



TECH NEWS

SCHOOL OF TECHNOLOGY • CITY COLLEGE OF NEW YORK

VOL. VII No. III

THURSDAY OCTOBER 31, 1957

By Student Fees

TAU BETA PI NATIONALLY HONORED CITY COLLEGE CHAPTER SECOND BEST IN COUNTRY

Of ninety-nine collegiate chapters of Tau Beta Pi, the National Engineering Honor Society, the City College chapter won honorable mention as the most active chapter in the country. While the MIT chapter was chosen as the most active, the honorable mention means that local chapter is the second most active chapter in the country. This is the first year the chapters were judged on a comparative basis. The national honors were bestowed by the alumni members of the organization and are evaluations of the past year's activities of the chapters. Of direct benefit will be the publicity given to the local chapter. Such publicity will advertise the college and will present a favorable impression of all of City's engineering students.

AICHE & BASKERVILLE SOCIETY PRESENT INDUSTRIAL TALKS

Through the combined efforts of the AIChE and the Baskerville Chemical Society we witnessed a fine program on Thursday, October 10, which featured five speakers discussing five different as-

pects of technology in modern industry. Mr. Guthrie of the Shell Oil Company was instrumental in organizing the program.

(Continued on page 6)

Among the outstanding functions of Tau Beta Pi last term was the lecture series organized by Harold Klein. Harold is president of TIIC this term. The series was open to the entire college and fea-



Industrial Speakers



Art Sussman, President of Tau Beta Pi Spring '57

tured talks by representatives from major industrial and cultural organizations. This series will be continued this term under the direction of Bernard Goldberg. Also notable is the E-day art exhibit

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TECH NEWS

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Brothers of Industry

The symbols of engineering are often taken to be bridges, or aircraft designed to kill first, or oil wells vomiting black gold. And always under pictures of these items are cliches pointing out the genius of engineering they represent. There is no need to mention the Greek immigrant who pounded the rivets. Forget the Puerto Rican who cut the sheet metal! Ignore the uneducated who put their hands two centimeters away from a spinning saw wheel so as to better guide a hunk of steel! If his hand should be severed, another hand can be hired.

And if the great skilled labor should disappear, if the poor Joes who did not go to college were not around, if the dumb Susans did not check the wiring

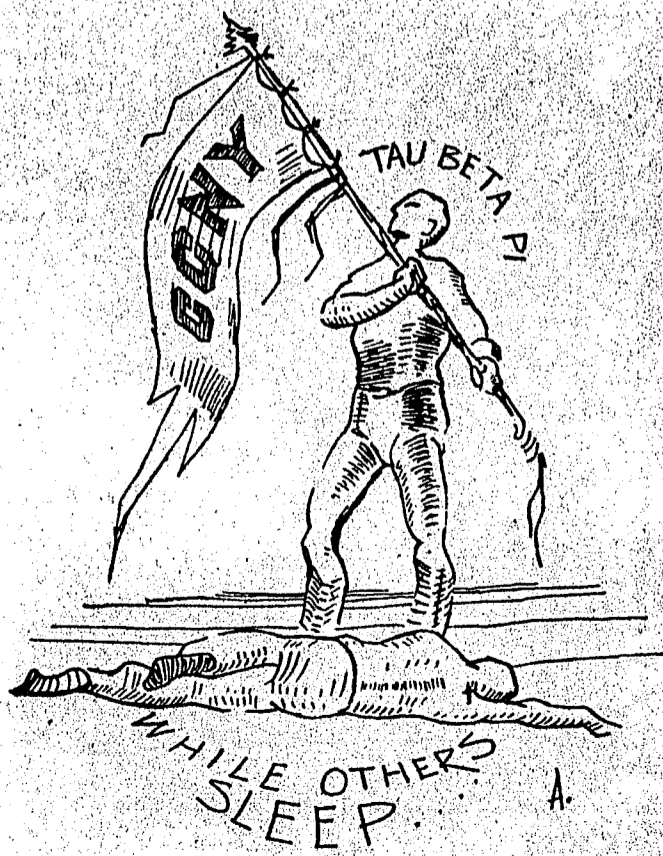
circuits, who would build the engineer's great works of genius.

If there be anything built, it is built because of the mutual confidence of designer and worker. No man can design if he does not feel within his designs exactly how they will function. "I feel it; it is myself", must be his motto. And always the design must be shaped so men can make it. Figure draft angles, watch the thickness of a part, men must make this thing!

Every laborer who is unskilled must become skilled; the unskilled we can replace with a machine. But the skilled are irreplaceable until the EE design a computator as good as the mind or the ME finds a machine as good as a hand and an eye. Every skilled worker is our concern, and these men, who listen quietly while being told what to do and then do it, trusting our blueprints, are our brothers in creation. Those who do not work mean we are not working; a design which is not being carved in metal will never exist.

