Dr. Harold K. Knudsen
HKN MEDAL OF HONOR Recipient
Drifting Around the Kingdom

Part Three

Haworth

by

Paul K. Hudson

But, when the days of golden dreams had perished And even Despair was powerless to destroy Then did I learn how existence could be cherished Strengthened, and fed without the aid of joy. from Remembrance

Many people have considered the Remembrance poem of Emily Bronte to be biographical. It could have been, but it was not. Her short life was spent in the small village of Haworth on the bleak moors of Yorkshire, England, but she was happy there most of the time. Her active and creative mind found expression not only in her famous book Wuthering Heights but also in personal recreation. The poem Remembrance was spoken by an imaginary girl named Rosina to her dead lover Julius in an imaginary world that Emily called Gondal. She made maps of this imaginary country, and composed countless poems and legends of its past. That is the kind of a girl she was. And her sisters Charlotte and Ann were pretty much the same. Charlotte also had an imaginary land and she named it Angria. All in all, the Bronte sisters are not only the most famous but also the most interesting women in all of English literature. It is no surprise then that their little village of Haworth has become an important tourist center. At the Viking Hotel in York we rented a car to drive to Haworth, a distance of about 40 miles. We had reservations there for a couple of nights at a hotel with the promising
name of Old White Lion Inn. I asked a porter how to get to the main highway and was told to go up to the next corner, turn left and just follow the road out of town. There was one problem with that. Ancient English cities are not laid out in blocks but are a maze of cow-paths going in all directions. Very likely that is what they were in the misty past. More than that, there are no highway signs in the towns telling one which way to turn to stay on his route. Since I had to try to find my way out of York and then go through two or three other towns before I reached Haworth, I had the wisdom to realize that I was in for a misera-
ble time. I said to a Porter, "Do you have any friends who are not work-
ing and who know their way to Haworth, who would be willing to guide us over there and bring us back the same day for a fee?" He said "Let me talk with the Hotel Manager. Maybe he will let me do it." I said, "Are you sure you know the way there?" He replied, "Oh sure, I was just over there a month ago." In a little while he came back and said, "Let's go."

The Porter was a very fine young man named Lee Robinson. He was actually in a training program to become a Hotel Manager in the Viking chain. He was to continue his education at Cambridge in the Fall, but for now he carried suit-
cases for the "tour people" in the late afternoons and early mornings. He was well able to get us out of York and as far as Leeds, but then the trouble started. He came to the conclusion about the same time that we did, that even when you know your way, you have a hard time of it in England. I did not try to
help him any for a long time but then I finally said to him, "Lee, this is the third time we have gone through Shipton, I think we are really lost." He replied, "No, one of those times we were in another town, but it is true we are lost." It was a great comfort to me to have someone along who knew exactly which town it was that we were lost in. It was also a comfort that Great Britain is an island and so there was no way that I could accidentally wander into some other country and have visa troubles.

I stopped the car and he got out to ask people the way. Although we were less than ten miles from Haworth, a very important tourist attraction, no one seemed to know how to get there. Worse yet, sev-
eral people gave us the wrong directions. Needless to say, we finally found the place but I can say for sure that if I had been alone with-
out a guide I never would have

more than that, I would never have found my way back to York.

In Haworth, we have known only two places that were so fantas-
tic as to be unbelievable. By that I mean that when I left them I felt like there could be no such place, that I had not been there at all and that when I got back I was the whole thing. The old place drawn on the map by that great cartographer is Haworth. Haworth (like Pippa Passes) is in a deep valley and all of the houses and buildings are built of stone that is mined in the area. The residential streets are laid out on the hillside in blocks, but they are very big blocks and there are houses only on one side of the street. The green com-
mon area of each block is used by the people to graze cattle. High up on the top of the hill sheep are grazed and each home has a sheep dog to help with that.

Because Haworth is in a deep valley, there is no place to park in town except in a city parking lot that was dug out of a hill. The main street of town, whose shops are mainly souvenir stores, is very very steep. It would not be recommended to anyone with respiratory or heart problems. But you have to get to the top because that is the location of the Church and Bronte Parson-
age. Patrick Bronte, the father, was the pastor there for many years and the children grew up in the parsonage.

We arrived in town shortly after noon and went into an interesting,
looking tavern for lunch. It was called Old Haworth Tourist Hall. The whole place had recently been restored and redecorated. The din-
ing room was very beautiful and I complimented the lady owner on how lovely it was. She replied, "We have not owned the place for long." I asked, "What was it before that?" She replied, "It was not a very nice place." I couldn't let that one get away so I pressed her for details. She finally told me that it had been a brothel. That was the closest I have ever been to being in one of those.

