BRIDGE

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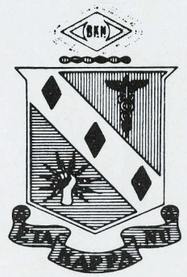

OUR COVER

The Queen Elizabeth 2, passing the World Trade Center in New York, on its way out to sea, introduces our special feature article starting on page 12.

eta kappa nu

Electrical Engineering Honor Society
November, 1981, Vol. 78, No. 1

IN THIS ISSUE

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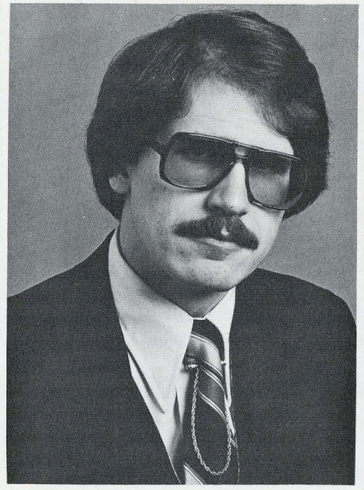
Member Association of College Honor Societies

OUTSTANDING YOUNG ELECTRICAL ENGINEER

Introduction
by
James A. D'Arcy
Chairman, Award Organization Committee

Jesse E. Russell, Sr., is the Outstanding Young Electrical Engineer of 1980. The Award was presented to him at the 45th Annual HKN Award Dinner in New York City on April 6, 1981. The recognition is given annually to young electrical engineering graduates for meritorious service in the interests of their fellow men as well as for outstanding achievements in their chosen profession. At the same ceremony, Warren J. Ayer, Jr. and Steven J. Temple were awarded Honorable Mention for 1980.

Warren J. Ayer, Jr.



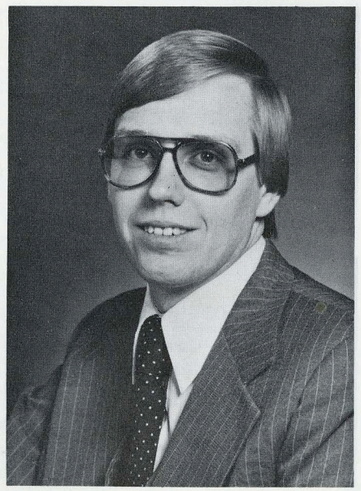
Mr. Russell is a supervisor in the Transmission Analysis Software Development Department at Bell Laboratories, Whippaney, New Jersey and was named Outstanding Engineer for his "original contributions to the field of telecommunications network support systems and for his involvement in civic and career guidance activities."

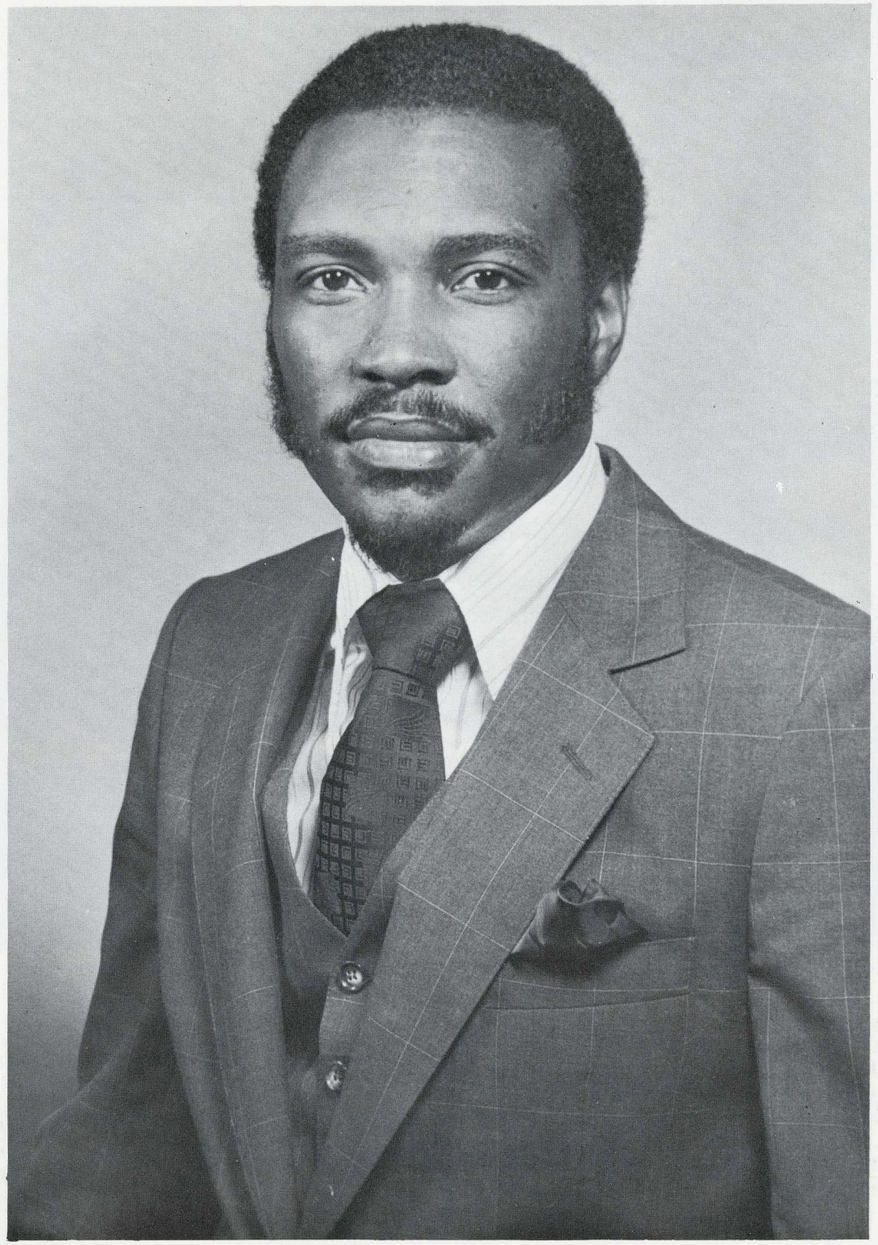
Dr. Ayer is manager of an engineering group at IBM Corp., Essex Junction, VT. He received his honorable mention for "contributions to the field of semiconductor memory technology and for his involvement in church and community activities." Mr. Temple is a senior engineer at Raytheon Co., Bedford, Massachusetts. He received his honorable mention for "contributions to the field of microwave amplifiers and for his involvement in church and professional activities."

