



ETA KAPPA NU

The Caduceus



The Caduceus, was preferred by our founder, Brother Carr, as the symbol of this Association. Therefore, upon the honor point of the shield is placed the Caduceus as a memorial to him who organized this society, in which so many now enjoy membership. Its field is scarlet, symbolizing the zeal with which Brother Carr projected his idea.

The Hand of Jupiter



The mighty hand of Jupiter was selected as being symbolic of the founding chapter, with a blade of lightning for each of the ten members. The field is blue, signifying the loyalty with which they performed their task.

The Band of Silver



The band of silver represent, and thus has been charged with three cubes of magnetite to remind you of, our three great requirements: common sense, an industrious spirit, and a congenial nature.

Wheatstone Bridge



The shield is crested with a Wheatstone bridge, with the associatiion's colors of scarlet and navy blue entwined beneath. Our emblem, the Wheatstone bridge, is an accurate precision electrical instrument, but the significant analogy which we draw from it for Eta Kappa Nu is the fact that it is in balance when it is correctly adjusted. This is what we strive for as members of Eta Kappa Nu: to lead a balanced life, a life in which scholarship, character, and personality are jointly developed. Remember, then, when you look at the Eta Kappa Nu emblem, the Wheatstone bridge is symbolic of a balanced human being.

Scroll



Beneath the shield is a ribbon bearing the name ETA KAPPA NU. In early Greece there was a philosopher who discovered that if he rubbed a piece of amber with a cloth he experienced the phenomena that we know as static electricity. The Greek name for amber is spelled nlektrov (Eta Lambda Epsilon Kappa Tau Rho Omicron Nu). From this word the English language derives the words: electricity, electron, and electronic. And from this name we derive our name -- we use the first, the fourth, and the last letters, namely Eta, Kappa, and Nu. The symbols used on the emblem are the early forms of these Greek letters.



Eta Kappa Nu...A Worthwhile Goal



Introduction

Let us acquaint you with the Eta Kappa Nu Association. It is the International Honor Society for Electrical Engineers. A Chapter or Eta Branch of Eta Kappa Nu has been established at your College, Company, or City and at approximately 200 other locations in the United States, Europe, and Asia. Outstanding persons are elected to Eta Kappa Nu primarily from the junior and senior classes of accredited undergraduate programs. Graduate Students and distinguished professional engineers are also eligible. Eligibility, naturally, must depend on marked ability, as evidenced by scholarship, personal character, useful voluntary services, and distinguished accomplishments, all of which indicate that the candidate will be or is a success in his profession. For undergraduate students, eligibility must depend largely on the records established during the first two or three years in college. Therefore, it is important that you set your goal early and strive steadfastly, first to do well scholastically; and, second, to give some of yourself to carefully selected activities which will help your school and fellow man. In turn, these accomplishments will bring returns to you as well.

It is for these reasons that Eta Kappa Nu is being brought to your attention now. The potential advantages and opportunities created through membership in this society are worthwhile goals. The scholastic and related effort that it will take to become qualified will reap benefits for you beyond your expectations. Eta Kappa Nu members are marked people, sought after by the best companies for employment. This factor alone is worth the effort it takes to maintain Eta Kappa Nu's high standards.

Purpose of Eta Kappa Nu

While one of its purposes certainly is the stimulation and reward of scholarship, Eta Kappa Nu has a far broader purpose than merely to award a badge of distinction to scholars. As conceived by its founders and as carried forward by its membership during more than two generations, another aim is to assist its members throughout their lives in becoming better professionals as well as better citizens. In turn, it is still another purpose of the organization, that its members be a constructive force, helping fellow members and non-members alike to improve the standards of the profession, the courses of instruction, and the institutions generally where its chapters are established.

Each undergraduate and alumni chapter is carrying out these ideals in the manner best fitted to its individual needs and opportunities. An international organization, elected by the chapters, exercises general supervision and correlates the efforts of these groups. A quarterly magazine keeps the members informed of the organization's activities and provides a means of contact between graduates and undergraduates.

Activities and Services

Some of the activities and services in which undergraduates and alumni of Eta Kappa Nu engage are set forth briefly below. Besides the membership qualification, which in itself encourages and gives recognition to high scholarship and other significant achievements, Eta Kappa Nu makes the following awards:

Outstanding Electrical Engineering Senior

In 1965 Eta Kappa Nu inaugurated an award to the outstanding electrical engineering senior in the United States. The award includes an attractive

Certificate, a substantial monetary gift, and a trip to Disneyland for an Award Dinner in his/her honor.

