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“Most people pursue careers in engineering because they are intrigued by engineering problems and methods. But much more is involved in an engineer’s career than being a good engineer — a fact that many engineers discover too late.”

The quote above and the writer’s introductory article suggest several paths in which succeeding careers might branch. Among the implied topics are the following:

1. Careerism or schizophrenia.
2. Understanding the career ball game.
3. Planning, deciding and working towards realistic goals.
4. Success requires diligent application either to achieve or to politics.

While other subjects are also in the idea spawning stage, number one above will receive a higher priority with which to launch this effort in a serious vein.

Recently, an engineering educator asked the writer how a person acquires the value system whereby he/ she would be motivated to speak out for what is right rather than remaining silent on sensitive issues primarily to protect his/ her career advancement potential. Can it be taught to students? Well, if a value system can be acquired, one must have been able to learn it. Consequently, in some manner it should be teachable.

Obviously the price one has to pay in being an achiever, why should anyone want to be such a man?" Of course, the personal rewards must be adequate to overbalance the demerits one is surely bound to attract. For one totally discount the oft-expressed opinion of such mavericks as being stupid persons for jeopardizing their advancement potential.

Larry Dwon, P.E.

The more usual sources for such learning seem to me to be: lifelong experiences which are either personally sought, forced on one, or accidentally encountered through various associations. These forces and constraints may or may not be consistent with previously acquired values which in turn would require a person to re-evaluate and in light of new goals he/she may wish to establish. So much for the awkward he/she exercise.

In short, we are alluding to whether a person would rather gain recognition and make the sacrifices necessary to be an achiever or a careerist. These two paths are, of course, different. One, for example, may have different probabilities of success to the top elected positions which command power and authority in industry, government and education. Power, authority and recognition seem to be the principal identifiers of successful careers by many people. There is also a direct correlation between them and the salary one may get; but not always earn.

Mr. Bob Peters suggests that: (2) “There are basically two ways for a person to gain the recognition of others. He can perform those around him on the basis of clear objective standards (i.e., achievement) or he can gain the favor and support of those doing the evaluation (i.e., politics). Webster defines careerism as follows: (3)

The choice or practice of advancing one’s career often at the cost of one’s integrity.”

Thus in the process of working as an engineer, one must remember that he/she will be faced constantly with value judgment decisions relative to which is a better bet in terms of personal constitution — careful protection of career potential or maintenance of integrity as a professional and ethical achiever.

The two paths have different consequences. One way of thinking has a higher probability of success to the top elected levels of authority although not 100% assurance.

The achiever course alone is very unlikely to get one to the top elected officer level position in government, education or industry except in one’s own creation. Nevertheless, it still can lead to substantially satisfying careers and appreciable responsibility and recognition. These opinions are based not only on statistically sampled research but on considerable reading, numerous discussions with associates and peers in similar situations, as well as, first hand personal observations during more than 40 years of working and voluntary experiences in industry, education and technical professional/industrial associations.

No one ever has accused me of careerism but I believe the meaning persons suggested to me in the course of my practice of engineering responsibility to one’s values. As well as, in my voluntary activities that my principles may be too lofty and my constant adherence to them would not enhance my career.

In my younger days, I did not believe those well intentioned friends. It was then I began to understand what people meant by enhancing one’s career; but, at the same time, I realized that they did not understand what my values and goals were. They did not realize the correlation between their favor and support of those doing the evaluation (i.e., politics). Webster defines careerism as follows: (3)

Fortunate for me that no one ever thought I would succeed in high school in the East Side Yorkville section of New York City, provided the writer with unique associations in the practical world of poverty, deprivation and the unemployed. The primary lesson learned was an intense desire to rise above that situation and go beyond it as far as in ability would permit honestly. Perseverance and stick-to-it attitude was developed.