The award winners were honored both for their contributions to electrical engineering and for their contributions to society at large. Mr. Russell was nominated by Jess Chernak, Executive Director, Bell Telephone Laboratories, Whippaney, New Jersey. Dr. Ayer was nominated by Raymond P. Sopher, Manager of process development, IBM Corp., Essex Junction, Vermont. Mr. Temple was nominated by Charles Jacobs, Vice President & General Manager of the Missile Systems Division of Raytheon Co., Bedford, Massachusetts.

The Eta Kappa Nu recognition is awarded to emphasize among electrical engineers that their service to mankind is manifested not only by achievements in purely technical pursuits but in a variety of other ways. Eta Kappa Nu holds that an education based upon the acquisition of technical knowledge and the development of logical methods of thinking fits the engineer to achieve substantial success in many lines of endeavor. ➡ 6

Steven J. Temple





Jesse E. Russell, Sr.

1980 Jury of Award
The 1980 Jury of Award Meeting (Seated L to R): Mr. S. William Shields, Senior Vice President, Nuclear Division, Public Service of Indiana; Dr. John Hancock, Dean of Engineering, Purdue University; Major General Emmett Paige, Jr. (Jury Chairman), Commanding General, U.S. Army Communications Research and Development Command; Dr. William Webster, Vice President of Research, RCA Corp.; (Standing L to R): Mr. James A. D'Arcy (RCA Corp.), Chairman, NKH Award Organization Committee; Mr. Donald Christiansen, Editor and Publisher, IEEE Spectrum; Dr. Alan Stoudinger, Chairman, Electrical Engineering Department, Tri-State University.

The Jury of Award, appointed by the National President of Eta Kappa Nu, with the approval of the National Executive Council, consists of two present or past national officers of Eta Kappa Nu, and three or more prominent American educators or industrialists. This year the jurors were: Mr. Donald Christiansen, Editor & Publisher of IEEE Spectrum; Mr. James A. D'Arcy (RCA), Chairman, HKN Awards Organization Committee; Dr. John Hancock, Dean of Engineering, Purdue University; Major General Emmett Paige, Jr., Commanding General, US Army Communications R&D Command; Mr. S. William Shields, Senior Vice President, Nuclear Division, Public Service of Indiana; Dr. Alan Stoudinger, Chairman of Electrical Engineering, Department of Tri-State University; Dr. William Webster, Vice President of Research for RCA.

Nominations for the award are solicited each year through the Eta Kappa Nu award organization committee. Nominations may be made, by any member, or group of members, of HKN, by any section or group/society of the Institute of Electrical and Electronics Engineers, by the head of the EE department of any US college or university or by other individuals or groups, who in the opinion of the award organization committee are properly qualified to make nominations.

The nominations for the 1981 awards should be submitted to the Chairman of the award organization committee, or to the Executive Secretary of HKN, by June 30, 1981. Any candidate who, by May, will have been graduated not more than 10 years from the regular electrical engineering course (BS in EE or equivalent) of a recognized US engineering school or who will not yet have reached his 35th birthday, is eligible.

Awards are made based on (1) the candidate's achievements of note in his or her chosen work, including inventions of devices or circuits, improvements in analysis, discovery of important facts or relationships, development of new methods, exceptional results in teaching, outstanding industrial management, or direction of research and development, (2) the candidates's service for community, state or nation, such as activity in philantropic, charity, or social enterprises, leadership in youth organizations, or engagement in civic or political affairs, (3) the candidates's cultural or esthetic development, such as good work done in the fine arts, architecture or the drama, and courses taken or studies made in historical economic or political fields, and (4) any other noteworthy accomplishments including participation in professional societies and other organizations. The Award Organization Committee members are James A. D'Arcy, RCA "SelectaVision" VideoDisc Operations (Chairman); Irving Engelson, IEEE Vice Chairman); Frederick A. Russell, New Jersey Institute of Technology (Secretary); Clarence J. Baldwin, Westinghouse Electric Corporation; Herbert S. Bennett, US Army Electronics Command; Donald Christiansen, IEEE Spectrum; Larry Dwon, Consultant (Formerly American Electric Power Service Corp.); Albert Fakheri, American Electric Power Service Corp.; Anthony F. Gabrielle, Gulf State Utilities; Quayne G. Gennaro, New Jersey Bell Telephone Co.; Willard B. Groth, IBM; Everett A. Lee, General Electric Co. (ret); Robert W. Lucky, Bell Labs; George A. Mangiero, Brooklyn Polytechic Institute; Steven A. Mallard, Public Service Electric & Gas Co.; Ralph J. Preiss, IBM Corp.; Sheldon J. Raiter, IBM; Berthold Sheffield, RCA (ret); Lawrence D. Weschler, General Electric Co.; and Roger I. Wilkinson, Bell Labs (ret).

When you send an address change to national headquarters please send the old address and old Zip Code number as well as the new address and new Zip Code number.

THE ETA KAPPA NU COLLEGE OF BENEFACTORS

SUPREME BENEFACTOR

Edith Ann Koerner

Paul K. Hudson

HIGH BENEFACTOR

Helene Koerner Gahlen

Lloyd Hunt

Fritz A. Koerner

BENEFACTOR

Marc Dodson

Larry Dwon

Irma Hanson

Fred Harrell

Edward Jordan

Eugene Mueser

Everett S. Lee

Howard H. Sheppard

Alan R. Stoudinger

Joanne Waite

MERRY MOMENTS WITH MARCIA

When a fellow is kicking, he has only one leg to stand on.

* * *

If only a person could lose weight as rapidly as a big roast does between the grocery store and the dinner table!

* * *

Watch it — Gasoline may be hazardous to your wealth.