Patrick Bronte was one of a whole yard full of kids born to a poor Irish family. But he was smart and tal-
ented and so was able to rise to the position of Parish priest of the church of Haworth. He married a lady named Maria Branwell who delivered six children—Maria, Elizabeth, Charlotte, Branwell, Emily and Ann. She died of cancer while they were all very little. Patrick loved his children but could not stand their distractions and so did not have much time to take care of them. Patrick loved his children but could not stand their distractions and so did not have much time to take care of them. He had given them the names of Pippa Passes, Kentucky, the location of Alice Lloyd Collin's home in Haworth. Haworth (like Pippa Passes) is in a deep valley and all of the houses


much entertained each other with their chatter, walks on the moors, compositions, and imaginary kingdoms.

When they were old enough for education, all except Branwell and Ann were sent to a private school for daughters of poor clergy. The discipline was cruel, the program was health-breaking and the food was filthy. Maria and Elizabeth both died as a result, and the other two children were brought home. This school is described in detail as Louwood in Charlotte's book Jane Eyre. Branwell was a genius of the first magnitude but failed at every-
thing he did and drank himself to death at age 31. Ann died at 29 and Emily at 38. Charlotte, the last of the children died at 38 from the complications of child-birth.

Emily, Charlotte and Ann wrote quite a number of very wonderful books that have become a part of our cultural heritage, but the two
masterpieces against which any woman author must be measured are Charlotte's *Jane Eyre* and Emily's *Wuthering Heights*. The latter was a bit much for me to handle. It deals with loves and hates so strong that they splash over into the spirit world. *But Jane Eyre* is lovely from beginning to end.

The Bronte Parsonage is now a museum—a very excellent one—with so many items on display that it would take a couple of days to do it justice. It gave me a very pleasant and thoughtful feeling to stand in the room that once belonged to Charlotte Bronte. Also, in the sitting room downstairs they keep the sofa on which Emily died. She was a "class" girl to the end. When she was dying she got up and dressed herself before she would allow the doctor to come to see her.

The Haworth church is not the same one that the Brontes knew, but is about 100 years old. The Bronte Crypt is still below the floor and there is a plaque over the graves of Charlotte and Emily (see photo). The grave yard outside could well be the one described at the close of *Wuthering Heights*. I found myself looking around for a half-opened grave—the one that Heathcliff dug open so that he could hold Catherine in his arms just once in his life.

The house called *Top Withens* which is supposed to be the *Wuthering Heights* of Emily's novel is a couple of miles away and must be reached on foot. My feet are not that good these days.

The two best hotels in town are beside the Church and Parsonage. One is called *The Black Bull* and is the place where Bronte drank himself to death. His chair where he held court is still kept in the saloon. The other is the *Old White Lion* and is the place where I had reservations for two nights. When I saw it, it broke my heart that I did not get to stay there. I am sure I would have had lots to tell my friends about when I got home. (see photo)

On the ride back to York we got lost again. Unless you have done it every day for a year, there is no way you can drive from York to Haworth and back without getting lost each way. Lee was supposed to be back by five o'clock so that he could carry the suitcases of the tour people into the hotel. When I saw that we were going to be much later than that and that he would be in big trouble, I said to him, "I will go to see the hotel manager and explain to him how difficult it is to drive to Haworth and that we got lost on the way." He said, "No, no, don't do that." I said, "Why not?" and he replied, "I will get called on the carpet and he will yell at me and say, 'If you didn't know the way, why in the Hell did you go?'"
STANLEY M. YUEN RECEIVES OUTSTANDING YOUNG EE AWARD

by Dr. Irving Engelson, Chairman, OYEE Award Committee

TheEtaKappaNuOutstanding
Young Electrical Engineer Award is given annually to young electrical
engineering graduates for meritorious service in the interest of their
fellow man as well as for outstanding achievements in their chosen pro-
motion. Selection of the winner and
honorable mention(s) is based on
accomplishments; it is not influenced
by the newsworthiness or commer-
cial value of a contribution. As we
all know, it sometimes takes many
years for technical discoveries to be
included in commercial product
development. A well known example
is the commercial applications of
technology promoted by NASA in the
1960’s and 70’s, which gave the world such diverse products as Teflon
and miniature components. The
process of facsimile was invented in 1842,
yet only recently have FAX machines
become a large commercial success.
Another example—and the area this
year’s winner works in—is radar
systems. Developed during World
War II as a military system, today
radar technology is used in air traffic
control, weather prediction and bio-
medical engineering.