And if those who call themselves engineers are really what they say, men who are concerned with designing and manufacturing, not smart-alecs using a swollen labor demand, they will concern themselves with the laborer who makes his designs. The laborer, his well-being and training, must be considered in all designing. His mental and social health affect his performance on the production line or in the experimental shops as much as his physical strength.

Should the cult of not-my-jobism continue to exist as engineers as a mass refuse to concern themselves with the problems of labor, then the engineer will lose his authority as a planner of society.



TECH



CROSSROADS

DEAN'S LIST

While the rest of us were singing and having all kinds of fun, these poor fools were studying. If they dare to rub it in now that honor's time is around, we shall take away their slide rules.

U. So. 5	Abrams, Neil
L. Jr. 5	Brandt, Robert
L. Jr. 5	Chew, Louis
L. Jr. 5	DeBellis, Anthony S.
L. Jr. 5	Drangel, Irwin
L. Jr. 5	Elias, David
L. Jr. 5	Feuer, Robert
L. Jr. 5	Friedland, Allan
L. Jr. 5	Greenstein, Teddy
L. Jr. 5	Griff, Donald
L. Jr. 5	Grish, Theodore A.
L. Jr. 5	Grossel, Stanley
U. Jr. 5	Grossfield, Andrew
U. So. 5	Hamill, Thomas C.
L. Jr. 5	Hauben, Lawrence Alan
L. Jr. 5	Healy, Clement M.
L. Jr. 5	Hertzberg, Richard W.
U. Jr. 5	Joseph, Robert
L. Jr. 5	Katz, Robert A.
L. Jr. 5	Koenig, Herbert A.
L. Jr. 5	Koenig, Herbert S.
L. Jr. 5	Kostas, Demosthenes
L. Jr. 5	Langer, Donald F.
L. Jr. 5	Levine, Seymour
L. Jr. 5	Medici, Dante
L. Jr. 5	Melworm, Robert
L. Jr. 5	Michaels, Barry S.
L. Jr. 5	Miller, Gerald P.
L. Jr. 5	Millman, Gilbert C.
L. Jr. 5	Most, Bernard M.
L. Jr. 5	Musoff, Howard
L. Jr. 5	Nadler, Arnold
L. Jr. 5	Newberger, Stuart M.
L. Jr. 5	Ouziel, Bernard
L. Jr. 5	Pento, Frank
L. Jr. 5	Pilc, Randolph J.
L. Jr. 5	Pinzer, Eugene A.
L. Jr. 5	Rosenberg, Theodore J.
L. Jr. 5	Rubin, Philip E.
L. Jr. 5	Sadowy, Roman
L. Jr. 5	Sherwin, Martin B.
L. Jr. 5	Simon, Marvin K.
L. Jr. 5	Torby, Bruce J.
L. Jr. 5	Wilson, Jack N.
L. Jr. 5	Wynn, Charles M.
L. Jr. 5	Yagoda, Irwin

The Music Series:

BEETHOVEN'S EMOTIONAL DEVELOPMENT

by Allan Rosenheck

Many books have been written on the subject of Beethoven's life, his music, his artistic technique, and his significance in musical history. However, his works can be discussed from another point of view — the relationship between his music and his emotional or spiritual development. The events and experiences in Beethoven's life directly influenced his music, as is the case with every great artist and composer. Although the actual experiences are not apparent in his compositions, Beethoven's reactions to them are evident; one can sense in Beethoven's music his individualistic spirit, his fear of going deaf, his unsuccessful love affairs, his love of humanity and his belief in God as the ruler of the universe.

It should be pointed out that much of this analysis is mere conjecture and speculation, for no man's emotions can be analyzed simply from external circumstances.

People's feelings are complex and often inexplicable. Beethoven's works are the product of a blending of deep emotional feelings, instrumentation and form, as well as financial need and popular acceptance. Nevertheless, it is interesting and informative to parallel what we know of Beethoven's emotional life and his music.

It is customary to divide the works of Beethoven into three periods which correspond to three stages in his life. The first, or early period, represents Beethoven from youth to early manhood; his works are characterized by moods — depression, pure joy, anger and love. The second period encompasses Beethoven's middle years in which he gradually became deaf; the music of this period contains more personal feelings and represents a synthesis of the emotions which were unrelated in the early period. The third stage includes Beethoven's later life in which he looked to God and humanity for inner peace; here Beethoven wrote his greatest and most penetrating music.