* * *

It's better to sleep on what you plan to do than be kept awake by what you've done.

* * *

A man up for parole had worked several months in the warden's kitchen. His last act before leaving was to ask the warden's attractive wife if he could meet her after he got out.

In a hastily called meeting, the board revoked his parole.

Reason: Never end a sentence with a proposition.

* * *

Don't ever overlook an opportunity to make other folks happy — even if you must leave them alone to do it.

WHY WORRY

There are only two things to worry about — either you are well or you are sick. If you are well, then there is nothing to worry about. But if you are sick, there are two things to worry about. Either you will get well or you will die. If you get well there is nothing to worry about. If you die there are only two things — either you will go to heaven or hell. If you go to heaven there is nothing to worry about. But if you go to hell, you'll be so busy shaking hands with friends, you won't have time to worry!

* * *

Don't let the mistakes of yesterday and the dread of tomorrow ruin the only day you have — which is today!

* * *

I've heard that inflation is a stab in the buck.

* * *

Committee: a group of people who talk for hours to produce a result called minutes.

* * *

They say having to lose weight is the penalty for exceeding the feed limit.

* * *

An uptight person is a self-taut individual.

* * *

TODAY'S SMILE

A moonlighter is a man who holds day and night jobs so he can get from one job to the other in a better car.

* * *

They tell me getting off on the wrong foot is bad, but not as bad as stepping on the wrong toes.

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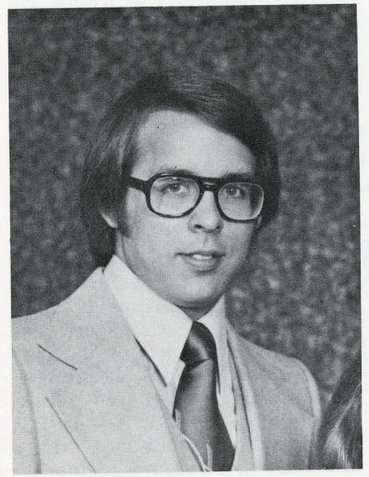
by MARCIA PETERMAN

CHAPTER NEWS



James Barnak

James Barnak, 23, President of The Pennsylvania State University Chapter of Eta Kappa Nu, was suddenly killed on December 25, 1980 in an automobile accident near his home in Allentown, Pennsylvania.

In his role as President, Jim's best qualities of ambition, enthusiasm and congeniality were clearly shown. He was directly responsible for many of the social and academic accomplishments of the Eta Kappa Nu organization.

In addition to Eta Kappa Nu, Jim was also a member and social committee chairman for Tau Beta Pi, a member of IEEE and a member of the Golden Key National Honor Society.

So he could graduate at the end of Winter Term, with a B.S.E.E., Jim carried course overloads his last two quarters. His future plans included joining the Solid State Device Laboratory at The Pennsylvania State University in the Spring to pursue an M.S. and then possibly a Ph.D. He was going to research the characterization of silicon for VLSI technology.

Jim was an outgoing, friendly and good-humored guy. He was well liked among his peers and he contributed much to Eta Kappa Nu and the Electrical Engineering Department. The impression he made on his fellow electrical engineering students and on the faculty will never be forgotten.

DELTA CHAPTER, Illinois Institute of Technology — With the initiation of eighteen new members into Eta Kappa Nu this semester, the Delta Chapter plans to become much more active in activities on the IIT campus this year.

The induction ceremony for the new members was held on November 23, 1980. After the ceremony, the members and their guests attended a dinner at the Mandar Inn in Chicago's China Town.

At the first general meeting this semester, four new officers were elected to fill vacant posts. In addition, plans were made for next year's activities. Included in these plans is a tutorial program to help undergraduate students in EE courses. The election of next year's EE instructor of the year is also being set up. Two social events have been slated for next year — a student rec night in IIT's game room, and a semi-formal party for both students and faculty members.

In general, the Delta Chapter of Eta Kappa Nu hopes to become a stronger organization on campus. It will help EE students in their coursework, and it will continually work to build a better relationship between students and faculty members at IIT. *by Tom Cloonan*

DELTA TAU CHAPTER, Southwest Louisiana — The University of Southwestern Louisiana Delta Tau Chapter of Eta Kappa Nu concluded the Spring semester with the induction of five new members. One week later, the annual banquet was held at the home of Dr. Stephen J. Gold (our faculty advisor). The new officers, whose election took place the night of the banquet are: Barney Robertson, President; Gary Sonnier, Vice President; Ricky Weintritt, Secretary; Lee Johnson, Treasurer; and George Ardoin, Bridge Correspondant.

The Spring semester was a productive one. The members were involved in an interesting but complex project. The project involves writing, debugging and simulation (on the local computer - Honeywell 6880 - Multics System) of several numerical analysis programs that can be implemented on TI-58(C) and TI-59 calculators. This is a continuing project in which more programs will be added to the collection and the existing programs will be modified so users of H-P calculators can also use the programs. The programs are made available to all engineering students for only the cost of the reproduction of the copies.

At the next meeting the final plans will be drawn up to implement a new project; a tutorial for beginning electrical engineering students. Each member of HKN will donate one hour a week to assist beginning EE students with any academic problems they may have. *by George E. Ardoin*

BETA PSI CHAPTER, University of Nebraska — During the fall of 1980, we, the members at the Beta Psi chapter of Eta Kappa Nu made it our goal to become more active on the University of Nebraska campus than in previous years.

We offered tutoring sessions and scheduled them on different nights of the week in order to give all students a chance to seek help. We also made plans to compile a pamphlet

describing how to operate an oscilloscope.

To help teachers to adjust to a class during the semester, we offered mid-term evaluations. By responding to areas of student concern, the teacher can better benefit his class.

In order to make the Beta Psi chapter in Lincoln more efficient for the present and the future, we went through the old files to establish long-term problems. We noted that lack of attendance, member activity and lack of interest shown by pledges was a definite concern. We also noted that new officers often didn't know what their duties were.

As a result of our findings, we heavily publicized meetings, tutoring sessions, and other activities through notices and the college newsletter.