In the same way, contributions to
local neighborhoods and schools,
religious organizations and the arts
can take years to reach fruition.
TheEtaKappaNu recognition is
awarded to electrical engineers to
emphasize that their service to
mankind is manifested not only by
achievements in purely technical
areas but in a variety of other ways
as well. Eta Kappa Nu holds that an
education based upon the acquisi-
tion of technical knowledge and the
development of analytical and logical
thinking is a prerequisite to achieve-
ment in many lines of endeavor. This
year’s winners joins a long list of
individuals who have brought distinc-
tion to themselves, their community
and the profession.

Stanley M. Yuen is the Outstand-
ing Young Electrical Engineer of
1989. His award was presented at
the 54th Anniversary Eta Kappa Nu
Banquet in New Brunswick, New
Jersey on April 29, 1989. At the same
ceremony, Carl N. Nett was awarded
Honorable Mention for 1989.

Dr. Yuen is a Senior Member of
the Engineering Staff at General
Electric Company, Moorestown, New
Jersey. He was named Out-
standing Young Electrical Engineer
for his “outstanding contributions
to radar signal processing, and his
leadership in community activities.”

Dr. Nett is an Associate Professor
at the Georgia Institute of Technol-
ogy, Atlanta, Georgia. He received
his Honorable Mention for his “sig-
nificant contributions to control
systems research and applications,
and his support of cultural and
community activities.” When nomi-
nated, Dr. Nett was employed at the

Six other engineers were recog-
nized as first time Finalists:
- Gagan L. Choudhury, AT&T Bell
Laboratories, Holmdel, New
Jersey;
- Mark J. Rich, SRI International,
Manlo Park, California;
- William P. Risk, IBM Corporation,
San Jose, California;
- Bradley S. Rubin, IBM Corpora-
tion, Rochester, Minnesota;
- Sally Jo Thomas, TRW, Inc.,
Redondo Beach, California;
- David L. Toomenosko, AT&T Bell
Laboratories, Freehold, New
Jersey.

The award winners were honored
for their contributions to electrical
engineering and to society at large.
Dr. Yuen was nominated by Mr. R.
A. Baugh, Director, Engineering,
General Electric Company, Moore-
town, New Jersey. Dr. Nett was
nominated by Dr. John F. Cassidy, Jr., Corporate Director–Technology
Management, United Technologies
Corporation, Hartford, Connecticut.
At the time of the nomination, he was
Manager-Control Systems Labora-
tory, General Electric Company,
Schenectady, New York.

Those honored with this presti-
gious award are selected each year
through a well defined process which
has remained virtually unchanged
since its inception. The nomination
process involves the initiative of
the nominator and the participation of a
number of references in support of
the candidate. The dossiers of all
nominees are carefully screened by
the Award Organization Committee
which selects up to ten finalists.
These finalists are judged by a Jury
of highly prestigious leaders of the
profession for final selection of the
winner and honorable mention(s).

In 1989, the Jury consisted of the
following individuals:
- Dr. Donald M. Bolle, Senior Vice
President, Academic Affairs, Poly-
technic University;
- Mr. Michael R. Hajny, Vice President,
Engineering, Scientific, Columbus,
Inc.;
is one who:

- has an electrical engineering degree (BS, MS, or PhD) from a
  recognized U.S. engineering school;
- will have been graduated not more than 10 years ago as of May 1, 1990 from
  a specified baccalaureate program; and
- will not have reached his/her 35th birthday as of May 1, 1990.

Awards are based on (1) the candidate's achievements of note in his or her chosen work, including inventions of devices or circuits, improvements in analyses, 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 candidate's service to the community, state, or nation, such as activity in philanthropic, religious, charitable, or social enterprises; leadership in youth organizations, or engagement in civic or political affairs; (3) the candidate's cultural and aesthetic development, such as work done in the fine arts, architecture or the dramatic arts. Studies in history, economics, or politics are also highly valued as well as any other noteworthy accomplishments including participating in professional societies and other organizations.