My youthful peer group associations were a miscellaneous assortment,组成 many of whom had few scruples, or at least they had their own rudimentary sense of values and ethics. A necessity in such an environment was to learn how to get along with the toughest kids first, with whose values and ethics your own may clash. Disagreement automatizes and tends to mean to avoid the inevitable pressures of muscle power persuasion. Common sense, good judgement, when to fight and when to run. Simultaneously, you...
learned that the pressure on you was less if you consistently didn't hesitate to support and fight for what you believed in. Whether it was the art of fighting or running after you —
and also if you became more proficient, the more you would show how much your peer group admired. This diverted attention from their low esteem, their low opinion, or their intellectual — often called sissy. No longer could anyone sink in the eyes of a person, lose 100% in a group, or be taken away from me. So far I have found these two concepts true and valuable assets. Since the toughest kids were able to take almost anything they desired from almost anywhere, the two concepts seemed solid advice especially because very few of the kids were included in the discussion. They didn't care to take it from you even if they could.

The school provided me the necessary guidance included high proficiency in single wall handball, stickball and basketball. The first two were played for money against other neighboring groups and the third was basketball. The first two were played for money against other neighboring groups (gangs if you prefer). I played on commission basis since my future was on the line and I had to absorb the benefits of some engineers in educating me. I was a natural for those who were taken away. My commission was five cents (a Stein's beer was a nickel) for each game won and the silent treatment otherwise. This held me in good stead later in life when I had to absorb the benefit of silence from some engineering educators during debates on the course of events. I was not given what I wanted. I also learned the price of being a professional; you had better practice to stay good or else socialization would become your state of security. Thus, very early in my life, I realized that valuable was continuing education.

Basketball provided some special lessons since I played with a team called Nomads. We played all comers including those in the toughest sections of the city. The team seldom had more than seven starters at any one game and we automatically meant 60 minutes of running for a majority of the players. Plus all other players were in the running which was sometimes needed to get away from the neighborhood. After Nomads won a game from an especially popular local combo, the team that lost the game the lesson learned was to keep it flowing with physicality for unexpected events which require reserve and especially hard work of learning.

In the eighth grade of elementary school, I was chosen to be the school bell monitor because the Principal decided that I was a more mature readable child. The decision was probably based on my school's activity much the same way that some engineering managers are chosen because of their superior engineering achievements — not because they were necessarily a good manager. But as future articles will discuss.

This delegation of responsibility required that I ring (long before automation) the school bell system to indicate class hour changes every 50 and 60 minutes. This assignment taught me how to concentrate on several things at the same time — my watch, the teacher and what was being taught. In one occasion, the lesson was concentration.

In addition, bell ringing for fire alarms was my responsibility whenever the Principal arranged for it. This duty often required me to place my hands on the actual time drill, a responsibility lesson of considerable importance. Needless to say, these activities made me stand out like a sore thumb among my peer group. Again it took me a long time to understand the true value of the areas. From reacting negatively. Here perhaps was the beginning of my understanding how the system of politics works. Do unto something which I need and I will not have the time to do it. This led to the busters with their homework and workshop assignments — a relationship which was not condoned by the school authorities or me for that matter. It was a practical expedient for peaceful co-existence. Two lessons were learned. Politics may be necessary but is not often a science of knowing your responsibilities which you acquired. They all required many hours of dedicated work which is the reason I believe it was possible to infiltrate with the help of faculty support but one who wanted to do the job done well.

From these experiences, and especially the fact that an initiation to become a member of Tau Beta Pi was missed seemingly because of a dialogue with its President over some matters dealing with the all college engineering open house for the public, I began to recognize, but not accept, the advantages of political skills, especially in extra curricular activities and confrontations. It goes without saying, if one does not want to play by the game rules, then one must accept the consequences. It seems that from that day on this person preferred to be right than become president, as the well known expression states. Performance and political motivation because it was primarily under my control. My choice was to be a door not a policy participant. Upon reflection I don't believe it was a fair presentation of political power would have demanded — just different effort. The consequences has been better acceptable. There are many more examples of the learning process but one personal experience which the few volunteers seek the opportunity to be recognized.

In college, where in my time, the fraternities prevailed supreme on the campus at Cornell, political deals among the fraternity house should be described in the subject of the college curriculum. This is true only if one accounts for the number of curricular activities with an attitude of performing to accomplish goals. In some process one may learn how to set objectives towards those goals in an orderly and critical manner than that which will exist in the future industrial era. One cannot exactly sense to learn about people among your college peers rather than postpone the learning experience. This lesson is to you reach the height of a practical world of industry? Human nature and the art of understanding people (or success in them effectively) is such an important element of career progress, especially in the advancement segment of the career ladder, that one wonders why engineering students and their advisors want to continue to negate the subject to the back burner.

