letters.

The letters come from men in many different branches of the profession, but mostly from the recent graduates who are working on various student courses for operating and manufacturing companies. They tell us of their work, of the tests they perform, and of the methods they use. We learn of the pleasant and of the disagreeable phases of their work. The writers

make the letters more interesting by explaining slang terms used in their work, by telling personal experiences, and by telling experiences of others. From these letters we learn of the living conditions, the working conditions and the opportunities in different places. Thus we learn what the different fields have to offer and are better fitted to choose between them.

We believe that such a relationship between the active chapters and their alumni would be very beneficial to the members in school.

Rho Chapter is all set for the Engineer's Ball on February thirteenth. The committee in charge consists mostly of Eta Kappa Nu men and we are looking forward to some dazzling lighting effects. In place of the usual Eta Kappa Nu dance we are planning a stag dinner for the actives and for members of the faculty this quarter.

Rho Chapter sends its best to all the brothers.

DAN SUTHERLAND,
Associate Editor.



Sigma Chapter

Carnegie Institute of Technology

There are several ways in which the alumni can help to guide the new graduate. With the proper co-operation they can also assist the active chapter.

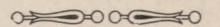
Of course the engineering graduate has to decide for what he is best suited. This is up to him, and requires a self analysis. Advice of qualified friends should be largely taken into account, and who is more fitted to be a "qualified friend" than a successful Eta Kappa Nu alumnus? The college graduate must also decide for himself upon the location of his position. Health, personal desires, family ties and like questions govern this phase. When the kind of work and location are decided, the companies offering such work must be investigated. Information of this kind can be obtained through trade journals, census and labor reports, engineers, etc. But who is better qualified to help the graduate weigh the various prospects and make his final decision than an Eta Kappa Nu alumnus brother? It can be seen that any success in this way hinges upon the cooperation between alumni and the prospective graduate, which means between alumni and the active chapter.

A means of obtaining this cooperation is the problem. An employment bureau is not practical, and

would not function as above outlined, anyway.

The alumni could help both the active chapter and the new graduate at the same time. Men from alumni chapters could attend and deliver messages to active chapters at their meetings, these messages conveying the opinion of the alumnus on the above questions. Here he could even talk personally with the men advising them as he sees fit. In this way the alumni become an aid and a "qualified friend." If a system of this kind were put on a national basis it would be ideal. A series of lectures of this kind throughout the year could not but help the prospective graduate, and in addition would be of value to the active chapter as a whole in providing an interesting meeting well worth attending.

JOSEPH S. SCHUCHERT,
Associate Editor.



Tau Chapter

University of Cincinnati

As the great value in being a mem-

ber of Eta Kappa Nu only becomes apparent to us after we graduate, it is the duty of all the alumni to be the inspiration of the active chapter members. Resident alumni as well as visiting alumni should be willing to talk before the active chapter whenever the occasion demands it. The experiences of alumni are always gladly received by the undergraduate. The "Who's Who" section of THE BRIDGE as well as many articles published in this paper are good examples of inspiring talks to the undergraduate. Let the good work continue! But let it be supplemented by informal talks given at the active chapter meetings.

A little friendly advice given the new graduate may put him on the right track towards success. The successful alumnus is the logical person to give this advice. Business opportunities that are noticed by the alumni should be called to the attention of the new graduate with the addition of a few suggestions.

In those schools which have a small

RALPH W. FOWLER,
Associate Editor.

ALUMNI CHAPTERS

Philadelphia Alumni Chapter

Since the winter of 1923, HKN has been inactive in Philadelphia. It seemed impossible to create interest in meetings and perhaps the local chapter would have died a slow death if it were not for the graduating classes of 1924 contributing a great many spasms to THE BRIDGE, who from time to time, expressed regret that our activities were so few.

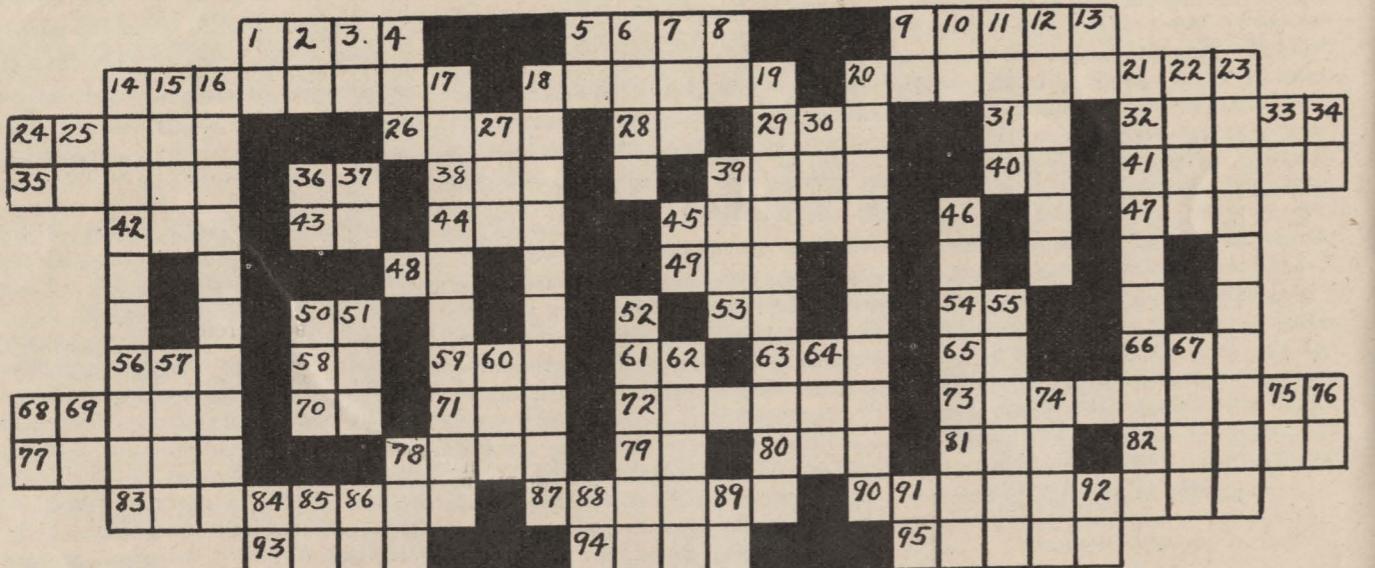
Early in January a movement was begun to re-organize our local alumni chapter. The leader in this was Brother G. H. Kelly, Delta, former president of Chicago Alumni, ably assisted by Brothers D. H. Mason, Alpha, and Heidlebaugh, Lambda. With these brothers as a nucleus a small number of alumni, scattered throughout the city, luncheoned together to give the movement impetus.

At this time it was decided to send out announcements to the effect that there would be a dinner at the Green Dragon Inn, on Friday, February 13.

However, the darkest hour is always before the dawn. By six-thirty on the evening of the dinner, thirty-five HKNs including Brothers Weigt and Brooks were on hand. Everyone teemed with enthusiasm for the new movement. Brother Mason, acting chairman, gave a few words of introduction followed by an auto-introduction of each alumnus present.

PAUL T. CLINE,
Secretary.

Win a Year's Subscription!



(This cross-word puzzle was made up especially for THE BRIDGE by Brother Paul W. Kiesling, I '24. Unfortunately, Brother Kiesling has been prevented, by illness, from working since graduation. Having a great deal of spare time on his hands he constructed this exceedingly clever puzzle which we are very glad to print. We hope that Brother Kiesling will enjoy a speedy recovery so that he can start on his life's work.