The Award Organization Committee members are: John Monoson, Technical Activities, The Institute of Electrical and Electronics Engineers, Inc. (Chairman); Ralph J. Press, IBM Corporation (Vice Chairman/Secretary); Clarence A. Baldwin, Westinghouse Electric Corporation; Robert A. Bartolini, David Sarnoff Research Center; Donald Christianson, IEEE Spectrum; James A. D'Arcy, General Electric Company; Larry Dvon, Consultant (formerly of American Electric Power Service Corporation); Anthony E. Fossep, Gulf State Utilities; Quayne G. Gennaro, Bell Atlantic; Willard R. Grish, IBM Corporation; Michael R. Hays, Scientific Columbus, Inc.; James D. Heelson, Jr., Public Service Electric and Gas Company; William E. Murray, Douglas Aircraft Company; Berthold Sheffield, RCA Corporation (retired); George Gabriel, Gulf Stream Electric Corporation; and Lawrence D. Wechsler, General Electric Company.

Mr. Robert J. Kennernecke, President, Eta Kappa Nu, General Dynamics;
Dr. Karl H. Zaininger, President and Chief Executive Officer, Siemens Corporate Research, Inc.

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 Eta Kappa Nu; by leaders from Industry; by any Section of the Institute of Electrical and Electronics Engineers, Inc.; by the head of the EE Department of any U.S. college or university; or by the opinion of the IEEE Organization Committee, are properly qualified to make nominations.

The nominations for the 1990 awards should be submitted to the Chairman of the Award Organization Committee, or to the Executive Secretary of Eta Kappa Nu, by August 1, 1990. An eligible candidate at the Naval Postgraduate School in Monterey, California where he studied electronics engineering. He was awarded a Master's Degree in E.E. with distinction in 1977 and a Doctor of Engineering Degree in E.E. in 1980. From 1977 through 1980, he also served as a Staff Engineer at the National Security Agency in the Office of Transmission Security and also in the Navy Mobile Systems Division of the Directorate for Research.

Upon graduation from the NSA, he was appointed as the Commanding Officer of the U.S. Naval Field Station, Sinop, Turkey, where he served as the Operations Security Officer and saw duty as the Assistant Director of the NSA's Cryptologic Support Group. Upon assignment to the Technical Development Department of the Commanding Officer and Facilities Officer. In 1974, he began graduate education at the Naval Postgraduate School in Monterey, California where he studied electronics engineering. He was awarded a Master's Degree in E.E. with distinction in 1977 and a Doctor of Engineering Degree in E.E. in 1980. From 1977 through 1980, he also served as a Staff Engineer at the National Security Agency in the Office of Transmission Security and also in the Navy Mobile Systems Division of the Directorate for Research.

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HAROLD K. KNUDSEN
Awarded
MEDAL OF HONOR
by
HKN BOARD OF DIRECTORS

by Virgil G. Ellerbruch, Past President HKN

Dr. Harold Knudsen is presented Medal of Honor by 1980 HKN President, Dr. Virgil G. Ellerbruch at Award Ceremony.

Dr. Harold Knudsen and wife Karen.

Harold K. Knudsen is Professor of Computer Science at the University of New Mexico.

He has been very active in Eta Kappa Nu. For many years he served as Faculty Advisor to Delta Omicron Chapter. He served a two year term as a Director on Eta Kappa Nu’s National Board of Directors beginning in 1980, and then in 1988 he became National Vice-President of Eta Kappa Nu.

During his Presidential year, July 1987-June 1988, Professor Knudsen had the difficult task of leading HKN in their search for a successor to Executive Secretary, Paul K. Hudson, who was terminally ill.

Dr. Knudsen was on sabbatical leave during that year and made an unusually great sacrifice by attending to everything that needed to be done for HKN as it progressed through the death of Professor Hudson, and the movement of the Headquarters Office from Champaign, Illinois to Rolla, Missouri. His efforts and his dedication to the task were extraordinary; and it is for this exemplary service far beyond the normal call of duty that he has been awarded the HKN MEDAL OF HONOR by the Board of Directors.

Congratulations, Harold Knudsen!

A native of San Francisco, he received his undergraduate education at San Francisco City College and at the University of California at Berkeley, receiving his B.S.E.E. degree in 1968. He continued his studies at the University of California, receiving his M.S. and Ph.D. degrees in 1969 and 1972, respectively.

He joined the staff of the M.I.T. Lincoln Laboratory where he
Theodore S. Rappaport Receives Marconi Young Scientist Award

Theodore S. Rappaport, assistant professor at Virginia Tech's Virginia Polytechnic Institute and State University, has been awarded the 1990 Marconi Young Scientist Award for his achievements in the field of mobile and portable radio communications. The award was presented at a ceremony at The Smithsonian Institution in Washington D.C.