We also discussed invoking rules of active membership to increased attendance. That decision will be acted on in the Spring of 1981. Each officer was also asked to outline his duties throughout the semester for the proceding administrations to use.

To reward our efforts of the semester, we had the largest recruitment of new members in nearly a decade. *—by Paul Heumphreus*

GAMMA XI CHAPTER, University of Maryland — The Fall semester was off to a good start with our chapter meeting on September 8. Many new ideas were introduced and our committees were organized. We also started work on our Smoker to attract new members. It was held on September 15 and we had a good turnout of interested people.

After the Smoker, working with a group of very enthusiastic electees, our chapter organized some new functions and continued or expanded existing ones. We held our course on the use of the university's computer terminals and helped many students who were seeking an alternative to the punched card.

We also initiated a new type of tutoring program for a couple of the sophomore electrical engineering courses. This was later expanded to include all the electrical engineering courses offered this semester and almost every member and electee was involved. Our tutoring program enabled the department to open a terminal room for general student use which was previously only for graduate students. These programs aided many students and also helped unite our membership.

To encourage faculty/student interaction, we organized weekly meetings between interested students and a group of faculty. Also, the display case containing faculty pictures was updated to aid new students in becoming familiar with the faculty.

Our initiation was held on November 7, and 18 new members were initiated. The party afterwards was very successful and enjoyed by all.

During the preregistration session for the spring semester, we organized informal advising sessions to assist new students or students unfamiliar with the faculty in the selection of teachers and courses to match their needs.

At our last chapter meeting we decided to nominate our president, Carl Stahle, to the outstanding senior competition and elected a new bridge correspondent. Our meeting was followed by a wine and cheese party which finished off this successful and enjoyable semester. *by Thomas Loftus*

EPSILON NU CHAPTER California State College at Los Angeles — Eta Kappa Nu, Epsilon Nu Chapter, California State University at Los Angeles, had their semi-annual initiation and business meeting December 5. Ten new members were pledged and several were elected to offices in the Epsilon Nu Chapter. The new members are: Gary Evans, Bridge Secretary; Daniel Poole, Treasurer; Nick Efthyvoules, Vice President; Rami Wissa, Correspondence Secretary; Stuart Muradami; Authur Speigal; Dwight Streit; Cheukming Chiu; Lwag-Ching Tong; Reza Charoogaie.

Julio Illingworth took over the Presidency from Robert Malcom. Robert has done a fine job and was re-nominated but declined because of office commitments.

Following the business meeting a dinner was served in honor of the new members of Eta Kappa Nu and Tau Beta Pi. Dinner arrangements were made and co-ordinated by Martin S. Roden, Dean of Electrical Engineering. Dean Roden arranged to have John Trapani from Walt Disney University give a presentation regarding new adventures into "imagination" by Walt Disney Enterprises.

Members of Epsilon Nu will participate in Engineering Week activities at CSULA. A field trip is planned to the Los Angeles Times as part of Engineering Week. The Los Angeles Times depends heavily on electronics for the production of their newspaper. V. A. Giroux, Epsilon Nu Advisor, is helping to co-ordinate the field trip and activities. *by Gary Evans*

DELTA GAMMA CHAPTER, Louisiana Tech — Cameron H. G. "Cam" Wright has been selected outstanding sophomore electrical engineer of Louisiana Tech University for the 1980-81 school year by the Delta Gamma Chapter of Eta Kappa Nu, based at Louisiana Tech.

Wright is 25 years old and a former U.S. Navy electronics specialist. Wright has been on the president's list, dean's list, and is a member of Pi Mu Epsilon mathematics honor society and chairman-elect of the Louisiana Tech chapter of the institute of electrical and electronics engineers.

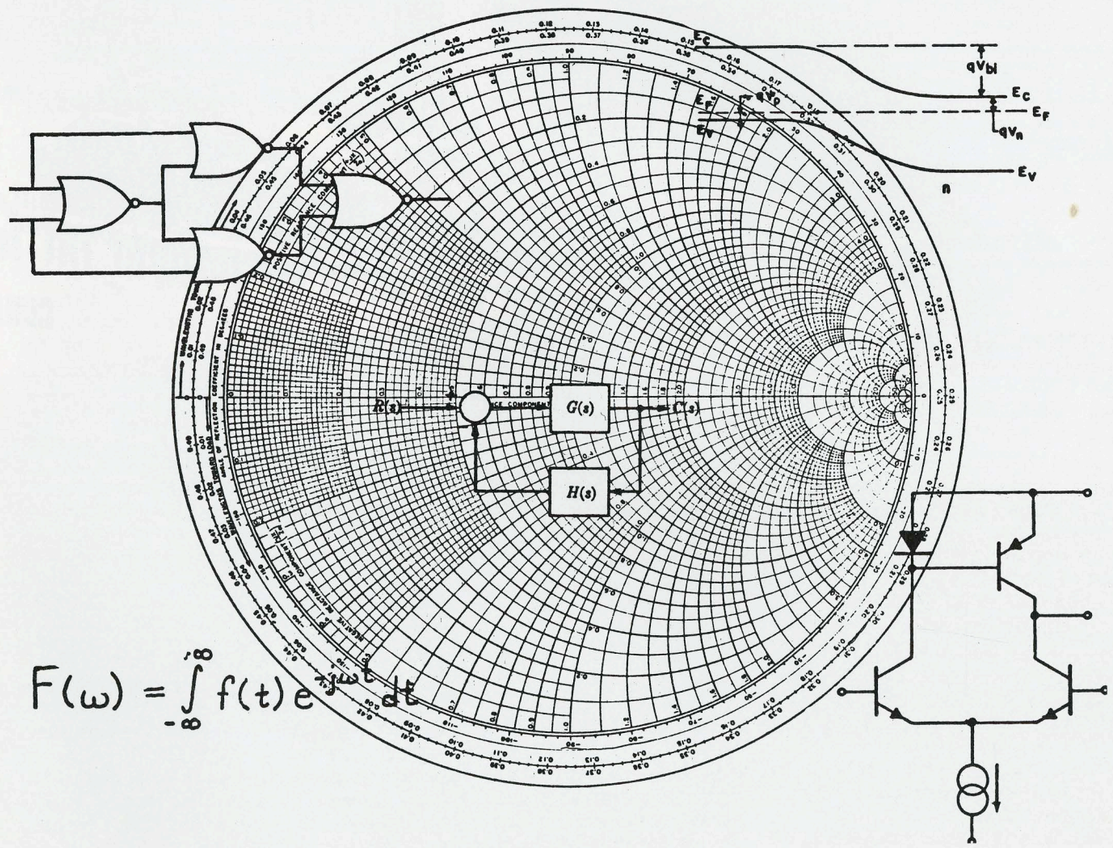
Last year's outstanding sophomore was Nicky Aikens of Bossier City, LA. *—by Randy Hall*