The solution will be printed in the May issue. We will give a year's subscription free to the first FIVE brothers sending in a correct solution. Editor's Note.)

HORIZONTAL

1. A married woman.
5. Proposed unit of Conductance (pl.).
9. Unit of electric power (pl.).
14. Gap.
18. The official organ of Eta Kappa Nu.
20. Source of an electric current.
24. One of the twelve apostles.
26. Strange; uncouth.
28. Trade Mark of large electrical manufacturing concern.
29. An accepted standard with which to compare variations.
31. A negation.
32. Abrasive.
35. A warehouse or storehouse.
36. River in Italy.
38. A depression between two mountains.
39. Ancient weight of money, of varying value.
40. Direct current (abbr.).
41. An embankment.
42. Book of the New Testament (abbr.).
43. Prefix meaning: Into or on.
44. Personality.
45. Review briefly (abbr.).
47. In behalf of.
48. Aloft.
49. Recite.
50. Alternating current.
53. State bordering on Georgia (abbr.).
54. New Testament (abbr.).
56. Personal pronoun "thou, you" (Latin).
58. Very (scientific prefix).
59. Insect.
61. Government department (abbr.).
63. Paste of light.
65. Musical note.
66. To steep or soak, as flax.
68. Japanese statesman and financier.
70. A mystic ejaculation uttered by the Hindus.
71. Sheltered side.
72. A large richly laden ship, as formerly of Ragusa.
73. A mode of action.
74. A plant that dies after flowering (pl.).
78. To fasten.
79. Read (abbr.).
80. Evil spirit.
81. Same as 63 horizontal.
82. A dwarf.
83. The process of designating by figures.
87. Sagacious.
90. Pertaining to the doctrine that pleasure is the chief good.
93. Wasted.
94. A circuit or journey (archaic).
95. Sword. (Latin)

VERTICAL

1. A French silver coin (abbr.).
2. Right (abbr.).
3. Precious element (symbol).
4. Country of South America (abbr.).
5. Title of address (abbr.).
6. Lofty.
7. A brief poem.
8. Relative weight (abbr.).
9. Personal pronoun.
10. Indefinite article.
11. To move in a certain direction.
12. A path or road.
13. A continent (abbr.).
14. Equals $Hx10^{-4}$ (singular).
15. The stern of a vessel.
16. Zealot.
17. The brain.
18. An instrument made by inserting in the moving coil of a sensitive D'Arsonval galvanometer, a bismuth-antimony thermo-couple, so that one-hundred-millionth of a degree centigrade can be measured (pl.).
19. A curve.
20. A process for producing engravings.
21. Automatic aerial transportation by electricity.
22. A Hebrew measure of 5.1 pints.
23. A round of successive changes.
24. A state bordering on Iowa (abbr.).
25. For example.
27. A tenon.
30. Literary bits.
33. Musical note.
34. Nominative plural of the personal pronoun of the second person.
36. Geometrical ratio.
37. Condition of adherence.
39. Intermediate as to time.
45. Coin of British India (abbr.).
46. Musical instrument.
50. Containing nitrogen.
51. Device to convert rotary into reciprocating motion.
52. Of, abounding in, or like spar.
55. Subjects of discussion.
57. Boss or knob.
60. New (Comb. form).
62. Degree of algebraic expression.
64. A doctrine or system: Satirically.
67. A small vessel for boiling water.
68. An exclamation.
69. Energy depending on motion (abbr.).
74. A case for carrying small articles.
75. Same as 70 horizontal.
76. New England (abbr.).
78. A bugle note.
84. An eastern Governor (nickname).
85. Toward.
86. Form of verb "to be."
88. Personal pronoun.
89. Personal pronoun.
91. Presiding Elder (abbr.).
92. Same as 45 vertical.

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CHARLSON, A. A.—M '21
1726 Blake St., Berkeley, Calif.
CHILDS, M. H.—Z '21
1226 S. Jefferson St., Saginaw, Mich.
CHRIST, C. C.—E '12
414 W. 3d St., Oil City, Pa.
CHRISTIE, C. S.—B '17
Bloomfield, Ind.
CHRITZMAN, G. M.—T '14
1046 Wilson Ave., Chicago, Ill.
CHURCHILL, J. E.—A '14
Prattville, Ala.
CLARK, C. B.—K '22
214 Dryden Rd., Ithaca, N. Y.

CLARKE, W. H.—K '20
310 Marshall Blvd., Cleveland, O.
CLAY, G. W. JR.—K '21
4132 St. Charles Ave., New Orleans, La.
CLAY, N. S.—G '16
1802 Montier St., Wilkinsburg, Pa.
CLEWELL, PROF. C. E.—Assoc.
Assoc. Prof. Univ. of Penn., Philadelphia, Pa.
CLINGER, A. C.—B '19
c/o Nat'l Lamp Wks., Nela Park, Cleveland, O.
CLOTHIER, J. P., JR.—L '22
8 Owen St., Lansdowne, Pa.
COBB, H. FILMORE—K '15
21 Oakland Ave., Audubon, N. J.
COFFMAN, A. B.—E '14
4235 Walnut St., Philadelphia, Pa.
COLE, D. S.—K '12
3174 Corydon Rd., Cleveland Hts., O.
COLE, G. H.—A '13
283 Halsey Ave., Wilkinsburg, Pa.
COLE, HAROLD—K '16
c/o The Detroit Edison Co., Detroit, Mich.
COLFMAN, H. C.—G '16
1431 Cresson St., Wilkinsburg, Pa.
COLLINS, C. R.—B '07
506 Hanna St., Aberdeen, Mich.
COLVILLE, J. R.—A '12
Nela Park, Cleveland, O.
COMMERY, E. W.—Z '16
c/o West Farmington Pub. Schools, West Farmington, O.
DAWSON, J. A.—B '21
1707 S. Madison St., Muncie, Ind.
DAWSON, T. C.—E '15
1023 W. Broad St., Bethlehem, Pa.
DAY, H. P.—T '20
494-53d St., Milwaukee, Wis.
DAYKINS, S. S.—Z '14
1880 Idlewood Ave., E. Cleveland, O.
DEAN, D. W.—G '21
311 Barnes St., Wilkinsburg, Pa.
DEANS, WM.—Assoc.
37 Emerson St., E. Orange, N. J.
DE BLIEUX, E. V.—B '22
525 Jefferson St., Natchitoches, La.
COOLIDGE, E. R.—A '13
3622 Barr St., Fort Wayne, Ind.
COOVER, M. S.—Assoc.
Univ. of Colorado, Boulder, Colo.
COPEHFEE, J. B.—G '21
21 Woodland Pl., Fort Thomas, Ky.
CORLISS, L. F.—K '17
S-uth Tamworth, N. H.
CORNELISEN, P. D.—A '21
c/o Curtis Lighting, Inc., 901 Title Guarantee Bldg., St. Louis, Mo.
CORNHILL, H. D.—A '05
705 E. Washington St., Bloomington, Ill.
CORY, VICTOR E.—Z '19
Tiffin, O.
COVER, H. T.—E '19
2302 W. Chestnut St., Altoona, Pa.
COWAN, G. P.—T '11
Crouse Tremain Interests, Union Nat. Bank Bldg., Cleveland, O.
COX, G. B.—I '19
1611 Adams St., Madison, Wis.
COX, M. L.—G '11
4926 Rosewood Ave., Los Angeles, Cal.
COX, V. G.—I '16
614 Mercantile Bank Bldg., Dallas, Tex.
CRAGO, H. R.—E '18
106 Michigan Ave., Schenectady, N. Y.
CRAIG, C. F.—I '13
195 B'way, New York, N. Y.
CRAIG, J. A.—A '19
933 Church St., Plymouth, Mich.
DOWELL, C. P.—A '19
86 Bond St., Port Richmond, N. Y.
FARMER, T. O.—G '13
9812 Lamont Ave., Cleveland, O.
FARNHAM, L. V.—K '18
1422 State St., Schenectady, N. Y.
DOWNING, W. J.—E '15
Main St., Tidione, Pa.
DOWNTON, P. G.—D '09
c/o Elec. Storage Battery Co., 3 No. 15th St., Minneapolis, Minn.
CRATES, R. R.—B '22
c/o Consolidated Pr. Co., Jackson, Mich.
CRAWFORD, H. C.—G '10
Allis Chalmers Mfg. Co., 1005-1st Nat'l Bank Bldg., Cincinnati, O.
CRAWFORD, R. W.—MAJOR—
K '21
Washington, D. C., c/o Chief of Engineers, U. S. Army.