The Marconi Young Scientist Award is presented annually to a promising young scientist to recognize exceptional contributions to communications made when the scientist was no older than age 27. Giuseppe Marconi was 27 when he made his first wireless transmission across the Atlantic in 1901. Professor Rappaport was selected by a search committee of the Institute of Electrical and Electronic Engineers (IEEE) and the IEEE Communications Society, as well as the Institute's award committee.

The Marconi Young Scientist Award is sponsored by the Marconi Foundation for Communications, which was established by the Marconi Company in 1951. The award recognizes a scientist who has made significant contributions in the field of communications.

Rappaport joined the faculty of Virginia Tech in March 1988 after serving as an associate researcher at the National Science Foundation (NSF) Research Engineering Center for Intelligent Manufacturing Systems at Purdue University. He earned his doctorate from Purdue University in 1987.

Since joining the faculty of Virginia Tech, he has developed the Mobile and Personal Radio Research group, which conducts basic and applied research in wireless communications. The group is currently working on indoor radio propagation.

In Memoriam

Richard B. Adler

Professor Richard B. Adler, a major figure in the revolutionary changes that transformed the teaching of electrical engineering and electronics, died Tuesday, Feb. 6, after he was hit by a car while jogging in Concord, where he had lived for many years. Mr. MIT President Paul E. Gray, who had a long personal and professional relationship with Professor Adler, praised him for his contributions to the teaching of electrical engineering.

"He was my teacher when I was an undergraduate and was on my doctoral thesis committee when I was a graduate student. I first knew him well for close to 40 years. I always regarded him as having one of the keenest intellects. He had an ability that few people could match, of being able to ask penetrating questions that got to the bottom of the issue. I saw this not only in the context of engineering, but also when we served together on the Task Force on Educational Opportunities for minorities, to which he brought thoughtful, deep insights."

Professor Adler, as technical director of the international industry Semiconductor Education Committee (SEEC), which he established, led the effort in the early 1960s that first brought transistor-based solid-state electronics into undergraduate engineering curricula.

Deceased were a member of the Department of Electrical Engineering and Computer Science, where he was the holder of the Distinguished Professorship of Electrical Engineering and Computer Science. He was the first to hold that chair, established in 1985.

A native of New York City, where he was born on May 3, 1922, Professor Adler attended Harvard University (1938-41) and received the SB degree (1942) and ScD degree (1949) from MIT. He began his teaching career at MIT in 1949 and soon made his mark as an educator in the rapidly evolving field of electronics, electromagnetic theory and circuit theory.

From 1961 until 1983 he led the solid-state and transistor group at MIT's Lincoln Laboratory.

From 1976 to 1989 he was associated with the Department of Electrical Engineering and Computer Science, the largest department at MIT.

Last September, after 11 years as part of the department's administration, he was named codirector of the Microsystems Technology Laboratories.

Among his awards was the Premium Award of the Journal of the Royal Aeronautical Society, presented in 1955, for his work on an air-traffic control system.

Professor Adler was a member of Sigma Xi, Tau Beta Pi andEta Kappa Nu honorary societies, and a fellow of the IEEE and the American Academy of Arts and Sciences.

He is survived by his wife, the former Dorothy Gordon, and three sons, Gordon of Switzerland; Nieva, Newport Beach, Calif.; and Lucas of Burlington, Vt.

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**ALSO INCLUDE YOUR OLD ADDRESS OR SEND THE MAILING LABEL FROM THIS MAGAZINE**
Iota Tau Chapter Installed
University of the District of Columbia
by Alvin J. Darby

Charter Chapter Members

The University of the District of Columbia (UDC) Iota Tau Chapter of the Eta Kappa Nu Association was installed on Thursday, May 4, 1989. The formal ceremony was held in Building 42, 2nd Floor Reception Area, of the College of Physical Science, Engineering and Technology. A reception followed the official ceremony.

The initiation was performed with the presence of the Executive Secretary of the Association, Dr. J. Robert Betten, of the University of Missouri-Rolla. We joined the initiating team to help conduct the induction ceremony.

All the charter members, as well as the guests in attendance, were highly inspired by the spirit of Eta Kappa Nu with its challenging high-standard goals to pursue. Special thanks are due to Mr. Vernon D. Fields, Student Council Representative, for his generous and enthusiastic efforts to make this important event a real success.

As the only urban land-grant public postsecondary institution, UDC intends to make Electrical Engineering more meaningful to its students and the community at large.