The years from Beethoven's birth in 1770 until he was thirty were significant in forming his character. His unhappy and suffering childhood under a domineering father who wanted to make him a child prodigy served to bring out his revolutionary and rebellious spirit which remained with Beethoven for his entire life. He took on responsibility at an early age, occupying an important



musical position in Bonn at the age of thirteen and traveling to Vienna at twenty-two. By this time the rebellious spirit in Beethoven was so strong that he became intolerant of all criticism as a person or musician. Throughout his later life, this intolerance caused him to suffer many hardships; he never developed an understanding of human nature.

At about thirty years of age, Beethoven first noticed symptoms of oncoming deafness. This was one of the two great emotional crises in the first stage of his life, the other being the death of his mother, to whom he was greatly attached. The following excerpts from letters he wrote at this time illustrate his despondency and rage:

"Your Beethoven is most unhappy and at strife with nature and the Creator. I have often cursed the latter for exposing his creatures to the merest accident, so that often the most beautiful buds are broken or destroyed thereby. Only think that my noblest faculty, my hearing, has greatly deteriorated . . . I can say I am leading a wretched life; for two years I have avoided almost all social gatherings because it is impossible for me to say to people: 'I am deaf.' If I belonged to any other profession it would be easier, but in my profession it is an awful state, the more since my enemies, who are not few, what would they say? In order to give you an idea

(Continued on page 4)

Humanities Evaluated

Very often the neophyte engineer enters college with the unfortunate idea that the liberal arts courses are just inconsequential subjects thrown in to further add to the already menacing burden of physics, math and chem. Worse yet is the altogether too prevalent notion that any course other than one in the basic sciences is meaningless since it doesn't have any direct relationship to the student's career as an engineer.

In an effort to rectify this situation, an experiment was started in 1949 to create a unified sequence of Social Studies and Humanities which would "... give greater fullness to the student's personal life and help satisfy his human needs that may be left unsatisfied by purely vocational or professional achievements."

Recognizing the need for awakening the student's interest, the Soc-Hum sequence starts with a survey of our own culture and then proceeds to the heritage of the past. The curriculum of the course is constantly changing; books that are perhaps too vague are replaced by ones that are more concrete but none-the-less substantial and worthwhile. That is, the literature is made more palatable without being "saccharinized."

In addition, lectures are used to sharpen the undergraduate's interest in the course; films and tapes are used to contrast the subtle shades and hues of gray that an author can create and expound, to the absolutes of black and white that an hour and one-half film must necessarily portray.

The instructor must work a good deal harder since the topics taken up are so very diversified that consequently, he must do considerable reading outside his own field. Refreshing too is the fact that ideas and forces are stressed, while absolute dates and dynasties are relegated to relatively minor positions.

Perhaps the only real drawback to the Social-Humanities sequence will be eliminated by next semester. In the future, the student will not take six credits during his second semester of Soc-Hum courses but instead will take three credits. This action has the added desirability of spreading the liberal arts courses so that the undergraduate does not spend his last three years completely confined to engineering courses. Professor Sass, head of the Social-Humanities sequence, would "like to see the last course of the sequence delayed until the student's last semester."

BEETHOVEN . . .

(Continued from page 3)

of this singular deafness of mine, I must tell you that in the theatre I must get very close to the orchestra in order to understand the actor . . . Oh, if I were rid of this affliction I could embrace the world! I feel that my youth is just beginning and have I not always been ill? My physical strength has for a short time past been steadily growing more than ever and also my mental powers . . .

These letters seem to suggest that Beethoven was defending his creative powers against deafness. Soon however he realized that he was possessed by these powers, and instead of his controlling them, they controlled him. This realization marked a turning point in his life; no longer did he find it necessary to be defiant, because he no longer feared termination of his creative powers.

With the Eroica (Third) Symphony, Beethoven's second period began. For the first time he composed a unified, personal composition which expressed a composite of his emotional experience up to that time. By now, Beethoven realized that he would become totally deaf and he retreated from society to a solitary life. This was fortunate for the world because a personality like Beethoven needed a life with few external disturbances in order to develop and compose. The conflict between two inner principles, assertion and submission, became the dominating motive both in Beethoven's life and music during this period. It was not, however, between he and his surroundings but rather between he and "Fate", a name which Beethoven gave to the intangible force that he felt governed the universe. The famous fifth ("Fate") symphony depicts this conflict.

In his final years Beethoven found the answer to his loneliness through the companionship of God. (Little is known of his exact religious beliefs.) Beethoven now re-evaluated the experiences of his life and found new courage and confidence in God. Illustrations of this new faith are the Mass in D and the famous Choral (Ninth) Symphony. None of the compositions in this period contain a dramatic conflict as do the works of his earlier period; the music is rather on one exalted level of emotion. Since the music is very deep and involved, many listeners believe that it is poorly written, but upon repeated hearings, one realizes that the reverse is true. The compositions of this period represent the epitome of Beethoven's greatness; aside

TIIC SPONSORS TEA

The Tech School showed its oats Friday, October 11th, in the Bittenweiser Lounge, Room 132 Finley, by sponsoring a student-faculty tea.