BETA CHAPTER, Purdue University. On the opposite page is shown the cover of the Resume Book published by the Chapter. The book, with the Resume of each Senior and Graduate Student, runs to 250 pages and is sold to companies. The Chapter derives a large profit from the sales.

➡ 22

1980/1981 ELECTRICAL ENGINEERING RESUMĒ BOOK

Provided by BETA CHAPTER of ETA KAPPA NU



A Stranger At The Court Of Saint James

« Part One »

Getting There Is Half The Fun

A first-class stateroom

A first-class dining room

Text by
PAUL K. HUDSON
Bridge Editor

Photos by
CUNARD
Shipping Lines

Going to China, or maybe Siam
Far away over the sea...

China or Siam? No, not really. Far away over the sea? Yes! Where then? Europe — England to be exact. How to get there? Well now, that is a real question. Columbus crossed the Atlantic in a *Sailing Vessel* and so did everyone else for the next 350 years. It is still being done but it is a chancy and irregular business. You may wander all over the place before you get to where you are going. Or hang around a while in a calm. No, it is not the best way for passenger service. Samuel Cunard recognized this a little over a century ago when he conceived the idea of regularly scheduled transatlantic *Steamship* service. The Cunard company has been the leader in this field ever since. But there are other ways to get across. The cheapest way is to row your own *rowboat*. Several people have done this since Chay Blyth and John Ridgeway showed that it was practical — well at least possible. However, the trip is long, the food is poor, and the entertainment miserable. The next cheapest way is to go in one of those flimsy crates they call *airplanes*. It is a poor way to go — white knuckles —claustrophobia — I hope that insurance policy does not get lost in the mail. Cheeze, what a way to take a vacation. Oh??? you say you have only two weeks for your vacation and must take a plane? Well let me make a suggestion. Spend the entire two weeks on the Queen Elizabeth 2. It is a floating resort-hotel like no other place in the world. Go to England, spend a day in Southampton, get back on the ship and come home. You get a round-trip for the price of one-way. The return trip is free. No where in the world can you find a vacation spot the equal of it. We decided to take the boat — pardon please — the ship. (A boat is defined as something that can be hoisted aboard a ship).

In the glory days of transatlantic passenger shipping, Cunard ships were household words. There was the Aquitania, Mauretania, Berengeria, Luistania, Carmania, Franconia, Queen Mary and Queen Elizabeth. At one time, the Cunard advertising slogan, *Getting there is half the fun*, was well known throughout the entire world. The last great transatlantic liner, the Queen Elizabeth 2, entered service in 1969 a luxury Atlantic liner for half the year and a cruise ship the other half. It is the last bastion of a mode of travel and a way of life —the highest expression of the shipbuilders art. Technically it is a masterpiece of workmanship with a sophisticated high-pressure steam turbine far ahead of its time. Space saved by technical advances in the power plant makes it possible for this ship of 67,000 tons to carry almost as many passengers as the old Queens at 80,000 tons and at about the same speed. The Queen Mary required 24 boilers and the Queen Elizabeth just 12. The QE2 has only 3.

The future of transatlantic steamship travel rests solely with the QE2 and an occasional positioning voyage by one or the other of the world's small cruise ships. Beyond the QE2 lies only conjecture and a dream. Perhaps there will be a technological advance that will make a great new passenger ship possible. It is a remote likelihood, but a dream that ship-lovers like to keep. Until then, the QE2 is the last.

The QE2 was scheduled to leave the passenger terminal in New York City at 5:00 P.M. At 4:55 we slid out into the Hudson River and headed towards the open sea. Cunard does not get their employees from *Amtrak*. We were standing on deck, with the World Trade Center passing on the left and the Statue of Liberty on the right, when I had a strange sensation that I could not identify. It was a sense of alarm — a sense of danger. Something was warning me about something. But that was ridiculous. A QE2 passenger is in very little danger. There is always the possibility of fire, but it is very remote, and rescue in the shipping lanes of the North Atlantic is quick and easy. And besides, I have always loved the sea. When I was a civilian scientist attached to the Navy I had several scrapes in small ships and enjoyed every minute of it. I was once on board a submarine in the Atlantic when the waves became so high we had to dive to get out of them. When we got down about 250 feet the ship promptly caught on fire. I had a thoroughly nice time. Another time I was at sea in a small personnel boat when the waves started going completely over the top of us. We did not capsize but did not miss it by much. Again, I thought it was great fun. I love the sea. So there is no way the QE2 could give me any anxious moments, even if there were an emergency. And yet, I had a feeling that something was wrong. An hour later when we were on our way to the Tables of the World dining room, we passed the Theater Bar, and the feeling came back to me in spades. I stopped and stared at the Bar. I had never been on this ship before and I never frequent Bars anyway, but I had seen this Bar before. Then a passenger walked up and when the bartender spoke to him, everything came into register. I was *Outward Bound* — a movie I had seen so many years ago that I had all but forgotten it. The story takes place on a large ocean liner like the QE2, but none of the passengers can remember why they are on board or how they got there. In one scene a man walks up to the Bar and orders a drink, but when he tries to pay for it, the Bartender says, "No, we do not take

money here — the drink is free. Later a man in a white suit comes aboard from a personnel boat and sets up court in the ballroom. Then everyone realizes why he is there. They are all dead and this is judgement day. How they answer, will determine their port of call. How could a movie like this end happy? Well, it did. A young couple is walking on the deck when they hear some glass breaking. The girl starts to scream and run down the deck. A deck-hand shouts to the man, "Don't let her go — go after her — stay with her." So the man runs after her and they wake up together in a room alive. They had been overcome by a faulty gas heater. The glass breaking was a window being broken by some children playing baseball outside. The broken window let in some fresh air that revived them. I no longer had any cautious feelings about the QE2, and walked on into the Tables of the World to a delicious dinner with two dear old ladies from England who responded to most everything I said by replying "What an ex-TROID-inary idea."