Outstanding Young Electrical Engineer

The most well known activity of Eta Kappa Nu undoubtedly is the award to the Outstanding Young Electrical Engineer. This award was first made in 1936. In the interim years, many now famous people were among the recipients of this distinguished honor. An Award Dinner is held in his honor either in New York or Philadelphia. His name is engraved on a large Award Bowl that is kept on display at IEEE Headquarters in New York, and he is presented a smaller version of the bowl.

Outstanding Professor Award

Each year Eta Kappa Nu recognizes an outstanding young Electrical Engineering Professor with an award Dinner in his honor at his university. Eminent Membership Very distinguished persons in the electrical engineering profession have been elected to eminent membership of Eta Kappa Nu. As world renowned as these people were they all considered it a unique privilege to be so specially honored by this organization.

Outstanding Chapter Award

Eta Kappa Nu makes an annual award to outstanding undergraduate chapters which have enhanced the prestige of electrical engineering through their campus and other activities. A silver plaque is awarded to the chapter presenting the best record of scholarship and activities.

Professional Activities

Implementation of that purpose of Eta Kappa Nu which encompasses aid to fellow man, the school, and the profession takes on various approaches as follows:

College Chapter Activities

Undergraduate chapters engage in a variety of activities on the campus and beyond its borders in order to fulfill their

responsibilities. These activities are numerous in kind and wide in scope.

Alumni Chapter Activities

Many alumni actively contribute to the aim and purposes of Eta Kappa Nu throughout life. Some of their voluntary contributions include: serving as officers or on committees of local alumni chapters and the international organization; participating in joint and regional meetings of alumni and college chapters; and promoting the ideals of Eta Kappa Nu throughout the electrical engineering profession.

Eta Kappa Nu's sound motion picture, "Engineering--A Career for Tomorrow", was developed with the cooperation of the University of Illinois. It has been used for many years in guidance work; and it has gained worldwide reputation as one of the better films for this purpose.

The Bridge is the society's international magazine. It has always maintained a high intellectual level with cultural and broadening articles to enlighten engineers about subjects outside the technical field. *The Bridge* has become a forum for articles on the subject of electrical engineering.

Growth of Eta Kappa Nu

Eta Kappa Nu has grown steadily since its establishment at the University of Illinois in 1904. In the first ten years, ten chapters were formed. In the first fifty years, 56 chapters were in existence. In 1983 there were approximately 200 chapters including branches of Eta in five foreign countries and numerous Alumni Chapters in various cities and corporations.

Eta Kappa Nu continues to grow and to influence the progress of the electrical engineering profession through its high ideals about scholarship, character, and service to fellow man.

Wouldn't you want to strive for the distinction Eta Kappa Nu gives its members?

From the Shade of a Cottonwood Tree HKN's Early Days



Alton Zarby, Executive Secretary 1935-1958

If mythological beliefs persisted today, there would be many claims that Eta Kappa Nu sprang full-grown out of the mind of its Founder--as the ancient Greeks claimed that Eros (Cupid) sprang out of the shoulder of Aphrodite. However, it is well known and fully accepted that worthy ideas as well as marvelous machines do not *spring*; they evolve through painstaking development. Furthermore, to have credited the founder of Eta Kappa Nu with having obtained his idea as a dream while sleeping would be a gross insult. True, Maurice L. Carr was a "dreamer," as are most men of vision, but his dreams were spirited daydreams and he had the mental and physical faculties and energy to carry them through, and the personality to interest nine others to use their brains and brawn in teamwork--as true researchers and inventor of today. At the installation of Beta-Delta Chapter in 1937, "ML" said he did not recall

definitely when the idea first occurred to him of forming a collegiate society of electrical engineering students, but he thought it occurred sometime during his sophomore year. He said, however, that he knew with certainty that while working for a utility at Springfield, Missouri, during the summer of 1904, he resolved to sound out his classmates on the subject in the fall.

He first approached a particular buddy called "Army"--Charles E. Armstrong. The idea immediately met with Armstrong's approval and the two decided to broach the subject to other classmates. "Army," who was born September 30, 1874, was almost three years "ML's" senior. As Brother Edmund Wheeler has pointed out,

"He and ML were considerably older than most of the rest of the group and both had had much practical experience prior to their senior year. Thus the young organization had the advantage of their counsel and advice in both class and fraternal affairs, which all of us were glad to accept."