CRITCHFIELD, R. M.—G '16
c/o Remy Elec. Co., Anderson, Ind.
CROSS, P. W.—G '18
46 E. Ward St., Springfield, O.
CULLINANE, G. M.—A '18
6273 Clement Ave., St. Louis, Mo.
CUMMINS, J. E.—E '15
c/o A. T. & T. Co., 195 B'way, New York, N. Y.
DRING, J. G. S.—I '14
A. T. & T. Co., St. Louis, Mo.
DUNSTAN, A. ST. C.—Assoc.
c/o Ala. Poly Inst., Auburn, Ala.
DUVALL, W. C.—Assoc.
1081 Lincoln Pl., Boulder, Colo.
EARLE, RALPH H.—D '17
222 Wells St., Wauwatosa, Wis.
EASTOM, F. A.—Assoc.
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EATON, R. O.—Z '22
69 Pearl St., Schenectady, N. Y.
EAUGH, L. A.—K '17
525 Orchard Ave., Bellevue, Pa.
EDLUND, L. L.—D '16
7556 Eberhart Ave., Chicago, Ill.
EDMONDS, W. M.—E '15
Arawan, Mass.
EGELER, C. E.—B '13
13808 Fernwood St., E. Cleveland, O.
EICHELBERGER, T. C.—E '15
111 W. Main St., Everett, Pa.
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ELLINGER, D. C.—E '19
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ELLIOT, R. D.—Assoc.
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8251 Cornell Ave., Chicago, Ill.
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Olivet, Mich.
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EMRICK, L. H.—B '18
122 4th Ave., S. E., Washington, D. C.
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ERICKSON, R. A.—D '18
Lake View, Ia.
DEVOR, J. H.—E '12
c/o Wagner Elec. Co., St. Louis, Mo.
DIBEL, C. P.—G '16
c/o Chas. Dibel, 1522 Ohio Ave., Youngstown, O.
DECKMAN, F. H.—G '19
39 Tibet Rd., Columbus, O.
DELANEY, G. A.—I '17
C-nterview, Mo.
DERR, P. F.—E '18
261 N. Broad St., Philadelphia, Pa.
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DIETRICH, FRED W.—T '10
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DIXON, C. L.—M '17
c/o Western Elec. Co., Oakland, Calif.
DO'BIE, FWD. C.—D '11
Salida, Colo.
DOBBIANS, V. F.—A '15
1273 Beach Court, Cleveland, O.
DONAHOE, J. W.—A '14
3416 Jackson Blvd., Chicago, Ill.
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107 Mound St., Joliet, Ill.
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606 N. Cayuga St., Ithaca, N. Y.
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53 No. 17th St., East Orange, N. J.
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9812 Lamont Ave., Cleveland, O.
FARNHAM, L. V.—K '18
1422 State St., Schenectady, N. Y.
FARNHAM, R. E.—Z '17
Nat'l Lamp Works, Nela Park, Cleveland, O.
FARR, C. L.—G '19
3084 W. 103d St., Cleveland, O.
FARWELL, S. P.—A '07
72 W. Adams St., Chicago, Ill.
DOYLE, V. H.—M '15
2322 Fulton St., Berkeley, Cal.
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DRAKE, E. C.—Z '17
1591 Quarrier St., Charleston, W. Va.
DRESSER, SIDNEY R.—K '12
Centre Ave., Larchmont, N. Y.
DREY, W. W.—D '11
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c/o Ala. Poly Inst., Auburn, Ala.
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222 Wells St., Wauwatosa, Wis.
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DIGGS, V. A.—B '13
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DIXON, C. L.—M '17
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Salida, Colo.
DOBBIANS, V. F.—A '15
1273 Beach Court, Cleveland, O.
DONAHOE, J. W.—A '14
3416 Jackson Blvd., Chicago, Ill.
DONOHOE, P. H.—A '21
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107 Mound St., Joliet, Ill.
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Western Gas & Elec. Co., Stockton, Cal.
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DUNSTAN, A. ST. C.—Assoc.
c/o Ala. Poly Inst., Auburn, Ala.
DUVALL, W. C.—Assoc.
1081 Lincoln Pl., Boulder, Colo.
EARLE, RALPH H.—D '17
222 Wells St., Wauwatosa, Wis.
EASTOM, F. A.—Assoc.
c/o Univ. of Colo., Boulder, Colo.
EATON, R. O.—Z '22
69 Pearl St., Wilmette, Ill.
EAUGH, L. A.—K '17
525 Orchard Ave., Bellevue, Pa.
EDLUND, L. L.—D '16
7556 Eberhart Ave., Chicago, Ill.
EDMONDS, W. M.—E '15
Arawan, Mass.
EGELER, C. E.—B '13
13808 Fernwood St., E. Cleveland, O.
EICHELBERGER, T. C.—E '15
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229 Glover St., Woodbury, N. J.
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Brush Prairie, Wash.
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DISQUE, PROF. R. C.—Assoc.<