The tea, which had an overall attendance of more than 350, was planned to develop better student-faculty relations in the Tech School. Appearances were made by President Gallagher, Dean Allen, and many other faculty members.

The tea, sponsored by the Technology Inter-Fraternity Inter-Society Council, was originally proposed by Harold Klein, its president. Klein, who was home with the flu at the time, expressed his desire to "thank the faculty wives who helped us" and, don't forget the girls of SWE."

from the Ninth Symphony and Mass, he composed five string quartets which are considered consummate masterpieces.

Beethoven died in 1827 at the age of fifty-seven. It is reasonable to assume that if he had lived longer, he would have composed even greater music, for his emotional nature was such that would never become stagnant; each



work was greater than the one preceding it, his greatest works being written toward the end of his life. This close correlation between Beethoven's emotional life and his music is found to exist with almost all great composers and artists in other fields. They create in order to express their feelings; their works are a product of themselves.

TECH ENROLLMENT ON THE RISE

Mr. Gustave G. Rosenberg, Chairman of the Board of Higher Education, said in an interview, "that more than 6,000 prospective engineers are enrolled in undergraduate study at the municipal colleges." This is an increase of about 50% over last fall's enrollment. The majority of these engineers come from City College which ranks fourth in enrollment among undergraduate engineering schools in the nation.

According to Mr. Rosenberg, this points up the vital part the municipal colleges are playing in the public economy by providing vitally needed engineers.

Other important factors noted by Mr. Rosenberg were the rise in enrollment of women in the School of Technology and the increase in graduate work done at the school. In recent years, the number of undergraduate students who go on to obtain their PhD's has greatly increased. In the period 1946-1950, City College ranked fifth among institutions providing undergraduate training to engineers receiving their PhD's.

With the swelling enrollment, and the promise of even greater enrollment in the School of Technology, the City Planning Commission has recommended that construction funds be included in the 1958 budget for a new technology building. It is the hope of the college that part of the building will be ready for use in the fall of 1959.

HOWARD WHITE

Candid Camera Contest

Here is your opportunity to capture campus life as it actually is, and to make money while doing it. Microcosm '58 is sponsoring a candid camera contest. All pictures should depict some phase of campus life and should be unposed. Pictures are to be black and white prints, no smaller than postcard size.

The first prize is \$10. and the second five dollars. Winning pictures will appear in Microcosm. The contest is open to students and faculty members alike.

All entries should be submitted in room 223 Finley no later than November 15th. All entries become the property of Microcosm.

Founded in Illinois, Pi Tau Sigma Honorary Membership has grown throughout the chapter, Pi Tau Sigma to the winter sorship of Pi Tau Sigma International Council petitioned for here at City. was formally 1942.

Pi Beta Chapter bringing the Convention to include the keeping students the ME office cal Engineering upon.

Pi Tau Sigma, however states, "The shall be to for engineering interest in coonities, to promote welfare of its in students the attribute leadership and responsibility." racy."

To fulfill tion, Pi Beta several cultu broad interes gram of activ

Pi Tau me interest in t school. In th among its m many past an and officers Most of the p Pi Tau men tors, and exe mittee. At p Commanders is represente many vetera Athletics are ming team Members ha also, from a sorship of a to plumbing Pi Tau S unifying ch Scholarship, and persona

MECHANICAL ENGINEERING HONOR SOCIETY

Pi Tau Sigma

by Bob Weinberg

Founded in 1915 at the University of Illinois, Pi Tau Sigma, the National Honorary Mechanical Engineering Fraternity has grown to over sixty chapters throughout the nation. The City College chapter, Pi Beta, traces its origin back to the winter of 1941. Under the sponsorship of Prof. C. H. Kent, the National Council of Pi Tau Sigma was petitioned for a chapter to be instituted here at City. New York Pi Beta Chapter was formally installed on March 28, 1942.

Pi Beta Chapter was instrumental in bringing the ASME Student Branch Convention to City College. Its activities include the sale of laboratory insurance, keeping students' records up-to-date in the ME office, and aiding the Mechanical Engineering Department when called upon.

Pi Tau Sigma is not a service fraternity, however. The National Constitution states, "The object of this organization shall be to foster the high ideals of the engineering profession, to stimulate interest in coordinate departmental activities, to promote the mutual professional welfare of its members, and to develop in students of mechanical engineering the attributes necessary for effective leadership and the assumption of the responsibilities of a citizen in a democracy."