As of Spring 1989, the Eta Kappa Nu charter members are:

**Undergraduate Students:**
John L. Cheziz (Vice President)
Erie K. Chiang (Recording Secretary)
Adam B. Chortensky (President)
Raymond I. Kaddissi (Bridge Correspondent)
John L. Musi
Martin C. Ning (Treasurer)
Norman Y. Singer (Corresponding Secretary)

**Faculty Members:**
Dr. Alvin J. Darby
Dr. Samuel Lakeou
Dr. Bing H. Liu (Faculty Advisor)

Above: From left to right. Standing, J. Robert Betten, Alvin J. Darby, Samuel Lakeou; Seated, Bing H. Liu, John L. Musi, Adam B. Chortensky, Martin C. Ning.

At Left: From left to right. Standing, Samuel Lakeou, Alvin J. Darby; Seated, John L. Cheziz, Erie K. Chiang, Adam B. Chortensky, Raymond I. Kaddissi, Martin C. Ning, Norman Y. Singer.

Below: From left to right, Norman Y. Singer, VERNON D. FIELDS, Martin C. Ning.
Stephen A. Boppart

WINS
NORMAN R. CARSON AWARD
AS
OUTSTANDING EE JUNIOR

by
Jo Dale Carothers, Chairperson, Award Selection Committee

The runner up in the 1989 competition is Christopher Louis Brooks of Delta Zeta Chapter at Washington University in St. Louis, Missouri. Honorable Mentions are Robert Jay Greenberg of Delta Lambda Chapter at Duke University in Durham, North Carolina; Amit T. Magan of Delta Epsilon Chapter at Ohio University- Athens; and Sharon M. Perlmuter of Iota Gamma Chapter at The University of California, Los Angeles.

Each year Eta Kappa Nu honors a junior in electrical engineering for his or her scholastic and technical achievements, leadership abilities and service contributions. Funding for the financial component of the award is provided by an award fund which was established by Mr. and Mrs. Norman R. Carson. The purpose of the award program is to recognize the student’s ability to lead, persuade and influence the actions of others, as well as to recognize his or her diligence, intelligence and technical competence.

Stephen has maintained a 4.8/5.0 cumulative grade point average. He is a National Society of Professional Engineers Scholar, an MCI Telecommunications Scholar, a James Scholar, and an Elks Scholar. He is also active in the Campus Mentor Program.

During Spring Semester 1989, he was elected to serve as Alpha Chapter President for the 1989 Fall Semester. Also in Eta Kappa Nu he has published the Undergraduate Research Booklet, participated in the Tutor Program, and been active in the Engineering Olympics.

As a member of Alpha Lambda Delta, he has served as Officer in Charge of the Campus Tutor Program; and as a member of the Engineering Council he served as Chairman of the Student Introduction to Engineering (SITE) Program. He is also active in the Bioengineering Club.

In Tau Beta Pi he served in the Initiate Interview program, and in the Engineering Open House program he helped display the Biomedical Imaging Systems component. He also served as Program Chairman for Seminar in the Electrical and Computer Engineering Alumni Association and is a member of the Department Student Advisory Committee. He is in Collegiate 4-H and was 4-H Summer Camp Counselor. On the Engineering Freshman Committee he was Project Chairman, Engineering Open House.

In the research sector, during the period May 1986-August 1989, he was involved in prototyping and constructing subatomic particle detectors in the High Energy Physics Research Laboratory. Also, during the Summer of 1989 he served as Research Intern for the Neural and Behavioral Biology Program with a grant from the National Science Foundation. In addition, he has been working as Research Project Manager—Undergraduate thesis work on the fabrication of micro-electrode arrays used to stimulate and record impulses from neural networks.

He has participated in Tennis, Racquetball and Volleyball Intramurals. Also, he is active in the RyuKyu Kempo Karate Association. He is a Sailing Club Member and an avid sailor.

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Rolla, MO 65401
CHAPTER ACTIVITIES

Fall Semester (1988)
We began fall activities with voluntary operation of the football message board. This is a P.C.-driven system which uses windows and is relatively easy to run. However, at this time consuming to load the numerous requested messages prior to each game. Under the leadership of John Tafaio, Chapter members rallied to the task of learning and operating this system. Altogether we set up and operated the system for six games.

Spring Semester (1989)
We continued to offer free tutoring to any undergraduates in an Electrical or Computer Engineering course. Eleven members made themselves available for tutoring on a regular, scheduled basis. For the fall and spring semesters we offered about 250 hours of this service.