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Case School of Applied Science,
Cleveland, O.
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Bldg., Portland, O.
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7730 Carpenter St., Chicago, Ill.
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c/o D. P. Robinson & Co., 125 E. 46th St., New York City.
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Cavalry School, Ft. Riley, Kan-
- JACOBY, ARTHUR B.—G '13
625 Garfield Ave., Middleton, O.
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408 N. Lombard Ave., Oak Park,
Ill.
- JAMES, H. M.—E '13
318 Taylor Ave., Scranton, Pa.
- JAMISON, G. T.—A '19
614 Main St., Joplin, Mo.
- JAQUA, C. A.—B '08
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Ind.
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c/o Utah Pr. & Lt. Co., Ogden,
Utah.
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c/o F. MacKinnon Mfg. Co.,
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Wis.
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699 S. Van Buren St., Green Bay,
Wis.
- JOHNSON, G. D.—E '14
25 Morgantown St., Uniontown,
Pa.
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Standard Oil Co., San Francisco,
Cal.
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Milton, Ind.
- JOHNSON, ROBT H.—T '13
560 W. Congress St., Chicago, Ill.
- JOHNSTON, R. E.—E '17
1248 Derry St., Harrisburg, Pa.
- JOHNSTON, W. D.—K '17
Natrora Pr. Co., Casper, Wyo.
- JONES, C. H.—D '09
1343 Edison Bldg., Chicago, Ill.
- JONES, J. W.—L '18
26-10th Ave., Haddon Heights, N.
J.
- JONES, M. R.—B '15
c/o John C. Jones, Greenwood,
Ind.
- JONES, T. A.—E '14
2730 North 12th St., Philadelphia,
Pa.
- JORSTAD, F. O.—T '15
12 Cedarcroft Rd., Jamaica, N.
Y.
- JOSLYN, R. O.—D '19
5956 Race Ave., Chicago, Ill.
- JUNG, M. J.—Z '22
4050 Mayfield Rd., South Euclid,
O.
- JUNKEN, L. H.—B '16
52 Robinson St., Schenectady, N.
Y.
- KÄRCHER, C. M.—Z '13
2576 Exeter Rd., Cleveland, O.
- KAIGHIN, R. T.—Z '12
225 Meeker Ave., Newark, N. J.
- KAMMERMAN, PROF. J. O.—
Assoc.
So. Dakota School of Mines, Rapid
City, S. Dak.
- KARG, H. F.—Z '18
814 So. West St., Findlay, O.
- KATES, W. A.—T '21
4627 Sansom St., Philadelphia,
Pa.
- KAUFMAN, A. R.—B '20
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- KAUFMAN, W. S.—G '13
Appraisal Dept., U. S. Army, St.
Louis, Mo.
- KAWAMOTO, T.—A '15
Nippon Elec. Co., Mita, Shikoku-
Cho, Shiba-Ku, Tokio, Japan.
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- KEITH, J. N.—M '21
634 E. 7th St., Riverside, Calif.
- KELLER, L. H.—I '12
1717 Main St., Kansas City, Mo.
- KELLER, R. A.—T '12
316 S. Jefferson St., Peoria, Ill.
- KELM, A. C.—T '13
333 L. St., Salt Lake City, Utah.
- KEMLER, R. L.—A '21
311 South St., Elgin, Ill.
- KEMPER, W. R.—M '17
366 Madison Ave., New York City.
- KENDIG, F. A.—G '11
Osborne, O.
- KENNEDY, O. W.—L '13
Park Bldg., Worcester, Mass.
- KENNEY, W. L.—A '20
1035 Eastern Ave., Schenectady,
N. Y.
- KENT, P. J.—K '14
Chalmers Plant, Maxwell Motor
Co., Detroit, Mich.
- KENWORTHY, C. M.—N '22
Twin Falls, Idaho.
- KENWORTHY, O. E.—E '21
43 Wyoming St., Wilkes-Barre,
Pa.
- KERLER, E. A.—T '20
c/o West Bend Aluminum Co.,
West Bend, Wis.
- KIDD, W. J.—E '20
212 E. College Ave., State Col-
lege, Pa.
- KING, H. W.—T '19
c/o Atlantic Aircraft Corp., Has-
brouck Hts., N. J.
- KING, W. C.—K '16
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geles, Calif.
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3045 S. Aldrich Ave., Minne-
apolis, Minn.
- KINSLEY, H. S.—K '14
Cutler-Hammer Mfg. Co., Kresge
Bldg., Detroit, Mich.
- KIRK, W. L.—E '15
Pittsburgh, Pa.
- KISTLER, C. S.—B '16
Western Elec. Co., Dept. 5940,
Hawthorne, Ill.
- KLEINMAN, H. S.—D '17
Y. M. C. A., Moline, Ill.
- KNAPP, L. E.—I '14
1568 Alameda Ave., Cleveland,
O.
- KNEALE, R. M.—Z '18
3121 Berkshire Rd., Cleveland
Hts., O.
- KNFRR, B. C.—I '22
7345 State Line St., Kansas City,
Mo.
- KNIGHT, PROF. A. R.—G '09
209 W. Washington Blvd., Ur-
bana, Ill.
- KNIGHT, G. L.—I '17
210 Bernard Ct., Madison, Wis.
- KOFESTER, J. H.—I '20
541 W. Shady Ave., Webster
Groves, Mo.
- KORTEPEETER, R. E.—B '14
Route 294, Box E, Indianapolis,
Ind.
- KRAFT, C. H.—I '14
345 S. Elm St., Webster Groves,
Mo.
- KRAUSE, E. G.—A '22
203 East St., Belleville, Ill.
- KRESSLEY, H. C.—E '12
1752 N. Marshall St., Philadel-
phia, Pa.
- KURTZ, D. F.—E '21
Amer. Gas. Co., 712 Locust St.,
Philadelphia, Pa.
- LOYE, P. E.—O '21
4621 Fremont Ave., So., Minne-
apolis, Minn.
- KYLE, G. L.—A '15
U. S. Light & Heat Co., Niagara
Falls, N. Y.
- LAMB, E. J.—B '15
302 Park St., Toledo, O.
- LAMBERTY, J. J.—N '16
331 W. Wilson Ave., Glendale,
Calif.
- LANDIS, G. G.—G '21
Worthington, O.
- LANG, E. C.—D '14
3619 Pine Grove Ave., Chicago,
Ill.
- LANGE, E. O.—T '14
Route 3, Media, Pa.
- LANKFORD, C. H.—I '11
415 So. Elm St., Webster Groves,
Mo.
- LANSCHIE, O. A.—A '16
4025 Woodland Ave., Kansas City,
Mo.
- LARGE, W. M.—B '17
515 Pioneer Bldg., Beulah, N. D.
- MABBS, J. K.—D '11
Linde Air Products Co., 169
Chandler St., Buffalo, N. Y.
- MacDONALD, C. H.—L '17
Bell Tel. Co. of Pa., 261 No.
Broad St., Philadelphia, Pa.
- McEWING, E. D.—D '10
3005 Eastwood Ave., Chicago, Ill.
- MACOM, L. D.—I '14
21 Camp St., Newark, N. J.
- MAINE, P. C.—O '21
201 Parkwood Blvd., Schenectady,
N. Y.
- MALAISE, C. L.—A '14
515 Pioneer Bldg., Beulah, N. D.
- MALOTT, L. A.—B '20
Bedford, Ind.
- LATTA, R. B.—E '21
6000 Etzel Ave., St. Louis, Mo.
- LATZ, R. C.—K '15
70 Post Ave., New York City.
- LAU, A. S.—D '20