To fulfill the objects of the organization, Pi Beta co-sponsors with ASME several cultural meetings on topics of broad interest, and maintains a full program of activities for its own members.

Pi Tau men have always taken a keen interest in the activities of the Tech school. In the ME societies, Pi Tau has among its members the President and many past and present officers of ASME, and officers of the other ME societies. Most of the past presidents of TIIC were Pi Tau men, as were several TN editors, and executives of the E-Day Committee. At present two ROTC Battalion Commanders are members; the military is represented in Pi Beta Chapter by many veterans including several officers. Athletics are represented by an ex-swimming team captain and a track star. Members have diverse outside interests also, from a bed-spring factory, to directorship of a bread research laboratory, to plumbing.

Pi Tau Sigma men do have certain unifying characteristics: excellence in scholarship, general engineering ability, and personality. Pi Tau defines "person-

ity" as strength of character, honesty, fairness and concern for others. Scholarship requirements are that the candidate be in the top quarter of his class. All who qualify are notified by the organization. No distinction is made between the top man and the lowest man in the first quarter.

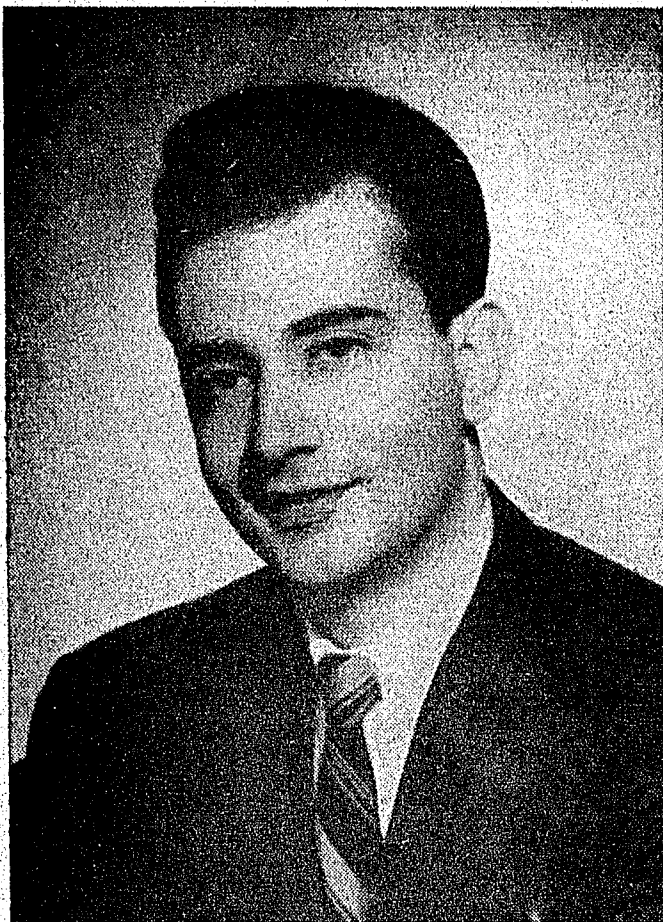
General engineering ability is less tangible. It may be determined by the eligibles participation in extra-curricular activities both within the College and in the community. Due consideration is given to a candidate's economic and marital status in this regard. The membership must feel that the eligible has a reasonable chance of being a success in the engineering profession before he is allowed to pledge.

Pi Beta Chapter encourages eligibles to seek membership. Pi Tau Sigma membership is an honor worthy of seeking.

TAU BETA PI...

(Continued from page 1)

sponsored by Tau Beta every spring. Last Friday the chapter sponsored a student-faculty tea.

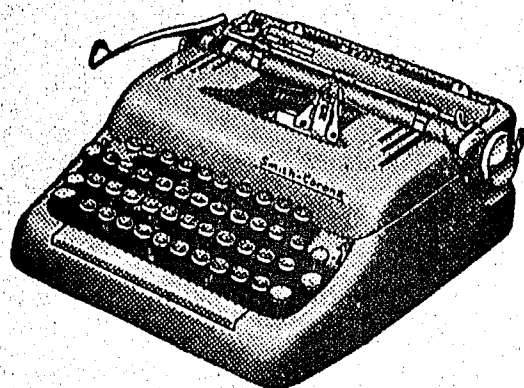


Fred Cataneo, President of Tau Beta Pi Fall '57

Certainly while the organization is active on campus, it must not be forgotten that the main reason for its development is the recognition of deserving students. Tau Beta Pi aims to mark those who serve the alma mater unselfishly and who fulfill their student obligations.