In conclusion, I would recommend four articles for additional reading. These articles have been chosen because they provide more depth to the concepts given above in a rather forthright manner. Books by Drucker, McGregor, Schell and many others are also recommended but knowing the extra curricular readiness of the success of most engineering students I tend to prefer shorter articles to recommend further.

In the first article Mr. Rok Peters makes the following pertinent observation: "The difference between a politician and an achiever is that the politician puts the effort ahead of the manner in which it is accomplished, whereas an achiever's concept of effort depends upon the manner being rational (i.e. proper to man)." Dr. Robin Beach, a member of the Kappa Nfu stewart, National President, 1949-1966, educator and consultant wrote: "Too often the college student ignores the wealth of opportunity for self expression which are available to him through worthy activities in the belief that these activities detract his attention and divide his interests to the detriment of his studies.

He then goes on to show the error in such thinking. If the reader should like specific examples of achievements, some of whom later also reached high level management positions, the author's articles on the Kappa Nu Outstanding Young Engineers and the many other articles giving the biographies do provide many substantial living evidence. (6) I would begin with a bit of advice received from me and other Kappa Nu students.

"Don't Take Yourself Too Seriously." A recording by the professor before his death which was held at his request by his wife, for presentation to his beloved New York Alumni Chapter Members.

**CHAPTHERS**

BETA DELTA CHAPTER, University of Pittsburgh — The Beta Delta Chapter at the University of Pittsburgh had a fairly active year. New members were elected at a ceremony held on December 5.

Our programs included a tutoring program to help EE students as well as students outside of the department. We were able to attract more students to the meetings.

Our annual banquet was sponsored by Eta Kappa Nu and the students put on the IEEE. It was held at the Engineers' Club in the William Penn Hotel, Pittsburgh. The students who attended the Outstanding Young Engineer and the outstanding senior. Dr. Byer and Bill Tosh received the awards.
SUN AND EARTH

By Paul Hirschhorn

Primitive man worshipped with awe that flaming globe in the sky, the sun. Archaeological discoveries have shown that the ancient Egyptians believed it was carried across the heavens in a canoe. Assyro-Babylonian mythology depicted the liberation of the sun god from behind a mountain protected by a winged goddess.

The Jews, on the other hand, frowned on sun worship from the early days of their history.

Today, however, modern Jewish scientists in Israel are taking a second look at the sun. National policy dictates that alternatives to fossil fuel must be found, and found fast.

Scientists here are attempting not only to find additional sources of energy, but to develop processes which will not pollute the environment. More and more, they are turning to nature for answers.

Sun, Sea and Wind

In a way, it may be said, they are attempting to bring the sun down to earth. Working in harmony with nature, scientists are also seeking new ways to harness energy from ever present sea waves and wind. The possibilities for mankind? Clean energy from unlimited sources.

In Israel, great strides have already been made in the use of solar energy, of which Israel is the largest per capita user in the world (20 percent of Israel's homes are outfitted with solar heating or refrigerating systems). Dr. Nathan Arad, Director-General of the country's Energy Authority, is optimistic that this use can be increased from the current 2 percent of the country's energy consumption to between 8 and 15 percent in the 1990's.

"About 20-25 percent of all household energy needs — predominantly for space heating and hot water — could be saved by passive systems design and solar energy applications," Dr. Arad said. With this goal in mind, scientists throughout the country are involved in research to expand the production of power from the sun. Recent Israeli developments have included: a high temperature solar energy system, capable of powering solar air conditioning in summer, heating in winter, and obtaining mechanical energy for home use; and a new solar cell with its own internal storage system that can produce electricity after sundown.

Solar Ponds

One of the most promising developments in Israel's solar energy research has been that of "solar ponds." The ponds are based on the natural phenomenon that all bodies of water trap the heat at the bottom. There it can be collected for use as a source of energy.

Research into solar ponds, originally suggested by Dr. Rudolph Blech of the Dead Sea Works, is underway on a national level. A group of scientists headed by Dr. Zvi Tabor, now at Hebrew University, began solar pond investigations some 20 years ago. They have succeeded in developing a pond which produces heat at temperatures between 90° and 100°C. Heat drawn from the pond's bottom has successfully powered turbines developed specially to operate in conjunction with the ponds.