Mnisek-u-Prahy, Czechoslovakia,
Europe.
- LAUE, G. E.—T '14
5052 Floriston Ave., Eagle Rock,
Calif.
- LAUGHLIN, C. W.—I '18
125 North Elwood St., Kansas
City, Mo.
- LEACH, F.—I '20
Cuba, Mo.
- LEBOW, I. V.—I '20
Terrell Croft Eng. Co., 6600 Del-
mar Blvd., St. Louis, Mo.
- LEE, CHAS. F.—G '21
55 Elm St., Schenectady, N. Y.
- LEE, J. A.—R '22
U. S. Reclamation Service, Pa-
villion, Wyo.
- LEECH, R. W.—L '15
1310 Pitt St., Wilkinsburg, Pa.
- LEEDS, J. L.—L '17
257 E. 3d St., Moorestown, N. J.
- LEHMAN, R. F.—A '10
620 Taylor Ave., Scranton, Pa.
- LEIDY, M. H.—K '12
c/o Frazer & Co., 30 Church St.,
New York City.
- LEIN, E. L.—B '21
227 E. 30th St., New York, N. Y.
- LEINBACH, H. W.—G '11
c/o Triangle Battery & Service
Co., 30th & Gilham Rd., Kansas
City, Mo.
- LESLIE, E. V. K.—E '22
7135 Bennett St., Pittsburgh, Pa.
- LESLIE, G. M.—K '13
Delevan Ave., Queens, N. Y.
- LEWIS, B. F.—K '21
A. T. & T. Co., 195 Bway., New
York, N. Y.
- LEWIS, R. P.—E '17
Electr. Eng. & Coast Co., 2111
Main St., Wheeling, W. Va.
- LILIENTHAL, JOHN L.—M '16
Stanford Court, San Francisco,
Cal.
- LINDNER, H. G.—T '21
1118 Hayes Ave., Milwaukee, Wis.
- LINGLE, R. W.—M '17
H. & Tulara St., Fresno, Cal.
- LINXWEILER, C. J.—G '22
1321 Berkshire Rd., Cleveland
Hts., O.
- LOCKETT, HARRY E.—G '19
313 Ave. A, Schenectady, N. Y.
- LOCKETT, R. G.—G '16
Cutler-Hammer Mfg. Co., 12th &
St. Paul Ave., Milwaukee, Wis.
- LOCKROW, L. L.—B '18
704 Penoyer Ave., Grand Haven,
Mich.
- LOCKWOOD, A. E.—K '12
55 West Ave., Norwalk, Conn.
- LOCKWOOD, R. A.—O '20
1567 Osceola Ave., St. Paul,
Minn.
- LOEB, A. J.—B '07
10720 Orville Ave., Cleveland, O.
- LOOMIS, C. V.—T '22
345 S. Elm St., Webster Groves,
Mo.
- KRAUSE, E. G.—A '22
203 East St., Belleville, Ill.
- KRESSLEY, H. C.—E '12
1752 N. Marshall St., Philadel-
phia, Pa.
- KURTZ, D. F.—E '21
Amer. Gas. Co., 712 Locust St.,
Philadelphia, Pa.
- LOYE, P. E.—O '21
4621 Fremont Ave., So., Minne-
apolis, Minn.
- KYLE, G. L.—A '15
U. S. Light & Heat Co., Niagara
Falls, N. Y.
- LAMB, E. J.—B '15
302 Park St., Toledo, O.
- LAMBERTY, J. J.—N '16
331 W. Wilson Ave., Glendale,
Calif.
- LANDIS, G. G.—G '21
Worthington, O.
- LANG, E. C.—D '14
3619 Pine Grove Ave., Chicago,
Ill.
- LANGE, E. O.—T '14
Route 3, Media, Pa.
- LANKFORD, C. H.—I '11
415 So. Elm St., Webster Groves,
Mo.
- LANSCHIE, O. A.—A '16
4025 Woodland Ave., Kansas City,
Mo.
- LARGE, W. M.—B '17
515 Pioneer Bldg., Beulah, N. D.
- MABBS, J. K.—D '11
Linde Air Products Co., 169
Chandler St., Buffalo, N. Y.
- MacDONALD, C. H.—L '17
Bell Tel. Co. of Pa., 261 No.
Broad St., Philadelphia, Pa.
- McEWING, E. D.—D '10
3005 Eastwood Ave., Chicago, Ill.
- MACOM, L. D.—I '14
21 Camp St., Newark, N. J.
- MAINE, P. C.—O '21
201 Parkwood Blvd., Schenectady,
N. Y.
- MALAISE, C. L.—A '14
515 Pioneer Bldg., Beulah, N. D.
- MALOTT, L. A.—B '20
Bedford, Ind.
- MALPEDE, D. J.—D '20
825 Sherman St., Chicago, Ill.
- MALVIN, R. C.—D '21
Robbins & Meyers Co., Conway
Bldg., Chicago, Ill.
- MANEGOLD, J. R.—T '13
3025 Highland Blvd., Milwaukee,
Wis.
- MANGNEY, E. J.—O '21
3845 Grand Ave., So., Minne-
apolis, Minn.
- MARLEY, J. P.—E '22
789 N. Main St., Pittston, Pa.
- MANN, A. W.—A '11
392 E. Chicago St., Elgin, Ill.
- MANN, R. F.—Z '15
1525 Winton Ave., Lakewood, O.
- MANNING, H. J.—G '12
115 Crestview Rd., Columbus, O.
- MANNY, W. R.—K '13
1 Rue des Italiens, Paris, France.
- MANSFIELD, H. S.—T '21
1731 P St., N. W., Washington,
D. C.
- MARCO, E. T.—G '09
C. del Marguay, Entre Rios, Ar-
gentine Rep., S. A.
- MARIATEGUI, I.—G '11
Usina Electrica Municipal De
Santa Fe, Santa Fe, Argentine
Republic, S. A.
- MARKE, D. L.—Assoc.
314 S. Burrows St., State Col-
lege, Pa.
- MARSH, G. E.—Assoc.
5207 Dorchester Ave., Chicago,
Ill.
- MARSTON, O. R.—M '16
1500 Arch St., Berkeley, Cal.
- MARTIN, B. H.—T '17
355 No. El Molino Ave., Pas-
adena, Calif.
- MARTIN, J. S.—E '20
Woodstock, Va.
- MARTIN, W. L.—G '19
10527 Churchill Ave., Cleveland,
O.
- MASON, H. R.—G '17
1456 Maple Ave., Zanesville, O.
- MAST, C. K.—E '19
Elverson, Chester Co., Pa.
- MAUL, W. R.—L '15
1327 Spruce St., Philadelphia, Pa.
- MAUNTEL, C. I.—R '22
18 Mifflin Ave., Edgewood, Pa.
- MAUSK, R. E.—Z '20
1338 Beach Ave., Lakewood, O.
- MAY, C. W. H.—E '12
2334 West Oakdale Ave., Phila-
delphia, Pa.
- MAYES, G. W.—A '13
R. F. D. No. 1, Champaign, Ill.
- MEILY, R. P.—E '16
720 Washington Ave., Tyrone, Pa.
- MEYER, C. P.—I '16
421 Elm St., Park Ridge, Ill.
- MERRILL, ALLEN—K '15
144 S. 2d Ave., Mt. Vernon, N. Y.
- MERRILL, S. F.—I '13
Southwestern Bell Tel. Co., Boat-
men's Bank Bldg., St. Louis, Mo.
- MERRIMAN, M. V.—B '20
6304-23d Ave., N. E., Seattle,
Wash.
- MERRIS, C. E.—A '12
640 Rugby Rd., Schenectady, N.
Y.
- MERRITT, L. H.—E '17
52 Springside Ave., Pittsfield,
Mass.
- METZGER, RALPH A.—G '14
Ohio Bell Tel. Co., Dayton, O.
- MEYER, C. P.—I '16
4621 Fremont Ave., So., Minne-
apolis, Minn.
- MEYERS, REX L.—E '14
8 Cemetery St., Carbondale, Pa.
- MICHEL, C. A.—Z '16
503 Kelly Ave., Wilkinsburg, Pa.
- LUM, SUN—B '22
2093 Chesterland Ave., Lake-
wood, O.
- MILBURN, W. R.—G '13
2719 Wells St., Milwaukee, Wis.
- MILES, R. O.—D '22
11 Yuen Wo Li, Shek, Hougang,
Kwanzungh, China.
- MILLARD, E. A.—L '15
1009 S. 48th St., Phila., Pa.
- MILLARD, T. O.—N '22
817 So. Central Ave., Burlington,
Ia.
- MILLER, C. A.—A '14
81 Circular St., Tiffin, O.
- MILLER, C. L.—E '17
Ch. Eng.'s Office, P. T. & T. Co.,
San Francisco, Calif.
- MILLER, E. D.—E '17
425-8th Ave., McKeesport, Pa.
- MILLER, G. K.—X '21
Montevallo, Ala.
- MILLER, GEO. W.—O '20
1509 Laurel Ave., St. Paul, Minn.