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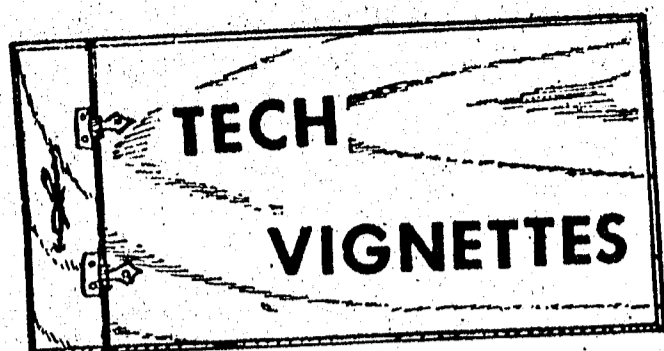
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Store Hours

DAILY: 8:45 A.M. to 4:30 P.M.
EVENINGS: M-Wed-Thurs. To 8:45 P.M.



MISS SILVERSTEIN OF THE EE DEPT.

Miss Silverstein has been secretary for the E.E. Dept. for 22 years. During this time she has seen the School of Technology grow from an entire staff of less than forty to its present size, where the E.E. Dept. alone has more than that. She has met many students, and has seen some come back as instructors, eventually to become professors. Something which she is very proud of is having been mentioned in two E.E. textbooks by C.C.N.Y. professors. At our interview with her, she told us about some of the changes she has seen since



Miss Silverstein

she started working for the School of Technology. One of them is the difference in job opportunities. The present graduate need not go out and look for a job, jobs come looking for him. He can wait until the type of job that he wants comes along, and moreover when he gets it he can expect a salary of \$450-\$500 dollars per month. In 1940, the graduating engineer could not get a job in New York; half the graduating class could not get a job at all and \$300 dollars per month was a terrific salary for those who could get a job at all. There was one lone company that came on Campus, General Electric. Every year they sent their representative down, and

he hired one man who had to be in the top ten percent . . . Miss Silverstein remembers one year when it seemed that even he would not come any more. The year was 1949; the G.E. representative came just in time to see the famous Kickerbocker-Davies Strike, the unsuccessful attempt on the part of the students to have two staff members accused of discrimination fired. After what the representative saw, everyone was certain that he would not come again, but he did and has every year since, hiring more students every year. Miss Silverstein feels that the excellent job opportunities now presented to the seniors is largely due to the fine impression those lone graduates who worked for G.E. gave of our school. Industry came to realize that our anchor men are as good as some school's top men. Miss Silverstein went on to say that this great job opportunity presented to our graduating class may not be as much a blessing as it seems. As a result of it, many students fail to see future possibilities because of the large amount of seemingly good present ones. One such example is the few number of students who go into graduate work immediately on graduation. Another is that students crowd themselves into the field with the highest starting salary disregarding their own capabilities and preferences. Up until recently, the E.E. Dept. offered electives in both communications and power. (Communications is the better paid of the two fields, perhaps the best paid in the industry). The enrollment for communications was overwhelming, while that for power was so slight that the courses were discontinued.

Since we live in a time of prosperity, lack of money is no major problem in our college career. In the '30s and '40s poverty was a problem; almost all our students had to work, many could not afford even the barest necessities of a college education, and some could not even afford carfare and walked to school. With all the advantages we have over those who went before us our college career will still be far from an easy one. Miss Silverstein said that many of the students that have to drop out do so because they fail to realize this. One of the gravest errors students can make, one apparently made before, is overloading their schedule. Many students think they can finish in four years and drop out after one. She said that it is well worth it to stay an extra year and pick up a decent average than spoil a career with a bad college record. The one year is not much, but the record stays with one a life time.

HERB HILLER

Tutoring By Chi Epsilon

Tutoring services by members of Chi Epsilon, the Civil Engineering honor fraternity, are again available to all engineering students. For full information regarding the subjects covered and the hours open, consult the Chi Epsilon bulletin board opposite the Civil Engineering office.

In keeping with Chi Epsilon's policy of service to the school, the tutoring program, which is offered during the school day, is free and open to all who feel in need of assistance, whether to clarify a small point or to review a term's work.

This will be the third term that the tutoring program has been in effect and the responses to it in the past have been most gratifying. Stanley Schwartz, president of Chi Epsilon, sincerely hopes that this year even more students will profit from the help offered by the fraternity.

C.E. 101, 201, 110, 120, 218, and 222 are among the courses tutored by the Chi Epsilon members.

CHEM TALKS

(Continued from page 1)

The first speaker, Mr. Griswald, of the Allied Chemical and Dye Corporation, talked on the importance of graduate studies in pursuing a career in industrial technology. Mr. Griswald was of the opinion that whereas a Bachelor Degree would provide a suitable means for obtaining an ordinary engineering job, because of the nature of the technical work in modern industrial processes, particularly in research and development, the advanced degree is most desirable. He also pointed out that by 1958 the current engineer shortage which is already declining will just about have run its course causing a more selective attitude on the part of employers. In such a situation, the need for an advanced degree is manifest.