Using similar principles, Technion — Israel Institute of Technology engineers have developed a shallow solar pond — a 60 m plastic bag consisting of a transparent upper layer and a black bottom layer with water held between them. The "shallow pond" is installed next to a greenhouse: heat collected and stored during the daytime can be transferred to the greenhouse by night.

Future solar pond uses are promising. The Weizmann Institute's Dr. Gad Assaf has made a mathematical study of using the Dead Sea itself as a "solar lake." According to his calculations, 50 square miles of the sea would provide enough energy to double...
Israel's resources, through desalination of seawater.

Production of Methane

Water also figures prominently in another project underway in Israel, the production of methane gas from agricultural wastes, including animal manure and vegetable waste.

At Kibbutz Yagur, near Hafetz, Technion experts have built the world's largest pilot plant for the production of methane gas. As a side benefit, the methane reactor is also an excellent medium for algae growth. The algae can be fed to many farm animals, which then create manure. Project head, Professor Gedaliahu Shelef, believes this could ultimately lead to farm units self-sufficient in stationary energy requirements, through a cyclical reuse of their own solid organic wastes.

Biochemists at the Weizmann Institute have begun a basic investigation of an unusual algae that grows in ponds along the Dead Sea. They believe this algae may someday serve as an inexpensive source of glyceral, a combustible alcohol that can be used as a fuel itself and may possibly also serve as a raw material in the production of natural gas or gasoline.

Other Israeli scientists have made headway in modernizing a more traditional form of energy, the windmill. Technion Professor Anthony Peranio has developed a new "rotary viscous friction" device. Consisting of a paddle wheel enclosed in a tank of water or oil, the device, rotated mechanically by the wind, heats the liquid, providing power.

Ben-Gurion University scientists have discovered that the energy output of a wind turbine can be tripled if it is surrounded by a special shroud. Dr. Oser Igra, who developed the circular shroud, has taken advantage of the principle of airplane wing design, in which differences in air pressure create a suction effect. The suction effect was even more air into the turbine. The shroud, which Igra claims produces three times the output of a regular turbine, can pick up wind with as little as 20 percent of the turbine facing into the direction of the wind.

Sea As An Energy Source

Professor Peranio, of the Technion, also sees the sea as an alternative source of energy. In his laboratory he has built a small working model of a solar energy conversion device consisting of a long, inclined ramp leading up to a water tank, somewhat above sea level. The kinetic energy of the waves rushing up the ramp is converted into potential energy. This energy is then extracted from the controlled flow of this water through a conventional turbine.

Increasingly in their varied researches, Israeli scientists are linking the development of energy sources with the preservation of development of other resources, especially water. Technion's Dr. Grossman, head of the team that developed the high temperature solar collector, has turned his attention to the development of a solar desalination system. It could provide the water needs of a family in an isolated area. "Use of alternative forms of energy could have wide ranging effects for Israel and other developing countries as well," Grossman says.

To Preserve A Way Of Life

"For example, in small villages the basic economic support comes from raising cattle and sheep," Grossman explains. "These animals need vegetation. But the residents need to burn the vegetation for cooking and heat. So more and more places become barren desert. This continues until there is no more land and people are forced to move into the cities. Solar and wind energy can save vegetation, and, in doing so, preserve a way of life."

To paraphrase a popular Israeli joke, some countries are blessed with oil, some with uranium, some with large deposits of coal. What is Israel blessed with? The punchline used to be "with problems." But years of scientific research have changed that answer. While no major fossil fuel deposits have been found in Israel, giant strides have been taken there in developing alternative sources of energy. Today, the country's sunny climate, full blowing breezes, and long seashore make it possible to say that Israel, too, is blessed: with solar, wind and wave energy. And the research being done today can help solve problems of energy shortage in other countries as well.

Various types of flat plate solar collectors at The Technion, Israel's institute of technology.

Noval spherical shaped high temperature solar collector being developed in Israel for space and water heating as well as for cooling.
MERRY MOMENTS WITH MARCIA

"I have a friend who is a real inventor. He took the fender from a Chevy, a motor from a Ford, and the transmission for a Sting Ray."
"Well, what did he get?"
"Three years."