THE BRIDGE OF ETA KAPPA NU

- MILLER, GLEN L.—B '22
c/o Ind. Bell Tel. Co., 256 No.
Meridian St., Indianapolis, Ind.
- MILLER, H. B.—B '22
734 E. 4th St., Mishawaka, Ind.
- MILLER, K. W.—A '19
City Camp, Rockport, Wash.
- MILLER, R. P.—I '22
Columbia, Mo.
- MILLER, W. R.—B '17
R. F. D. No. 1, College Corner,
O.
- MILLSPAUGH, J. W.—T '14
Chain Belt Co., 736 Park St., Mil-
waukee, Wis.
- MISNER, F. D.—A '13
554 Belmont Ave., Chicago, Ill.
- MITCHELL, F. K.—B '17
5772 Central Ave., Indianapolis,
Ind.
- MITTON, G. R.—B '16
346 W. 77th St., Chicago, Ill.
- MOBLEY, S. D.—X '22
742 Broad St., Columbus, Ga.
- MOFFATT, F. R.—E '13
Elk Tanning Co., Ridgway, Pa.
- MARIATEGUIL, I.—G '11
Usina Electrica Municipal De
Santa Fe, Santa Fe, Argentine
Republic, S. A.
- MARSH, G. E.—Assoc.
808 N. Jefferson Ave., Indian-
apolis, Ind.
- MONTETH, C. D.—K '12
436 High St., Modesto, Cal.
- MONTGOMERY, E. G.—I '18
A. T. & T. Co., Kansas City, Mo.
- MOORE, E. R.—B '21
808 N. Jefferson Ave., Indian-
apolis, Ind.
- MOORE, H. A.—A '10
Utah Power & Lt. Co., Logan,
Utah.
- MOORE, L. L.—K '19
Union Trust Bldg., Providence,
R. I.
- MOORE, J. P.—Z '16
2188 Oakdale Rd., Cleveland, O.
- MOORE, RICHARD C.—G '20
187 W. First Ave., Columbus, O.
- MORLEY, C. M.—T '21
1035 Ross Ave., Wilkinsburg, Pa.
- MORRIS, B. G.—K '22
R. F. D. No. 2, Ithaca, N. Y.
- MORRIS, HERBERT J.—T '10
522 Terrace Ave., Milwaukee,
Wis.
- MOSIMAN, LEVI—A '06
Morton, Ill.
- MUELLEM, J. P.—D '20
1460 Jefferson St., Chicago, Ill.
- MUELLER, E. A.—T '21
Roraboo, Wis.
- MUELLER, R. A.—A '22
602 Abend St., Belleville, Ill.
- MUENTER, R. H.—M '20
722 N. Oxford Ave., Los An-
geles, Calif.
- MULFORD, ALLEN—K '15
421 Elm St., Park Ridge, Ill.
- MURRIAN, S. F.—I '13
Southwestern Bell Tel. Co., Boat-
men's Bank Bldg., St. Louis, Mo.
- MERRIMAN, M. V.—B '20
6304-23d Ave., N. E., Seattle,
Wash.
- MERRIS, C. E.—A '12
R. F. D. No. 6, Box 432, Mt.
Oliver Station, Pittsburgh, Pa.
- MUTHS, G. A.—V '22
3221 Prytania St., New Orleans,
La.
- MCALLISTER, C. B.—M '20
c/o Standard Oil Co., Richmond,
Calif.
- MUTHS, S. L.—X '22
c/o Ala. Power Co., Anniston,
Ala.
- MCARTER, W. J.—B '21
T. M. E. R. & L. Co., Milwaukee,
Wis.
- MCARTNEY, S. J.—E '14
847 Ash St., Winnetka, Ill.
- NIELSON, W. M.—O '22
Tyler, Minn.
- NILSEN, P. J.—A '15
72 W. Adams St., Chicago, Ill.
- NIPES, I. S.—E '13
108 Center St., Ridgeway, Pa.
- NITKA, JESSE—D '18
5501 W. Adams St., Chicago, Ill.
- NITZ, I. C.—A '08
2741 Bennet Ave., Evanston, Ill.
- NOBLE, W. H.—G '14
Delta Upsilon House, Northwest-
ern Univ., Evanston, Ill.
- NOEL, C. W.—O '20
Ideal El. & Mfg. Co., Mansfield,
O.
- NOLTE, F. W.—T '22
West Penn Pr. Co., 14 Wood St.,
Pittsburgh, Pa.
- OPPLER, E. P.—L '14
2508 S. Colorado St., Phila., Pa.
- NOREN, H. E.—D '12
2319 Byron St., Chicago, Ill.
- NORTON, B. R.—E '11
Phila. Elec. Co., 1000 Chestnut
St., Philadelphia, Pa.
- NORTON, R. B.—E '11
Phil. Elec. Co., 1000 Chestnut
St., Philadelphia, Pa.
- OPPO, C. S.—A '21
Collinsville, Ill.
- PO

THE BRIDGE OF ETA KAPPA NU

RICHARDS, W. V.—B '14
2005 N. Main St., Dayton, O.
RICHE, A. L.—A '13
409 Fairlawn St., Webster Groves, Mo.
RICHIE, JAS. K.—A '11
Butler, Pa.
RICHMOND, D. M.—G '14
London, O.
RIPLEY, C. T.—A '09
A. T. & S. F. Ry., 1018 Ry. Bldg., Chicago, Ill.
ROAB, H. F.—L '13
555 Park Ave., Johnstown, Pa.
ROBERTS, S.—L '14
203 W. Ufsal St., Philadelphia, Pa.
ROBERTSON, L. M.—R '22
946-11th St., Denver, Colo.
ROBINSON, E. C.—I '12
934 Dime Bank Bldg., Detroit, Mich.
ROBINSON, E. H.—Z '18
2741 Euclid Blvd., Cleveland Hts., O.
ROBINSON, E. W.—G '11
1817-No. 28th St., Birmingham, Ala.
ROBINSON, L. W.—A '21
502 Washington St., Watertown, N. Y.
ROBINSON, R. W.—L '21
Prospect & Spring St., Melrose Park, Pa.
ROBLEE, H. J.—Z '19
932 No. Oxford, Los Angeles, Calif.
ROEBUCK, J. H.—G '20
Bishop Apts., Easton, Pa.
ROHR, C. S.—M '19
205 Eastlake Ave., Watsonville, Calif.
ROOKER, E. J.—B '20
c/o Industrial Controller Co., Monadnock Bldg., Chicago, Ill.
ROSEBRO, H. R.—K '12
Citizen's Crystal Ice Co., Roanoke, Va.
ROSENBLATT, S. H.—M '17
3201 Clay St., San Francisco, Calif.
ROSS, E. F.—B '17
c/o Penton Publ. Co., 1213 W. 2d St., Cleveland, O.
ROSSEAU, L. B.—K '22
5032 Spruce St., Philadelphia, Pa.
ROWELL, R. R.—B '22
Turon, Kansas.
ROYCE, K. P.—K '16
210 S. 5th St., Fulton, N. Y.
ROYCE, W. A.—T '16
Guatemala City, Guatemala, S. A.
RUECKE, C. H.—Z '15
7111 Linwood Ave., Cleveland, O.
RUIZ, J.—Z '17
c/o United Fruit Co., Macabi Ote, Cuba.
RUNKLE, K. H.—N '17
8 Hampton Ave., Schenectady, N. Y.
RUNSER, F. B.—Z '16
68 Lafayette Ave., E. Orange, N. J.
RYAN, E.—T '14
Route No. 3, Castle Rock, Wash.
RYAN, T. J.—K '19
4626 Woodlawn Ave., Chicago, Ill.
RYAN, WM. T.—Assoc.
827 Melbourne Ave., Minneapolis, Minn.
SAGENDORPH, A. L.—A '21
29 Brewster Ave., La Grange, Ill.
SANBORN, H. J.—Z '13
G. E. Co., Schenectady, N. Y.
SANDOZ, W.—G '18
433 Second Ave., Toledo, O.
SANFORD, J. W.—B '22
Washington, Ind.
SAPPINGTON, R. D.—L '15
25 Mentz Apts., Niagara Falls, N. Y.
SAVILLE, C. M.—I '22
Grant City, Mo.
SCHAFF, R. G.—K '18
297 Highfield Lane, Nutley, N. J.
SCHAEFER, F. L.—K '18
4074 Baumer St., Riverside, Cincinnati, O.
SCHARF, R. H.—E '14
3925 Vincennes Ave., Chicago, Ill.
SCHAUM, CARL—L '19
Fletcher Wks., 2d & Glenwood Ave., Philadelphia, Pa.