Following their first formal meeting on Friday evening, September 23, 1904, young Carr and Armstrong effected a meeting with Milton K. Akers, Edmund B. Wheeler, and Ralph E. Bowser, who became sufficiently infected with enthusiasm to agree to a planning session. Sunday morning "ML" and "Army" spent several hours on the steps of the Astronomical Laboratory preparing written, tangible plans--they sought secrecy at this stage.

The five met as agreed in front of University Hall on Sunday afternoon, September 25, 1904, and wandered to a shady spot under a large cottonwood tree in the middle of an Agriculture Department field off the main campus. The tree has since become sentimentally emblematic of the early history of the organization, although it was but a chance choice and sheltered but a few subsequent meetings.

The following five weeks were extremely busy ones. A name and an emblem were chosen, policies of membership had to be defined, membership qualifications and an induction ritual were drafted. Early in this organization period Fred D. Smith, Frank R. Winders, and William T. Burnett joined the original five. Then, on October 28, 1904, at the home of Frank Winders, the first induction meeting was held. Carl K. Brydges and Hibbard S. Greene, both seniors, had by then consented to participate and it is fairly well established that Otto Wiemer became the first formal initiate. (A copy of the first ritual is in the national files.) Finally, the organization received recognition from the university administration and later meetings were held in a room in the EE building. All early reports were that Brother Carr's original idea was to make the chief purpose of the society one of employment--a professional union, we would call it today. But in those days such organizations were not thought of. The early publications quite plainly indicate this purpose. However, not many years passed and very few chapters were installed before it was decided that Eta Kappa Nu should be an EE honor society with scholarship as one of its chief qualifications.

Brother Wheeler recalls that scholarship was an important consideration from the first, but not a deciding factor, he, along with Carr and others of the original ten, decided that invitation to membership should depend primarily upon a collective favorable judgment of individual candidates and as to the likelihood of their eventual success in the engineering field.

Thus it was concluded that some classmates would not be considered eligible regardless of their scholastic rating and the matter of scholarship qualification for membership was temporarily deferred. In short, the founders were looking for future leaders of the profession!

With those basic ideals the organization was launched. The seal and plate for membership certificates were made up early in 1905 and the certificates were delivered in time for commencement. While HKN was strictly a "local" when organized, the foundations of a "national" were so strong that when the chapter assembled a first convention prior to the 1905 graduating exercises a full list of "national" officers was elected from the departing class.

The formation of a "ghost national" on the part of the founding members was more than a sign of wishful thinking because groups of EE's in Midwestern schools soon heard of the society and petitioned for a charter. The first new chapter was installed at Purdue University in 1906. But that organization "went on the rocks" quite early. It appears that our early members, being young, did not fully understand the workings of college administrations and had not obtained prior approval of the Purdue officialdom. The President of Purdue required that the charter be

withdrawn, which was done. But those already inducted were continued as members of Eta Chapter (a chapter-at-large). In 1913, the Purdue EE administration requested a charter for a chapter on its campus and Beta was reinstated.

Gamma Chapter was installed at Ohio State University in 1907, two more, Delta at Armour Institute of Technology (now Illinois Institute of Technology) and the Epsilon at Pennsylvania State College in 1909. Chapters at Case School of Applied Science (now Case Institute of Technology) and at University of Wisconsin were added in 1910. By then the national characteristics of Eta Kappa Nu were established. Still, growth was not phenomenal and continued at an average of but one chapter a year to 1916.

Scholastic standards observed soon after the founding of Eta Kappa Nu were memorialized in a mild statement written into the Constitution during the Convention of 1913. This set definite numerical limits to the proportion of each EE class that could be elected and required that the by-laws of each chapter must specify definite scholarship standards subject to approval by the

National Executive Council. In general, these standards were specified in grade points. Then, during the latter part of the 1930's, our national officers recommended that each college chapter set the upper fourth of the junior EE class as eligible for membership. This was not made mandatory until 1947, when the requirement of such rating was written into our Constitution at the recommendation of the Association of College Honor Societies, of which HKN had become a member.

During this period several alumni chapters were established and *The Bridge* began publication to act as a vehicle of communication between students and alumni. In fact, it was the idea of the founders, carried through to this day, that Eta Kappa Nu should be more than a campus organization--a man is a member of a campus chapter at most for two years; but he is an alumnus for the remainder of his life!