Mr. William Bauer of the Stauffer Chemical Corporation discussed research and development. Perhaps the most enlightening point brought forth was that all research conducted by most companies (with the exception of the large . . . GE, Du Pont, etc.) must lead to a direct financial benefit to the firm. In other words, research for its own sake is rather rare in most corporations. On the topic of criteria for selection of per-

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THE GHOST OF GOETHAL'S HALL

Anyone walking in the underground passageways must see, on occasion, puffs of vapor. Dismissed by some as mere steam clouds or cigarette smoke, these phenomena are never examined. It should now be revealed that these clouds are the ghosts of the college. A secret survey conducted by the aggressive staff of this newspaper showed that of several hundred thousand people who have used the passages connecting the varied buildings, over a hundred have been reported missing. Our secret survey also included investigation of the mysterious underground clouds. These clouds in an unnatural manner never dissipate. Their velocity exceeds that of a running student so we have been unable to catch one. Being rational students of technology, we would not speculate on the nature of these creatures without additional facts.

Last week, using the passages after a midnight lab, one of our reporters, who is resting at home now from a terrible skin rash and fever, encountered a vapor cloud. The vapor, hot and painful, pressed our comrade into a corner and by some unknown method of communication revealed itself as a dead soul. The reporter thinking of TECH NEWS only, awake to potential news, and eager to increase our staff, convinced the ghost to join the paper. The creature accepted his proposition.

This morning we found this story, written in dried blood, on our bulletin board. It is so bizarre and so terrifying in its implications that we must print it.

Reluctantly I climbed the stairs from St. Nicholas Avenue. Through the dark park, illuminated only by the autumn half moon, I hurried to my class. When I reached the high level of the terrace, my heart was pounding. Never had the college buildings looked so weird, so enveloped in the dark. A wind of unnatural power almost blew me over as I fled into Shepard.

The halls seemed to be filled with the dead and dark. I climbed the stairs. On the third floor, jar-encased lizards, dead spiders, and unborn creatures reflected yellow light bulbs. No sound could be heard, for at 11:30 few classes were in session.

Finally, by mental force, I overcame all fear and reached and entered my fifth floor class. My professor was the one-eyed Dr. Kloss. With my classmates, I huddled in a far corner while he mumbled incoherently between terrible coughs. Before him on the moldy wood desk rested a black box with two projecting wires. Shaking his massive head from side to side he talked almost to himself. The rest of us sat quite still. Suddenly he seized the box, and flashing his good eye, he raised the box over our heads and bellowed, "You will never know what is in this box; it is none of your concern." The lights failed and all that could be seen was the professor's one good eye reflecting the moon. I could not move.

Dr. Kloss looked at each of us and smiled knowingly. Only he knew what was in the black box. "No one who takes EE 102 ever finds out what is within", uttered the madman as he tapped the container. "All you need to know is E open circuit and the internal resistance. Thevenin's Generator can do anything."

I was amazed; the black box could do sonnel, Mr. Bauer suggested that sincere interest in the field, intellectual honesty anything. Foolishly I asked, my voice breaking, "But Herr Professor, what about the effective current?"

The man was so taken aback that he stood still for several moments. Then, in a rage, he scrawled on the board: $E = I R$

"Knowledge," I whimpered, and copied down the sacred formula.

"Get out!", the professor croaked.

My classmates fled, but not I. I was determined to find out what was in the black box. After waiting a few minutes in the hall, I returned to the room.



"Professor," I cried, "What is in the black box?"

He stood before me, quivering in rage. "All you need to know is E and R," he insisted and picked up the box. I lunged at him grabbing the projecting wires. "May Ohm curse you!" he cried.

" $F=ma$," was my retort, and with the mention of the most sacred of all oaths the professor shuddered and fell to the floor with the box. I pulled at the wires, and they came out. The holes left by the wires were deep black, but only for a moment. The holes showed fire and then smoked. I ran out of the room, down the stairs, past the bottles of the unborn and into the street.

I looked up to see the entire fifth floor of Shepard burning. I fell to the street overly aware of what I had done.

"Oh great Ampere, what shall I do" was my plea. Resolved to make amends to the gods of electricity, I stumbled into the underground cellars, never to see the light of day again.

CHEM TALKS

(Continued from page 6)

and personability were indeed the chief criteria in addition to the more tangible means of judging a prospective employee, such as grades.