SCHEVER, E.—D '19
5226 Ingleside Ave., Hyde Park, Ill.
SCHIEBER, A. L.—G '11
830 Ramsey Ave., Wilkinsburg, Pa.
SCHLEINKOFER, G. N.—E '18
Alco, N. J.
SCHLÖTERE, E. L.—E '20
415 Swede St., Norristown, Pa.
SCHMITZ, N. J.—T '16
225 W. Gilman St., Madison, Wis.
SCHMOELLER, C. C.—N '17
438 Bluff St., Alton, Pa.
SCHNEIDER, C. L.—T '18
22 Lathcoth St., Madison, Wis.
SCHOEM'S, A. F.—D '14
Hotel Gayoso, Memphis, Tenn.
SCHOENFIELD, D. L.—E '14
508 Cherokee Ave., Bartlesville, Okla.
SCOTT, CHESTER A.—B '07
443 Arcadia Court, Ft. Wayne, Ind.
SCOTT, E. S.—A '14
2273 Ivy St., Denver, Colo.
SENECALL, CLYDE—D '17
138 W. 74th St., New York, N. Y.
SEYFERLICH, W. M.—D '20
439 Wrightwood Ave., Chicago, Ill.
SHANCK, M. E.—G '18
Cassidy Ave., Bexley, Columbus, O.
SHARP, H. M.—K '15
34 Baxter St., Buffalo, N. Y.
SHAW, H. P.—Assoc.
State College Station, Raleigh, N. C.
SHELTON, F. H.—I '18
715 S. Detroit Ave., Tulsa, Okla.
SHEPARDSON, G. D.—Assoc.
c/o Univ. of Minnesota, Minneapolis, Minn.
SHERARD, J. O.—G '22
W. E. & M. Co., E. Pittsburgh, Pa.
SHERARD, GEO., JR.—Z '15
86 University Pl., New York, N. Y.
SHERWIN, E. B.—D '10
436 Sheridan Rd., Highland Park, Ill.
SHINKLE, L. H.—G '09
Higgingsport, O.
SHOEMAKER, F. G.—A '14
Buda Motor Co., Harvey, Ill.
SHOWERS, C. G.—G '21
Etna, O.
SHREFFLER, J. E.—E '16
562 Broadway, Lorain, O.
SHULER, WM. JR.—G '11
537 E. Linden Ave., Miamisburg, O.
SHULTZ, W. C.—E '21
A. T. & T. Co., 195 B'way., New York, N. Y.
SHUMAKER, R. E.—G '19
668 S. Detroit St., Xenia, O.
SIEK, H. G.—G '15
315 Pearl St., Hartford, Conn.
SIMONICH, J. L.—A '14
Sir Henry Apt., E. 16th St. & Cortelyou Rd., Brooklyn, N. Y.
SIMPSON, T. W.—D '09
2903 Forest Ave., Berkeley, Calif.
SIPHER, E. F.—Z '11
W. E. & M. Co., Wilkinsburg, Pa.
SKENE, J. H.—Assoc.
Franklin Hall, Cornell Univ., Ithaca, N. Y.
SKERRETT, B. E. M.—L '19
South Langhorne, Pa.
SKINNER, M. E.—T '15
435 Sixth Ave., Pittsburgh, Pa.
SKINNER, R. G.—K '19
857 Chester Rd., Charleston, W. Va.
SKOVE, W.—Z '14
Municipal Lt. Plant, E. 53d St. & Lake Erie, Cleveland, O.
SMITH, A. W.—Assoc.
1152 Grand View Ave., Columbus, O.
SMITH, C. C.—L '17
1304 Morris Bldg., Philadelphia, Pa.
SMITH, D. J.—A '14
Box 579, Drumright, Okla.
SMITH, F. D.—A '05
Continental Gas & Elec. Corp., Standard Oil Bldg., Omaha, Nebr.

To be Continued in the May issue.

SMITH, H. A.—B '13
914 Transportation Bldg., Atlanta, Ga.
SMITH, H. L.—M '21
1714 Grove St., Berkeley, Cal.
SMITH, H. M.—Z '14
507 Moody Ave., New Castle, Pa.
SMITH, H. S.—E '15
103 Jefferson Ave., Sharon, Pa.
SMITH, L. C.—L '14
Collier Brook Farm, Upper Darby, Pa.
SMITH, L. L.—P '22
Twin Rocks, Ore.
SMITH, M. R.—B '22
Climax, Kan.
SMITH, R. A.—B '14
626 S. Park Ave., Saginaw, Mich.
SMITH, R. H.—L '13
6008 Torredale Ave., Philadelphia, Pa.
SMITH, R. L.—L '16
17 E. Coulter St., Germantown, Pa.
SNUGGS, C. H.—X '22
Roanoke, Ala.
SNYDER, W. H.—B '21
3225 John Lynde Rd., Des Moines, Ia.
SPARLING, W. S.—Z '21
3024 Wolton Ave., Cleveland, O.
SPAYD, P. R.—E '16
West Leesport, Pa.
SPOON, L. P.—X '21
Franklin Hall, Cornell Univ., Ithaca, N. Y.
SPOONER, D. C., JR.—L '19
General Electric Co., Witherspoon Bldg., Philadelphia, Pa.
SPRAGUE, J. L.—K '19
c/o Henry S. Sprague, 100 Prospect St., Providence, R. I.
SPRINGER, F. W.—Assoc.
127 Orlin Ave., S. E., Minneapolis, Minn.
SPROWL, N. E.—Z '17
506 Highbrook Ave., Pelham Manor, N. Y.
SREDENSCHEK, W. A.—E '21
3 Frank St., Schenectady, N. Y.
STACK, A. H.—K '14
Warren Light & Power Co., Warren, Pa.
STACY, THOS. F.—K '19
253 W. High St., Mt. Gilead, O.
STAIR, J. L.—A '08
1119 W. Jackson Blvd., Chicago, Ill.
STANDLEY, R. H.—I '19
Carrollton, Mo.
STANG, R. E.—N '22
215 N. 5th St., Burlington, Ia.
STANLEY, MAJOR S. W.—T '11
Ft. Winfield Scott, Calif.
STAPLES, E. I.—Assoc.
161 Ave. A., E. Pittsburgh, Pa.
SYLVESTER, T. D.—R '22
1102 So. Arno St., Albuquerque, N. M.
TAFEL, R. E.—B '15
4619 S. Second St., Louisville, Ky.
TALCOTT, F. L.—B '06
209 N. Lockwood St., Chicago, Ill.
TANGEMAN, C. L.—A '06
952 Harvard Blvd., Dayton, O.
TAYLOR, G. E.—B '13
Box 172, Vincennes, Ind.
TAYLOR, S. O.—B '21
2807 Division St., Evansville, Ind.
TEACH, V. B.—G '21
2223 Neil Ave., Columbus, O.
TEALE, G. F.—M '18
2241 Dwight Way, Berkeley, Cal.
TEEGARDEN, G. H.—G '10
92 Frontenac Ave., Buffalo, N. Y.
TELLIN, W. G.—D '11
65-7th Ave., La Grange, Ill.
STEWART, J. W.—K '14
c/o Adjutant Gen. of the Army, Washington, D. C.
STEWART, CAPT. W. R.—E '15
Fort Ruger, Hawaii.
STIVER, F. W.—Z '15
527 Athens St., San Francisco, Calif.
STOCK, W. J.—B '16
P. & M. Dept., Gen. Elec. Co., Schenectady, N. Y.
STOCKTON, W. V.—B '19
1116 N. Penn St., Indianapolis, Ind.
STONE, H. B.—I '18
740 N. Fountain Ave., Springfield, O.