ETA KAPPA NU in 1905 (Alpha Chapter). Left to right, front row: F. R. Winders, C. K. Brydges, F. D. Smith, M. L. Carr, E. B. Wheeler, M. K. Akers, C. E. Armstrong, and H. S. Greene. Middle row: C. C. Carr, W. T. Burnett, H. J. Weaver, L. V. James, O. Wiemer, L. Moseman, and R. E. Bowser, In rear: L. F. Wooster, M. H. Brightman, H. D. Cornell, T. H. Amrine, G. W. Saathoff, and H. A. Bergert.

HISTORICAL HKN BENCHMARKS

by Larry Dwon

Editor's Note: It is planned that in this series a historical review article will be presented annually, typically in the November issue of BRIDGE. The series will be concluded in the November 2004 issue, so as to coincide with the 100th year anniversary of Eta Kappa Nu.



M. L. Carr
Father of Eta Kappa Nu

THE BEGINNING

This is the first of several articles which will highlight important benchmarks in the evolution of the Eta Kappa Nu Association (HKN). This evolution is the product of voluntary efforts of many dedicated members, many outstanding electrical and electronics engineers, students, educators and those in the industrial practice of engineering. From a single student chapter, in 1904, HKN has become an internationally respected electrical engineering honor society, with many thousands of members and hundreds of student and alumni chapters. All this occurred since 1904. In less than a decade, year 2004 will become HKN's 100th anniversary. These articles are intended to alert and inform members about events in HKN's first 100 years which made it grow and become so well respected.

Hopefully, this historical review will also inspire many more present and future members to volunteer their services to the Association as generously as many predecessors have done so effectively, especially in difficult times for HKN. Older members, who are informed about significant benchmarks that are not reported in this series of articles are encouraged to send them to HKN BRIDGE for future use. Much of the material for these articles is from "History of ETA KAPPA NU" by Larry Dwon, which was published in 1976. The following table summarizes important benchmarks selected

from that document:

SIGNIFICANT HISTORICAL EVENTS

<u>School Year</u>	<u>Significant Event</u>
1904-1905	ALPHA chapter organized at University of Illinois
1905-1906	Electrical Field Yearbook first published
1907-1908	First Eta chapter established at Purdue University
1908-1909	First alumni chapter established in Pittsburgh, PA
1910-1911	First Honorary Member initiated
1911-1912	The BRIDGE first published as annual magazine
1913-1914	First general revision of HKN Constitution
1920-1921	The BRIDGE became a quarterly publication
1927-1928	Executive Secretary and NAB elected by national convention
1930-1931	Biennial national conventions authorized to replace annual convention
1931-1932	A. B. Zerby began personal visits to student chapters
1932-1933	First and last biennial convention was held



should be considered as an expression of the Association's gratitude to all volunteers who helped HKN in any way. There are too many people to whom credit is due to name them all. HKN's future depends on similarly dedicated volunteers as HKN's past has been so fortunate to have had as members.

The foregoing summary tabulation is further clarified by the following brief discussion.

Ellery B. Paine wrote, *"the record of meetings of the founders is highly interesting. They had to settle such details as the design of the key, the colors, the hand grip, the code of signals, the by-laws, membership certificates and the fraternity seal. At the first meeting the question of membership was brought up and was a chief topic for consideration during several weeks."* Actually, it took several years before this problem was resolved in its present form.

"One suggestion was that the entire class should be admitted. It was ... instead to select men in accordance with their ratings under seven following characteristics: interest in work, managerial ability, inventive ability, influence with others, social or business connections, scholarship. Highest weight being given to interest in work and lowest weight being on influence with others and on social connections."

"On December 8, 1904, it was voted to appoint committees to investigate and report on each of the following subjects: Information Bureau, Establishment of chapters in other schools, advancement of electrical engineering department, the electrical engineering society and socials. Within three months definite action was taken It is remarkable how much work was accomplished by this little group in a relatively brief period."

I agree. Having been a volunteer since 1933 on several national and chapter activities, I witnessed similar zeal on the part of HKN members. They truly are a select group of persons. The vitality of HKN rests in its



HKN Historian Larry Dwon

dedicated volunteer members. I hope they continue to be so dedicated and resourceful. The opportunities do exist. HKN's leaders must identify willing members and get them involved the same way I became involved in the New York Alumni chapter in 1935. More on this later.

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