Our student screening and invitation process culminated in an initiation banquet on November 19th at the Tartis Theresa Restaurant, where we initiated 17 new members. Another student from Los Alamos, New Mexico, was initiated December 28. Dr. Virgil Dugan from Sandia National Labs gave us a presentation on fossil fuel energy reserves in the United States. He also entertained us with an account of his HKN pledge project: building and using a solar array on a boat. Among the events participated in small groups or individually were the Halloween party, the IEEE computer Engineering party, and the annual IEEE Chappell.

Spring Semester (1989)
We continued two major voluntary services, tutoring and operation of the message board during basketball games. Also, led by Dave Modl, we participated in Engineer University Open House by designing and supervising a library search contest for high school students. About 20 students participated in small groups. The next event was the HKN pledge project: building and using a solar array on a boat. We also earned nearly $1500 by running the message board for the university, consisting of all university departments. We also invited a team to the annual basketball tournament and a national Indian pow-wow. Each of these activities extended over several days.

With the help of Dr. Shlomo Karni, several members and pledges took new shots of most of the faculty and staff. We also placed these photos on our wall and asked the necessary changes in captions in the Departmental newsletter. One of the students who had participated before was also nominated a member, George

Annual Report Delta Omicron Chapter
University of New Mexico

Alumnus Bryan Berg loaded updated player data into the system at the beginning of the season and led the effort to train additional members in board operation. We run the system for 16 games during the fall and spring semesters.

Frank Salazar coordinated the traditional Christmas Time "Hanging of the Greens." This is the time when students decorate Scholls Hall with hundreds of luminescent paper bags with candles anchored in sand. We worked with the local Theta Pi Beta Chapter in the building sand and filling, placing and lighting these decorations. And of course the next day, we picked everything up.

For our final activity of the semester, we assisted the Electrical and Computer Engineering (EECE) Department in setting up for a graduation ceremony. Together with the local IEEE Chapter, we bought and served cookies and punch to graduates and their guests after the ceremony.

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Annual Report Delta Mu Chapter
Villanova University

The officers for the 1988-89 school year were: President: Michael Robinson; Vice President, Frank Grues; Treasurer, Christopher Law; Secretary, Erin McDonald; IEEE Representative, Kevin Conroy; Faculty Advisor, Dr. John Muholland.

The Delta Mu chapter had eleven members and initiated twenty-seven candidates in the fall semester. The activities of the chapter were as follows:

September-October 1988—Names of those students eligible for membership in Eta Kappa Nu were provided to the engineering program. Invited faculty members made curriculum presentations and answered questions.

March 20, 1989—A formal mixer was held in conjunction with IEEE. The engineering students were invited to the electrical engineering program. Invited faculty members made curriculum presentations and answered questions.

March 30, 1989—Electoral officer for the 1989-90 academic year was held. The new officers are as follows: President, Durley; Vice President, Edward Lin; Treasurer, Robert Darawny; Secretary, Alan Mush; IEEE Representative, Eric Gangloff; Faculty Advisor, Dr. John Muholland.
up in the main engineering building lobby to sell coffee and doughnuts. This event raises forty to fifty dollars per sale.

Doughnuts with the Professors

Outside of special events, this is our chapter's way of saying thank you. This is open to all electrical engineering students and faculty. The mixer is free and is sponsored by both HRN and the electrical engineering department. This provided an excellent opportunity for students to discuss any number of topics with the faculty members. The mixer lasts an entire morning and is typically held in the faculty lounge.

Tutor Room

Sponsored by the electrical engineering department, HRN members provide tutoring on a walk-in basis, free to all electrical engineering students. The tutoring takes place in a room set aside by the department for that purpose. Basic electronics and digital theory tutoring are provided to introduce to the new students in the department, although it often becomes a forum for discussion about several different class topics. It also gives the new students an opportunity to acclimate to the department, specialty areas and classes. Participating HRN tutors are reimbursed by the department for their time. This is a very old tradition for HRN and is one of the projects we have to offer the department.

Science Olympiad

This year HRN was not as involved as we have been in the past. The Science Olympiad is an event sponsored by Ohio State that brings high school students from all over the state of Ohio to test their knowledge of engineering related topics. The EE department sets up some laboratory experiments for students to do. HRN supplies members to monitor the experiments and help the faculty, who judge the event.

Intramural Sports

HRN sponsored its last year to enter more sports teams into Ohio State's intramural program. This year HRN entered for flag football, basketball in the winter, and co-rec softball in the spring. Plans for next year include the introduction of volleyball and hockey.