The following speaker, Mr. John W. Colton of the Scientific Design Company spoke briefly about industrial plant design and told the audience that only a dozen or so design firms are responsible for seventy-five percent of the plant construction designing in the nation; also, men without a post graduate degree and/or 2 to 3 years plant experience have little or no opportunity in this field.

Mr. James Costigan of the Sharples Corporation discussed sales engineering, differentiating for us engineering salesmanship and ordinary salesmanship. The chief difference lies in the fact that for a sale of a piece of machinery the profitability of the equipment must be clearly proved on a balance sheet, whereas ordinary merchandise may be sold on other bases, such as aesthetic usefulness.

The last speaker, Mr. John Marsland of the Shell Oil Company, spoke on opportunities in production both in the plant and in the organization offices. The advantages of plant work were: the opportunity to improve operations, to gain an intimacy with the problems of production, and to develop ability to work with people (especially non-technical workers) and to gain their cooperation. Plant experience is the best road to organization employment and to executive positions. MURRAY BERGER

SPORTS

Slide Rule League

With two weeks of the season passed, AIEE leads the Slide Rule League with a 1-0 record. The one EE victory came in a game against the ChE's. Sparked by Elliot Levine and Rowen Rifkin, the EE's were able to eke out a 58-57 victory. The week before, the ChE's beat the ME's in another close game, which ended in a 44-42 score. Although the ME's dominated the court during the first half, the ChE's were able to win with a strong second half. High scorers for the ChE team were Fierstien and Herenstein with 13 and 12 points respectively. High scorer for the game was Ed Fishbein (ASME) with 14 points.

LEAGUE STANDINGS

	Won	Lost
AIEE	1	0
AICHe	1	1
ASCE	0	0
ASME	0	1

Bowling League Cancelled

The Wednesday night bowling league has been cancelled due to the inability of two societies to form teams. Two days before the first scheduled match only ASME and ASCE had organized teams. Although notices had been posted on the bulletin boards at Tech Crossroads, very few keggers responded.

Wanted

Wanted, basketball players to compete in the slide rule league. All teams are undermanned. During the first week of competition, ASCE and AIEE couldn't field teams. The following week, ASME and ASCE couldn't field teams. Here's a chance for all tech men to show that they still have some of that Allagaroo spirit.

Consult either your sports chairman or the bulletin board at Tech Crossroads.
BOB HAIKEN

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MECHANICAL ENGINEERS HEAR TALK ON PUMPS AND SALES ENGINEERING

The guest speaker at the October 17 meeting of the American Society of Mechanical Engineers was Mr. Robert Norton of the Dean Water Pump Company. A recognized expert on centrifugal pumps, Mr. Norton discussed pumps and sales engineering.

There are two main difficulties in dealing with centrifugal pumps. There is some leakage of fluid where the shaft enters the impeller casing. To counter this leakage, a device known as a stuffing box surrounds the shaft at its entrance to the impeller casing. Due to unbalanced forces, caused by the moving fluid, the shaft tends to bend. It is the function of the engineer to increase the efficiency of the pump by solving these and many other problems associated with its operation.

The sales engineer is the contact man between the manufacturer and the purchaser of the product. He must have the technical knowledge to understand what the needs of his client are.

What are the characteristics that make a good sales engineer? He must like personal work, and since the profession is a highly competitive one, he must be aggressive. The sales engineer is also responsible for many of the minor adjustments that are necessary for ideal installation of engineered products. He must arrange transportation of the product and must educate the client to the uses and capabilities of the machine.

As for income, the National Society of Professional Engineers report that sales engineers are the best paid engineers. Their salaries are surpassed only by the managers of industry. The pay is usually higher at first if the engineer works for a small company, but the salary of an engineer working for a large organization earns more money after about twenty years.

Mr. Norton feels that there is an excellent chance for a sales engineer to become an executive for the company he works for. He recommends that the ambitious further their schooling with additional courses in liberal arts. He recommends that since all engineers may not continue to work with formulas but will tend to deal with people as groups as the years go by, they will do better to develop their personal abilities.

WILLIAM LANGWEIL
LAWRENCE WEINER

COMING EVENTS

ASME

October 31

Speaker on Industrial Gas Turbines S126

November 7

Development of Guided Missile Warheads S306

AIEE-IRE

October 31

Speaker: Electronic Counters F217

November 7

Color T. V.

AICHe

October 31

Film: The Great White Trackway

November 7

Speaker: Process Engineering and Design

Slide Rule League—October 31

6:30 AICHe vs ASME

7:30 AIEE vs ASCE

Slide Rule League

6:30 AIEE vs ASME

7:30 ASCE vs AICHe

All students interested in work on THIC committees such as PDP, E-day, sports, etc. contact Gil Silverman at HA 6-8176.

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