STONER, R. A.—E '15
1513 Vine St., Scranton, Pa.
STOTZ, J. K.—K '16
410 Center St., Wilkinsburg, Pa.
STOUT, J. M.—E '20
421 Stevens St., Williamsport, Pa.
STOUT, V. A.—B '16
Van Buren High School, Milford, Ind.
STOVER, C. R.—E '10
Commercial Development Dept., Nela Park, Cleveland, O.
STRAIT, J. M.—G '14
1778 No. High St., Columbus, O.
STRICKLER, W. B.—E '15
164 Springdale Ave., East Orange, N. J.
STRONG, A. P.—D '09
204 So. Union St., Mishawaka, Ind.
STRONG, H. M.—K '17
100 Stadium Pl., Syracuse, N. Y.
STRONG, P. A.—D '12
138 S. Scoville Ave., Oak Park, Ill.
STROTHER, A. L.—I '16
204 Empire Bldg., Webster Groves, Mo.
STROUSE, H. S.—B '15
Pawling & Harnishfeger Co., Milwaukee, Wis.
STUEVE, W. H.—G '08
215 N. 3d St., Muskogee, Okla.
STURM, C. H.—A '20
848 S. Ardmore St., Los Angeles, Calif.
STURROCK, WALTER—K '16
National Lamp Works, Nela Park, Cleveland, O.
SUGARMAN, A.—D '19
1310 S. Troy St., Chicago, Ill.
SULLIVAN, T. F.—D '15
6116 Rhodes Ave., Chicago, Ill.
SUMMERS, A. R.—A '15
25 E. Palmer St., Detroit, Mich.
SUMNER, A. W.—L '14
16 E. Main St., Moorestown, N. J.
SUMNICKT, H. A.—T '10
Gen. Elec. Co., Harrison, N. J.
SUN, C. T.—B '15
Nau Kai School, Tientsin, China.
SUTHERLAND, R. O.—B '15
234 Tonti Ave., South Bend, Ind.
SWANK, ARTHUR J.—M '18
445 Butler St., San Francisco, Calif.
SWANSON, WM. R.—D '12
216 Garfield Blvd., Chicago, Ill.
SWEENEY, E. J.—Z '18
1643 E. 67th St., Chicago, Ill.
BORGER, H. E., '06—3425 Osage St., St. Louis, Mo.
MIDDLETON, I. B., '16—c/o West. Elec. & Mfg. Co., Indianapolis, Ind.
REYNOLDS, R. L., '23—R. R. No. 5, Elwood, Ind.
RUSH, W. A., '06—2118 Hampton St., Swissvale, Pa.
RUSSELL, F. W., '24—Evansville, Ind.
STACEY, W. K., '06—1325 S. Nettleton St., Spokane, Wash.

ALPHA

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NELSON, W. S., '14—Bartlesville, Okla.
OLESEN, H. L., '18—922 N. St. Johns Ave., Highland Park, Ill.

BETA

BLOYE, N. C., '24—115 E. Columbia St., W. Lafayette, Ind.
BORGER, H. E., '06—3425 Osage St., St. Louis, Mo.
MIDDLETON, I. B., '16—c/o West. Elec. & Mfg. Co., Indianapolis, Ind.
REYNOLDS, R. L., '23—R. R. No. 5, Elwood, Ind.
RUSH, W. A., '06—2118 Hampton St., Swissvale, Pa.
RUSSELL, F. W., '24—Evansville, Ind.
STACEY, W. K., '06—1325 S. Nettleton St., Spokane, Wash.

GAMMA

DICCIO, A. A., '11—Victoria 4166, Buenos Aires, Argentine Republic, S. A.

DOXEY, W. S., '16—Penton Pub. Co., Cleveland, O.

GRIGGS, R. C., '22—W. E. Co., 4300 Euclid Ave., Cleveland, O.

HORNBERGER, R. G., '22—162 Walnut St., Barberton, O.

OETZEL, C. J., '15—70 Helen Ave., Mansfield, O.

PARSHALL, D. A., '15—18152 Lake Shore Blvd., Cleveland, O.

ZINK, J. A., '08—381 Watson St., Akron, O.

DELTA

EMMONS, G. C., '11—Laidlaw-Gordon-Dunn Co., Cincinnati, O.

KUMBERA, G. C., '21—Fond-du-Lac, Wis.

MEADE, G. R., '12—4103 Wilcox St., Chicago, Ill.

NORRIS, L. A., '12—G. E. Co.; 230 So. Czark St., Chicago, Ill.

PEARCE, W. W., '21—538 Steele Court, Waukegan, Ill.

RICHARDS, O. L., '10—7455 Greenview Ave., St. Louis, Mo.

THETA

GRAMBS, R. C., '18—337 W. Madison St., Chicago, Ill.

HOPPER, R. H., '23—Pendleton, Ore.

HURD, C. T., '23—382 E. 12th St., No. Portland, O.

RHO

AGNEW, R. P., '23—832 E. Colfax St., Denver, Col.

ASSOCIATE

GATUARD, W. A.—Assoc.

PUTMAN, J. F., '12—102 E. Main St., Rochester, N. Y.

Deceased

Gaertner, H. A.—K '18

Geltch, E. V.—T '11

Glanz, C. C.—L '18

Gray, Alex.—Hon.

Groesbeck, E. P.—I '18

Gulley, L. R.—A '11

Harris, L. H.—B '07

Hayner, W. J.—G '22

Henderson, E. G.—K '18

Irion, G. A.—I '18

Jameson, P. A.—T '16

Lamme, B. G.—Hon.

Lathrop, L. H.—K '18

Little, C. B.—T '14

Lyman, J. K.—D '11

Dodd, T. F.—A '07

Dole, L. A.—I '13

Donahue, J. J.—I '13

Michael, J. C.—D '12

Frandy, M. L.—M '13

Murray, J. H., Jr.—M '17

Narkinsky, C. S.—A '12

Nash, R. A.—Z '12

Orr, R. P.—T '16

Parker, R. W.—A '15

Partsch, H. D.—M '16

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Small, J. C. M.—L '15

Smith, E. C.—B '13

Smith, L. G.—Z '13

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