A young husband who had agreed to buy a vacuum cleaner was distraught when he found that his wife had ordered the deluxe model instead of the standard.
"But dear," his wife explained, "it won't cost any more. All we have to do is pay a little longer."

If you're such a good fortune-teller, you should be able to tell me the score of tonight's hockey game before it starts.
"Before the game starts, the score will be nothing to nothing."

A medical student was asked how much of a certain drug should be administered to a patient. The young man replied, "Five grains."
A minute later he raised his hand. "Professor," he said, "I would like to change my answer to that question."
The professor looked at his watch and replied, "never mind. Your patient has been dead for forty seconds."

Girl: I love tennis. I could play like this forever.
Boy: Gosh, don't you ever want to improve?

I went to my doctor last week and he told me to take a hot bath before retiring. But that's ridiculous! It'll be years before I retire!

A candidate for public office threatened to sue a certain newspaper for libel. The newspaper denied printing anything improper. When asked if he intended to press his suit, the candidate replied, "Of course, I can't campaign in wrinkled clothes."

Deficit spending: When you're downtown earning $8 an hour and the repairman is in your laundry room getting $12.50.

When all is said and done, we usually wish we had done more and said less.

Even with the price of everything going up, writing paper remains stationery.

When you make your job important it's likely to return the favor.

Worry is interest paid on trouble before it is due.

There is no future in a job. The future is in the person doing the job.

Successful people earned their success by doing those things that had to be done when they didn't feel like doing them.

I've been told that middle age is the time of life when your legs buckle and your belt doesn't!

There once lived a famous Indian chief who possessed a fabulous memory. A reporter, doubting his vaunted ability, asked him, "Chief, I'll bet you can't tell me what you had for breakfast on June 3, 1912." Without a moment's hesitation, the chief answered, "Sausage."

Two years later, the reporter again had occasion to visit the chief and, approaching the old Indian, greeted, "How?"
"Broiled" replied the chief.

Since he lost his money, half his friends don't know him anymore. And the other half? They don't know yet he lost it.

If you can keep your head when all those about you are losing theirs... perhaps it's because you just don't understand the situation.

by MARCIA PETERMAN

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AWARD DINNER

Text By
Marcus Dodson

Photos By
Stanyan Buckingham, Jr.

Accented by the fireworks display by Disneyland, the Alton B. Zerby Outstanding Electrical Engineering Student Awards were presented at the Disneyland Hotel in Anaheim on August 3rd, 1979. This was a first in that there were two winners for the first time since its inauguration in 1965. Present to receive the awards were Max Wolff Hauser, Co-Winner, Donald Stephen Stoia, Honorable Mention, and Kevin Allen Sparks and Jay Albert Chesavay, Top Ten. Also receiving awards but not present were Louise Annette Veilleux, Co-Winner, Steven Joseph Treis, Honorable Mention, and Mack Wayne Riley, Robert Allen Sadler, Mary Christine Sinelli and William Francis Zucker rounding out the Top Ten.

The National Board of Directors has charged the Los Angeles Alumni Chapter with the responsibility of conducting the Alton B. Zerby Outstanding Electrical Engineering Student Award program for Elia Kappa Nu. It is fulfilled by the Student Award Committee, chaired by Larry Hamilton, and the 1979 committee members were Richard Cockrum, Marc Dodson, Jimmie Huff, Robert J. Kennerknecht, William E. Murray and David Pivin. In January the student chapters send their nominations to Chairman Hamilton and the committee selects the ten most promising candidates from the 35 to 45 nominees and their resumes are individually submitted to a jury of distinguished leaders in the Electrical Engineering profession. The 1979 Jury of Award consisted of John Bardeen, Edward Erdelyi, Albert Hauser, Marcian E. Hoff and Robert W. Lucky. These jurists autonomously rate the top ten nominees and the consensus determines the winner and honorable mention.

Following dinner, Richard Cockrum, Los Angeles Alumni Chapter President and Master of Ceremonies, introduced the award winners and their families and friends, officers and directors of HKN and guests. He then introduced Paul K. Hudson, Executive Secretary, who gave a report covering the support of HKN members and friends for the student award program through the Alton B. Zerby and the Carl Koerner Memorial funds. Paul recognized Edie Koerner for her major contribution in establishing the Carl Koerner Memorial fund and others in the Donor's Club and Benefactors of HKN.