After the first night, passengers are assigned tables in the dining room for the entire voyage and most of the tables are for four people. Our dining partners were a very friendly and interesting English couple. They were having a ball on a 10 day vacation on the QE2. They boarded at Southampton, spent a day in New York and were now on their way back to Southampton. Meals run to 10 courses and if you wish, and can hold it all, you can order all the items in each course.

After dinner we stood on deck and watched the sun go down and the moon come up over the ocean. Next a choice had to be made. Either to attend a floor-show and a bon-voyage party or go to the movies. The movie was the Russian Bolshoi doing Swan Lake in technicolor. We could not decide so we did a little of both. Next we were fortunate enough to break even, after a few minutes in the Casino. Then to bed, for tomorrow was another day and we did not want to miss any of it. It is my private opinion that sleeping in a cabin of an ocean liner is one of the greatest joys that can come to a person in this life-on-earth. As I was dozing off I thought of Emma Willard's poem that ends:

Oh calm and peaceful is my sleep
Rocked in the cradle of the deep.

For transatlantic class passengers on the QE2 the most important of the many places to be are the Double-Room and The Theater. The Double-Room is so called because there is an upstairs and a downstairs. The downstairs is a large lounge and dance-floor and there are activities of all kinds during the entire day and evening. There is a coffee hour in the morning, tea-time in the afternoon, dance classes, slide presentations, and other things all day long. Bingo, a floor-show and dancing in the evening. The upstairs is another lounge and a shopping arcade with stores completely around the room. The 532 seat theater is adjacent to the Double-Room and is used for live-theater

presentations, movies, and lectures.

On board with us was Phyllis Newman, the actress, and her husband, Adolph Green, the composer. Adolph probably would prefer that I use his name first, but Phyllis is much better known to the rank and file because of, among other things, her frequent appearances on the Johnny Carson show. Phyllis gave a lecture the first day which included parts of her solo Broadway production *The Mad Woman of Central Park West.* On the second day Adolph gave a lecture outlining his many years in the theater, and sang several of the songs he wrote many years ago. He was a real delight. It was obvious that he had all the talent that was needed to make it big in the theater, but he explained that his career got a big boost from his friendship with Leonard Bernstein. When they were young they met at a summer resort where both were entertainers. Adolph loved classical music and had listened to it frequently over the years of his young life. One afternoon Leonard played several pieces of music on the piano and asked Adolph to identify them, which he did. Then he mixed in a number that Adolph had never heard before and he stated that fact. That was when the friendship began. Leonard had just made up the music as he played it to see if Adolph would claim to have heard it when in fact he had not. Truthfulness and sincerity paid off and sometime later Leonard arranged some commissions for Adolph.

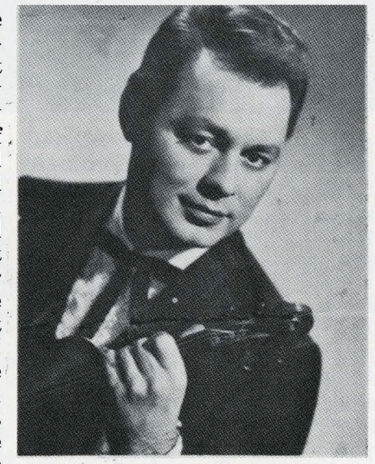
On the third day Phyllis and Adolph came to the Double-Room and had a rap session with the passengers. After it was over, I said to Phyllis, "If I wanted to send you a greeting, where would I send it?" She gave me their home address. I was deeply touched. I had supposed that she would give me the address of her agent or theater, or something. Her happiness of heart and spontaneous laughter are the real articles and not a put-on. She could make a stone come to life. Adolph had written the songs for the play *On the Twentieth Century* and some of the songs for *Peter Pan.* When we got to England we saw the first one and when we returned to New York we saw the other one. It made both evenings more enjoyable for us, having met the composer.

There were 1800 passengers on board and several were delightfully flakey. One was a little old man of about 80 who walked around all the time with bells tied to his feet. They were not intended to prevent him from catching birds or to make it possible for his wife to catch him. He just loved the sound of bells and this arrangement made it all possible. The other was a man of about 50 who showed up at the passenger dock in a chauffeur-driven limousine. But after he got on board he went around in ragged shorts and t-shirt. He would stand on chairs and recite bible verses to anyone who would listen, dance all the dances without a partner, and engage in other interesting activities. On the third day out he somehow flooded his cabin and tried to

mop up the water with the mattress of his bed. Finally he dragged the mattress out into the hallway and went to sleep on it, holding up an English flag in one hand and an American one in the other. That was the last anyone saw of him until the boat landed. Cunard is a no-nonsense outfit and does not assume that the passenger is always right. I do not know what happened to him but I saw him again just as we were getting off the ship and he was very subdued.

The floor shows were quite varied but usually included a chorus-dance-line of beautiful girls in skimpy but elaborate costumes. They were the same girls who, dressed in slacks in the afternoon, taught us to folk-dance. One night, as part of the evening's entertainment, the concert artist Sasha Tormas played several numbers on his Stradivarious. About half-way through his program the chit-chat audience became very silent as he played the lovely and deeply moving *Meditation* from the second act of Thais. At the same time I saw flashes from a distant storm show through the large side windows of the lounge. It has often been said that when the blood cools, the mind clears. I thought about how people, as they grow more mature, spend more time in meditation on that last great storm which, however far away it may seem to be at the moment, will eventually arrive. At the end of his part of the program, I thanked Tormas for the pleasure he had brought, and commented on how beautifully his Stradivarious was finished. He replied, "Come back stage when the show is over and I will let you play it." The only thing I can play from memory on a violin is *Flow Gently Sweet Afton*, and I did not think I wanted to insult his ears and Strad. with that.