EE Professor of the Year

The Gamma Chapter sponsors a voting each year for the EE students to select the HKN/Humphrey EE Professor of the Year. This event is held in the spring and the award is presented at the spring banquet. The recipient of this award has his/her name placed on a plaque of the previous winners, displayed in the hall of the electronics laboratories, a plaque of his/her own, and a $600.00 check from the department. This year's winner was once again Professor Ri-Che Chou. He has been teaching two years and has won the award both years. He is in the field of Electromagnetics. He is also the faculty treasurer for the Gamma Chapter of HRN.

"Happy Hours"

HRN sponsored and co-sponsored two happy hour events this year. This is a time for members to socialize in an informal setting. All faculty are invited. The event is typically held in a local bar in the area. We co-sponsored this happy hour with IEEE, thus giving our groups a chance to interact.

Doughnuts on the Roof

This project was not actually seen through to its end due to bad weather. But the idea was an old one. Our attempt was to bring back a tradition that has not been done for over five years at our school. HRN had, in the past, sponsored a faculty/student mixer on the roof of our eight story laboratories. It was to be held during the morning classes. It was moved to the faculty lounge.

Brown Bag Lunch on the Roof

This became the substitute for the brown bag lunches. This was a success mixer held on the roof in which students and faculty brought what they wished for lunch and socialized with a great view of the campus.

EE Spring Picnic

This is an annual event for HRN and once again was a great success. Every spring, towards the end of May, HRN and the department sponsor a picnic for all faculty members, staff, and students. The picnic was held on the grounds of the Electro science Laboratory and there was food, volleyball and a good time for all. This has always been HRN's best event for working towards the fraternities of the entire group of students and faculty. It is a tradition we all hope will continue for many years to come.

Annual Report Rho Chapter University of Colorado

1988-89 Statistics

Officers
President, Allen Piepho
Vice President, Chris McIntosh
Treasurer, Ian McEwen
Recording Secretary, Christine Bohn
Correspondence Secretary, Stephen MacGuffie
Bridge Correspondent, Edwin Yeow
Faculty Advisor, Prof. Willy Waiye

Membership
Fall 88 88
Spring 89 88
Actives 25 30
Pledges 12 7

Meetings
Fall, 4; Spring, 8

Summary of Activities

New Pledge Meetings. (Fall & Spring, Continued Activity, 10-15 Man-hours) As our first contact with new pledges these meetings served as ice breakers. They were a chance for new pledging students to meet HRN, and get to know the pledges over pizza.

Informal Initiation. (Fall & Spring, Continued Activity, 15-18 Man-hours) This was a chance for active students to have some fun with the new pledges by giving them a "pledge exam." This test consisted of impossible questions which was meant to be a practical joke between the actives and the pledges.

Treasure Hunt for AES (Associated Electrical Engineers) National Convention. (Fall, New Activity, 20 Man-hours) As part of the AES National Convention held in Boulder last fall, HRN put on a treasure hunt throughout the CU Engineering Center. Teams of students from schools across the country were challenged to follow a trail of clues consisting of engineering questions and "traps" (lockers filled with water balloons, etc.) to add to the challenge, these trails snaked through our Engineering Center, which is a maze of hallways, classrooms, and labs. About 25-30 people participated. Preparation of "The E-Center Challenge" Engineering Treasure Hunt. (Spring, New Activity, 40 Man-hours) With the success of the AES treasure hunt, we began preparations for a larger scale version for CU students. As part of their pledge requirements, the spring class of pledges worked on things such as gathering clues and finding interesting locations for the teams to follow. The "E-Center Challenge" was planned and probably will be scheduled for the fall.

Donation of Equipment for the Digital Electronics Lab. (Spring, New Activity, 10 Man-hours) Two considerable donations were made this spring. The first was a stereo system for the sophomore-level digital design lab. The second was a learning robot arm. The robot arm will be first used in an upper level microprocessor systems lab where an interface between the robot arm and a computer will be designed and built. With this interface the students in the lower-level digital design lab will be able to work with the robot arm in the future.

The purpose behind these donations was two-fold: To improve the labs, and to provide exposure of younger students to HRN before they become eligible to apply.

The up coming issue of the "Colombo Engineer" a student run magazine will contain an article about the robot arm. This will be forwarded soon.

Summary from the President of Rho Chapter

As president I am proud to say that in the past year we have provided a stepping stone for our chapter of HRN in the future. Much of this year's work was to get more people involved. Our strength is in the younger members of our chapter. Of the officers for next year, only two are graduating before Spring 1991. This along with increasing the profile of HRN among the younger students is a sign of a promising future for Rho chapter.

Al Piepho
Rho Chapter President (1988-89)

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