Larry Hamilton gave a brief history of the student award program and how it is implemented.

Alan Stoudinger, National President, recognized the accomplishments of Jay Chesavay and Kevin Sparks, Top Ten and Donald Stoia, Honorable Mention, who were present. Dr. Stoudinger described the credentials of, and presented the plaque and certificates to Max Wolff Hauser, Co-Winner. Mr. Hauser responded with comments on what the honor means to him.
Dr. Niederjohn of Marquette University has joined the growing list of eminent, young electrical engineering educators honored by Eta Kappa Nu by being selected for the C. Holmes MacDonald Outstanding Teaching Award. Instituted in 1972 by the Philadelphia Alumni Chapter, the award was named for C. Holmes MacDonald, a dedicated Eta Kappa Nu director who was instrumental in inaugurating the recognition. The Philadelphia Alumni Chapter annually administers the competition for the National Board of Directors from nominating dossiers submitted by the undergraduate chapters, but the final election of the winner and any honorable mentions is by a National Jury of recognized leaders from education and industry.

Dr. Niederjohn, a native of Schenectady, N.Y., earned his B.S., M.S., and Ph.D. in Electrical Engineering, from the University of Massachusetts in 1967, 1968, and 1971, respectively. Since September, 1971, he has been a member of the Electrical Engineering faculty of Marquette University, Milwaukee, WI, becoming an Associate Professor in 1975. He is also Director of the Computer, Speech, and Signal Processing Laboratory.

The winner represents an apt combination of the attributes sought and encouraged in the establishment of the award. He is primarily a dedicated and very successful teacher, but he also exemplifies the creativity, professionalism, public spirit, and human interest admired in the character of our most prominent engineers.

Dr. Niederjohn has been very active in developing new courses at Marquette, particularly in the area of mini- and micro-computers, speech synthesis, and signal processing — fields in which he has led important research studies. Because of his continuously updated material, his teaching ability, and his personal interest in his students, his courses are always very popular. He devotes many extra hours to student counselling, student societies, and educational groups, such as educational television, the American Society for Engineering Education, and high school guidance work. All the foregoing have contributed to make him a stimulating, inspiring, and effective professor.

This year's winner has authored or co-authored 29 published technical articles and conducted nine seminars, mostly in the area of computer hardware, software, and speech processing. He has directed 15 graduate students, served on many faculty committees, and has been very active in IEEE and ASEE, nationally, regionally, and locally, having held many responsible committee chairmanships. His research has been funded by four NSF grants totaling over $250,000, and he is a consultant to two nationally-known corporations. In his spare time, which must be rare, he designs and builds quality furniture, being a skilled woodworker, and is an expert in the development of this craft in early American history.

An honorable mention in last year's competition, Dr. Niederjohn was also the recipient of the 1977 Dow Outstanding Young Faculty Award. It is also interesting to note that his colleague, Dr. James A. Heian, was the Eta Kappa Nu C. Holmes MacDonald Outstanding Teaching Award winner in 1973, making Marquette the first two-time winner. This is also a tribute to Beta Omicron Chapter for their recognition and appreciation of superior faculty members and their willingness to document their esteem.

Stanley R. Robinson
Honorable Mention

Alan J. Gradzinsky
Honorable Mention

The 1978 award certificate and engraved tray and serving set were presented to Dr. Niederjohn at Marquette's Eta Kappa Nu Spring Banquet, April 29, by Albert Hassen, National President, and John H. Spare, Award Chairman. Honorable Award citations by the National Jury in 1978 were Alan J. Gradzinsky of MIT, and Captain Stanley R. Robinson of the Air Force Institute of Technology.
CHAPTERS

If your chapter has sent in news that does not appear here, it will be in the next issue. Bridge is always receptive to news of chapter members and activities.

GAMMA BETA CHAPTER, Tufts University—This year Gamma Beta decided to implement a series of innovations as well as continue several traditions. The innovations included a change in the chapter bylaws permitting three initiations per year as well as the establishment of an electrical engineering specialty.