It is possible to be a passenger on the QE2 (as we were) for a reasonable price. On the other hand you can pay as much as you wish. A ticket for the best cabin on the world cruise comes to $220,000.00. However, we noticed that the passengers who looked and acted rather poor, usually were the ones with the money, while the ones who tried to act rich were really the poor ones. At tea one afternoon we struck up a conversation with a lovely couple from Kansas. They opened their hearts to us and told us about their likes, dislikes, family problems, and other things that only people from "down home" talk about. At one point they mentioned that they took this trip because they had to cancel their tickets on the world cruise. Her mother was ill and she could not leave her for such a long stay. I asked what business he was in and he replied, "I buy and sell grain." In Illinois, anyone who is even on the Board of a large grain elevator is fairly well off, so I said, "Do you own your own elevator?" She replied, without a hint of boast, but more like an apology, "My father left me a number of elevators in West Kansas."



Sasha Tormas

We met an electrical engineer from London who had been on a business trip to the U.S. He explained that he used to go by plane but had to tell his company that he would not do it any longer. The company always requested that he fly from London to Cleveland for an afternoon conference, then fly back to London and go to work. London to a conference in Cleveland and then back to London is a 24 hour day. And then go to work??????

Pleasure is where you find it and I have to admit to a tiny bit of girl-watching. But don't get excited, it is not what you think. Assigned to the table next to ours in the dining room was a married couple of about 30 with some small children. The woman was very beautiful and nicely made with a flat tummy and not an ounce of unwanted fat anywhere. Her eating habits were delicate, femimine, and charming. Her table manners were exquisite and appealing. She would make an excellent addition to anyone's dinner-party, except for one thing. She just about ate Cunard out of house, home and ship. She took on enough for a brace of lumberjacks on a frosty morning. There are some things in this world that I do not understand and can not explain. I heard a woman at another table say, as she slurped her soup, "The kids can't be hers." I took glances when I could and regretted that I had not been assigned to her table so that I would have had a better seat for the show.

I was at the other end of the eating spectrum. Several months before the trip I had a major surgical operation that left my internal arrangements not fully operational in a manner to which they were formerly accustomed. I was OK but had to be careful and take things easy. One day at lunch I ate entirely too much and, to top it all off, the table steward talked me into a large portion of deep-dish apple pie. An hour or so later I felt like a big football player had kicked me in the stomach. I went to my cabin but I could neither stand up nor lie down. There was a large ledge under the port-hole so I went over and rested my arms on that and sort of hung there like hanging on a clothesline. I was vertical but had to put up no effort to be so. In a little while the pain started to let up and I started to enjoy looking out at the sea. Medium waves of fairly constant amplitude, frequency and velocity were coming in at the ship and were then reflected back. Standing waves were established that sometimes reached almost two wave-lengths. I was thinking through the equations and had no trouble until I got to gamma. I did not try very hard because I was thinking how beautiful were the waves and the sea itself. Lots of people have fallen in love with the sea and, fortunately, some of them were creative-types. Among them were Masefield, Hemingway, Debussy, and others. I tried to hum a few bars of Debussy's famous tone-poem *Dialogue of the Wind and the Sea* (La Mer) but it was not easy. His music often rises above music and becomes a living presence. The idea of a dialogue between the wind and the sea is beautiful and thoughtful. In some ways it is a man-woman relationship. Most of the waves of the sea are caused by the wind. It controls the sea and yet it does not own it. It made me think of Longfellow's Hiawatha:

Part of the shopping arcade in the upstairs section of the Double Room

As unto the bow the cord is
So unto the man is woman
Though she bends him, she obeys him
Though she draws him, yet she follows
Useless each without the other.

By analogy, the wind is the woman and the sea is the man. The man, as always, wants her person, and that is attainable. But having attained it he realizes that that was not what he wanted. He wants her spirit because he knows that she is a divine creature and will lead him to the Holy Spirit. But that is not attainable. And so he is troubled, frustrated, hurt and angry. He rages, crashes and storms. Finally he realizes that there is nothing to that and becomes more quiet and calm — resigned to a life in which there is no fate but destiny and no world but this. But then he considers that he must be wrong, and starts again. It is all there in Debussy's tone-poem. My stomach stopped hurting and I came out of my reverie. I went upstairs to the Double-Room and listened to one of the ship's bands play for afternoon tea.

After tea, as we sat in the lounge looking out over the sea, we saw a tiny bird come fluttering over the waves. He was not fishing — he was much too tiny for that — he was just having a nice time enjoying life and the sea. We were at least a thousand miles from any land. Occasionally he would land on the water and just float for a while. When a breaker came at him he would scoot out of the way, apparently having learned the wisdom of that. He lived on the refuse that was dumped from ships in the shipping lanes, but that did not hurt his pride and he was delighted to be alive. We were told that he would live over the ocean for several months before heading back to land. And when he wanted to go back to land, how would he know the way? Who would guide him? I thought of the lines in Bryant's poem:

Part of the Tables Of The World restaurant, for Transatlantic class passengers.

There is a Power whose care
Teaches thy way along a pathless coast,
The desert and illimitable air,
Lone wandering but not lost.

What hauntingly beautiful words: *Lone wandering but not lost.* So it is God that teaches the bird which way to fly. But how does he do it? Does he yell at the bird in bird language and say, "Hey bird, fly this way? Of course not. The bird rests peacefully on the water and considers his problem. He says to himself, "I want to do the right thing — I want to fly the right way — not necessarily the way the other birds are flying — not necessarily the easiest way with the wind — but the right way — I want to do the right thing. And while he is saying this, God enters into his thought processes and tells him the right way to fly. We are all like that little bird. We do not live over a vast ocean, but we live in a very big world where all sorts of things are expected of us, all sorts of demands are made on us, and very large problems sometimes are presented. When that happens we should do what the little bird does — sit in some quiet place and say to ourselves — I want to do the right thing — I want to do what is right — not necessarily what other people want me to do — not necessarily what will solve the problem the easisest way — but do what is right — do the right thing — fly the right way. And while we are saying this, God will enter into out thought processes and tell us what we should do. Then we will know that we are close kin to the little bird — lone wandering perhaps, but not lost.