Last Fall officers faced a serious dilemma. All engineers at the university participated in the cooperative program. Approximately half of the students are at school while the other half are at jobs frequently distant from Boston. The CoOp schedule dictates that full-time students are at school during the Fall and Spring. Therefore some members were required to leave the chapter to seek full-time employment. Gamma Beta's first Winter initiation was held in March. The electrical engineering program evaluation was administered to seniors at Spring registration. A number of opportunities were evaluated for students to participate in the Gamma Beta chapter. The final results were announced at the annual banquet.

GAMMA IOTA CHAPTER, University of Kansas—Overall, the Gamma Iota Chapter had a very fine year. We were involved in several activities this year.

Eta Kappa Nu, in conjunction with IEEE, sponsored a Design Competition. The purpose of the competition was to encourage participating students to design and build a working prototype of a machine that would perform a specific task. The competition was open to all engineering students at the university.

GAMMA PHI CHAPTER, University of Kentucky—During the first few weeks of class last fall, members of Gamma Phi selected a new faculty advisor and proceeded to select new members. The faculty advisor accepted the chapter's invitation to become an advisor immediately after hearing about the Fall chapter's fall goals.

The initiation of new student members was attended by a large group of faculty and staff members. The new members were welcomed into the chapter and given an overview of the activities and events that take place throughout the year.

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DELTA XI CHAPTER, Air Force Institute of Technology—The Delta Xi chapter at the Air Force Institute of Technology was established in 1992. Since its inception, the chapter has grown rapidly, and it currently has over 150 members. The chapter's main goal is to provide an opportunity for students interested in electrical engineering to network and share ideas. The chapter organizes regular meetings, social events, and field trips to companies and research institutions. In addition, the chapter offers a number of unique opportunities for its members, including a mentorship program, career development workshops, and a chapter-sponsored job fair.

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The chapter also sponsors a number of events throughout the year, including a technical symposium, a careers fair, and a social event for new and returning members. The chapter's members are actively involved in the local community, and they have organized several service events, such as a blood drive and a food drive for the local homeless shelter. The chapter's main goal is to support its members in their academic and professional development, and it continues to grow and adapt to the needs of its members.
Gamma Xi Chapter — Fall 1978 semester was a successful one for the Gamma Xi Chapter of HKN. The Chapter continued several of the projects accomplished in past semesters with excellent results.

The Chapter inducted 22 new members on November 3 in the initiation ceremony in a few years. Dr. Robert O. Harger, EE Department Chairman, was a Guest Initiation Officer, being the character James C. Maxwell. A pleasant refreshments party followed the ceremony.

Our Chapter again organized the Teleype Course which was started during the Fall 1977 semester and was designed to inform students how to make full use of the University's teleype facilities. Four separate sessions were offered and student response was enthusiastic as in past semesters. We also carried on the free tutoring of electrical engineering courses by HKN members to anyone needing it. Forty students sought and received the course assistance.

During the Spring Semester preregistration period, HKN coordinated an informal 4-hour-long EE advising session to help students plan their schedules and courses for the following semester and beyond. Donuts were provided. Many EE students found this service to be very helpful and it is being repeated this Spring 1979 Semester.

HKM and IEEE officers made a change in the EE course evaluation answer sheets so that they could be handled easily by the University's computer system. This modification consisted of converting the answer sheets so that the students could punch out their responses to the questionnaire instead of writing them in. This permits rapid tabulations of the course evaluations that are regularly carried out near the end of semester.

Last, but not least, the Chapter along with IEEE arranged two field trips for all interested EE students, one to the Bethlehem Steel plant in Sparrows Point, MD and the other to the General Motors plant in Baltimore, MD.

The Fall semester ended with the election of two officers: Cheryl Lisa as Recording Secretary and Buddy Cunningham as Bridge Correspondent.

Upsilon Chapter — University of Southern California — The Upsilon Chapter started the fall semester with great expectations and enthusiasm. With leadership from our president - John Parsons, and with support from his cabinet; vice-president - Keith Yamashiro, treasurer - Mark Kobayashi, corresponding secretary - Ramzi Badr, recording secretary - Leo Hui, and bridge correspondent - Mike Yakura, the fall semester got off to a good start.

One of our activities this fall was participating in the University-wide Jog-a-thon. By receiving pledges for each quarter mile run by a jogger in one hour, we raised funds for the chapter. So on a bright Sunday afternoon several of our members got out there and gave their all for the chapter. A special thanks goes to Dave Garcia, '79, who ran the most laps, 30.

This semester we initiated a total of eleven members. Nine under-graduate and two graduate members. Congratulations to them.

The big event of the semester is of course the Initiation banquet. This year it was held at the Proud Bird Restaurant. Our guest speaker was Jeff Rochlis, president of Mattel Toys Electronics Division. Mr. Rochlis spoke of the electronic applications in computer games. At the banquet we also presented the award for Outstanding Professor of the Year to Dr. Murray Gerbenzon. Congratulations to Dr. Gerbenzon for a fine job.

There were other events of significance in the semester. One was our new faculty advisor, Dr. Charles Weber, taking over for Dr. Willard Rusch. We thank both men for their support. Also, the Upsilon Chapter placed its picture in the EI Rodeo (university's yearbook) for the first time.
Hanging on to......

WHAT YOU HAVE

Since the dawn of time, safeguarding measures — ranging from burying treasure to mammoth electronic security devices — have been used by man to protect his valued possessions from fire, flood and the menace of thieves.

From the first axe hidden under a rock to an 87½-ton vault door — the world's largest — manufactured by Diebold, Incorporated for The First National Bank of Chicago, man has continually sought new and better means of protecting what is his.

Evolved from the "under a rock" approach, ancient Egyptians, over 4,000 years ago, perfected the first lock. Using a pin arrangement and a wooden key so large that it had to be carried over the shoulder, caches in pyramids gave first evidence of what is today the safety deposit vault. Treasures of ancient days — the riches of kings — were kept in the pyramids. The Bible recalls that Joseph stored corn in the safety deposit vault of Egypt for seven years to provide for hard times of the future.

Homer's immortal Odyssey describes "The Citadel," a vault-like depository where valuables originally were protected by an "intricately knotted cord." Later, this was replaced by a wooden bar attached to an iron latch inside a huge door.

To gain access to this ancient vault-like storeroom, a hole had to be bored into the door, and a two-foot key inserted to lift the bar. Historians of the Roman Empire period described vaults of stone divided into compartments which were either individually owned or leased to groups. Trusted slaves were locked inside these vaults as guards; others remained outside on 24-hour duty. Thus, the first cooperative safe deposit vault.

Greek treasurers, and tax money were likewise stored in vault-like strong rooms.

In the famed Greek temple, the Parthenon, a special chamber was divided from the main storeroom as a depository for temple treasures and citizens' property.

Today's modern burglar, fire and water-proof vaults resulted from countless experiences. Increased demands on protective devices encouraged experimentation, and necessity has proved to be the proverbial mother of invention.

The first public safe deposit vaults in the U.S. were built in 1865 for Col. Francis H. Henks at the 140-142 Broadway building in New York. Two years later, Col. Henry Lee built the Union Safe Deposit Vaults, first of their kind, in Boston.

The public, however, was aghast to the idea of fire-proof vaults in these early years. The Chicago fire in 1871 proved to be a turning point when it was learned that 379 of Karl Diebold's safety devices survived the holocaust. At this time, the Diebold Safe and Lock Company was only thirteen years old.

In the year of 1871, at the time of the Chicago fire, there were exactly six safe deposit companies in the United States. As the public grew to recognize the value of the vaults of the time, the number of safe deposit companies grew to fifty in the next four years alone.

By the year of 1876, Diebold had constructed what was then the largest vault in the world for the San Francisco Safe Deposit Company. The main door had five locks for extra security. The vault contained 4,600 safe deposit boxes. It took 47 freight cars to transport the vault from the Canton, Ohio, headquarters of Diebold to San Francisco.

Today, more than 100 years since the Chicago fire, experience and experiment have paved the way for great strides in vault technology. The 87½-ton double-door design vault door at The First National Bank of Chicago featuring the latest in scientific electronic security devices, is massive evidence of the strides man has made during the past 4,000 years to protect what is his.

THE WORLD'S LARGEST BANK VAULT DOOR standing guard over 40,000 safe deposit boxes at the First National Bank of Chicago, lends massive evidence to the strides man has made in safeguarding his possessions since the first lock was perfected by the Egyptians nearly 4,000 years ago. The doors, weighing 87½ tons, were built by Diebold, Incorporated of Canton, Ohio.
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