Then I thought about how, in an ocean as vast as the north Atlantic, this ship we were on — the QE2 — was really no larger than the tiny bird, and we, like it, were lone wandering but not lost. Thinking farther, the planet Earth we live on is but a tiny speck in the vast ocean of our galaxy — and it also, is lone wandering but not lost. And our galaxy is but a speck in the breath-taking and unimaginable ocean of intergalactic space. It too, is lone wandering but not lost. Finally our galaxy and all the others we can and can not see are but atoms (Bohr did not get it quite right) of an organic cell in the happy heart of a tiny bird fluttering over a great ocean. Lone wandering but not lost. Ah, is it all true? It doesn't matter either way because there really is a Power who cares.

The last night out the Captain threw a party for the passengers. The fog had come in that day and I asked him how he knew where we were since he could not see either the sun or the horizon. He replied that the ship ran itself and did not need a captain except for emergencies. Before they start out they plot the entire course into a computer. The computer also gets their position (at all times of the day and night) from the satellites (Comsat). When the position obtained from the satellite does not agree with the plotted course, the error is used automatically to correct the rudder to bring the ship back onto its course. We talked briefly about the *Titanic* and he confirmed some things that we had heard in a lecture that morning. The *Titanic* would not have been sunk if it had plowed straight into the iceberg. The bow of the vessel would have been caved in but the water-tight compartments would have kept the ship afloat, at least until they reached land. The *Titanic* sank because the Captain tried to miss the iceberg and didn't quite do it. The iceberg tore out one whole side of the ship. We were deeply touched to learn that the Engineering Officers of the QE2 have purple between the bars on their shoulders in memory of the Engineering Officers of the *Titanic* who gave up their lives by staying at their posts to keep the engines running so that the ship would have lights until the very moment it went under.

The next day there was the excitement of "landfall." We could not see France because we were so close to England and the channel is very wide in that area. However, we saw a number of the channel islands. We docked at Southampton because the Thames is not large enough to float a vessel like the QE2 as far as London. Getting off the ship is not like walking out of a theater. There were 1800 passengers and 900 crew members. We sat in the Double-Room until we were called. It took two hours. We were greeted by our good friend Ben Bennets, of the University of Southampton. He apologized for the rain and explained that the sun had shown that morning. There was no need to apologize as we did not come there for the weather. We intended to have a most enjoyable time on that beautiful, wonderful and historic island of Great Britain, and no way was the weather going to bother us at all.

Deck games on the Queen Elizabeth 2

A two-hour bus ride brought us to London where we checked in at the Royal Lancaster Hotel on Lancaster Square. It was now quite late in the evening but the Mediterranean coffee shop was still open and served a tasty supper. Back in the room I felt some disappointment. I did not feel that I was in a foreign land. It was like I was in a large American city. Then I turned on the TV to get the news and weather. I was used to the weatherman showing a map of the United States and telling about storms being formed in western Canada. This weatherman showed a map of England and talked about storms being formed in the North Sea. I now felt like I was in a foreign land.

John A. Tucker Honored

At its annual Awards Convocation, held May 11, 1981, the Massachusetts Institute of Technology presented John A. Tucker, with its prestigious Gordon Y. Billard Award "in recognition of exemplary service to the Institute."

Mr. Tucker is a past National Director of Eta Kappa Nu and served for many years as the Faculty Advisor of Beta Theta Chapter at M.I.T.

The Billard Awards are made from a fund established by Gordon Y. Billard, a member of the class of 1924. They are given annually for special service of outstanding merit performed for the Institute.

The award was presented by Dr. Paul E. Gray, M.I.T.'s president. The Citation read, "sometime Departmental administrator, Executive Officer for Student Affairs, advisor to student honorary and professional societies; perpetual enhancer of student-faculty relations, and for 12 years Director of the VI-A Cooperative Program in Electrical Engineering & Computer Science; but, above all, warm friend to everyone whose path you cross, wherever located and of whatever age. You have striven unflaggingly to make your Department and M.I.T. memorable for each of us in not only intellectual but also emotional terms."

Mr. Tucker joined the M.I.T. staff in February 1956 following service with the Bell Laboratories, Inc., and the New England Telephone Co. He is currently Director of M.I.T.'s largest work/study program which leads to the combined Bachelor's and Master's degrees at the end of five years of study.

Above photo—John Tucker at left, and Gordon Billard.

BETA NU, Georgia Tech—We conducted two initiation ceremonies in the school year, including 37 new members on November 21, 1980, and 36 new members on March 6, 1981. The officers and members of the chapter are currently planning for the annual School of Electrical Engineering Student-Faculty Picnic. Over 800 attended last year, and over 900 are expected this year.

GAMMA GAMMA CHAPTER, Clarkson College—"The Gamma Gamma Chapter of Eta Kappa Nu located at Clarkson College of Technology has had an active and exciting semester. The big project of the year was the compilation and publication of an updated lab manual for the Electrical Engineering laboratory. Peer advising sessions were organized to inform underclassmen about courses which would be the best to take for their interests and about the curriculum in general. A graduate school seminar was also held. This was an informal get-together of professors and students. The students attending learned a lot about what to expect from grad school, how to apply, and how to get financial aid. The chapter contributed an exhibit at Clarkson College's Engineering Day. Assistance was given by members in course evaluations and videotaping of classes. An enjoyable spring banquet—initiation was held."

by Ann Minard

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Gamma	Ohio State University
Delta	Illinois Institute of Technology
Epsilon	Pennsylvania State University
Zeta	Case West. Reserve U.
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INVITATION

The Eta Kappa Nu Award Dinner in honor of the Outstanding Young Electrical Engineers of the United States will be held this year on Monday February 1st, 1982, at the Statler Hilton Hotel in New York City. All Eta Kappa Nu members and guests are invited. For tickets please contact Mr. Albert Fakheri, American Electric Power Co., 180 East Broad Street, Columbus, Ohio, 43215. Phone 614-223-1045.