

# WELCOME TO E&A DAY



THE SCHOOL OF ENGINEERING AND ARCHITECTURE

## THE NEWS

CITY COLLEGE OF NEW YORK

VOL. XXIII, NO. 2

SATURDAY, FEBRUARY 26, 1966

STUDENT FEES

### 1966 E&A DAY PROGRAM

#### ARCHITECTURE

Designs of rural library  
ski lodge  
urban renewal  
campus commons

Architectural Sketches

Three-dimension design projects

Slides — selections of modern architecture

Tour of Design Studios

Furniture exhibition — posters

#### CHEMICAL ENGINEERING

##### I. Unit Operations Laboratory T201

1. Liquid Extraction
2. Filtration
3. Packed Tower

##### II. Polymer Laboratory T303

1. Plastic Extrusion
2. Nylon Rope Trick
3. Tensile Test

##### III. Process Control Laboratory T323

1. TR-10 Analog Computer
2. Stirred Tanks
3. Liquid Level Control

##### IV. Metallurgy Laboratory T408

1. Mounting of Specimens
2. Use of Microscopes
3. Rolling Mill

#### CIVIL ENGINEERING

##### Fluid Mechanics Laboratory:

1. Hot Wire Anemometer
2. Hydraulic Jump
3. Wind Tunnel and Smoke Tower
4. Oil Flow Unit
5. Tilting Flume
6. Centrifugal

##### Materials Testing Laboratory:

##### I. Tension Tests of Engineering Materials

1. Steel
2. Wood

#### E&A DAY COMMITTEE

Co-Chairmen ..... Jack Koplowitz  
Richard Schwartz  
Professor. List (Chem.E)

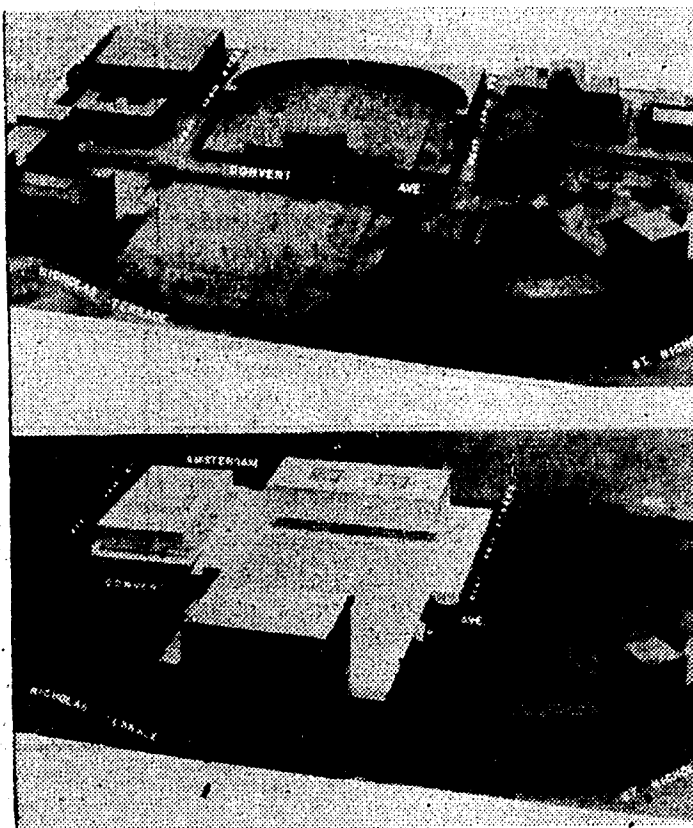
Dept. of Architecture ..... Ira Bernson  
Professor Deans

Dept. of Chemical Engineering. Sidney Workman

Dept. of Civil Engineering ..... Spencer Lauer  
Robert Weinstein  
Professor Plaxe

Dept. of Electrical Engineering .... Gehn Wong  
Professor Echtman

Dept. of Mechanical Engineering. Lenny Solomon  
Professor Burns



Models of present North Campus and proposed construction.

3. Concrete
4. Plastics

##### II. Compression Tests Of Engineering Materials

III. Flexure Test of Engineering Materials  
These tests will involve observation of the behavior of the material up to failure.

##### Survey Equipment

1. Engineer's Transit

2. Engineer's Level

3. Theodolite

4. Self-Leveling Level

5. Plane Table Mapping

6. Steel Measuring Tapes

##### Sanitary Engineering Laboratory

Various experiments dealing with sanitary engineering.

##### Soil Mechanics Laboratory

Various experiments dealing with the mechanics of soils.

#### ELECTRICAL ENGINEERING

Electric Analog Computer

Amplidyne Servomechanism

Instrument Servomechanism

Power Angle Variation

Magnetic Amplifier

Three Phase Induction Motor

Class C Amplifiers

Amplitude Modulation

Frequency Modulation

Closed Circuit Television

#### MECHANICAL ENGINEERING

Projecting Microscope

Preparation of Metal Specimens T33

Metal Processing Laboratory T35

Nuclear Engineering Laboratory 204b

Speed and Temperature Measurement  
Flow Experiment T04

Mechanics Research T04

Heat Engines T04

#### MILITARY SCIENCE

Bailey Bridge

Timber Trestle Bridge

Two Types of Pontoon Floating Bridge

Military Radio Equipment

Terrain Models

Film-Engineer Mission

Lensatic Compass

Military Weapons Display

# TECH COUNCIL

By CLIFFORD TISSER

Composed of nineteen organizations, Technology Council functions for the benefit of its constituent societies and the students of the School of Engineering and Architecture. The member organizations of Tech Council fall into four major categories: professional groups (Amateur Radio Society, American Institute of Chemical Engineers, American Society of Civil Engineers, American Society of Mechanical Engineers, Association for Computing Machinery, Executive Development Club, Institute of Electrical and Electronics Engineers, Society of American Military Engineers, Society of Women Engineers, Student Chapter of the American Institute of Architects), honor societies (Eta Kappa Nu, Omega Chi Epsilon, Pi Tau Sigma, Tau Beta Pi), social fraternities (Alpha Mu Epsilon, Epsilon Nu Gamma, Sigma Chi Epsilon), and publications, (TECH NEWS, Vector).

The professional societies, through regular lectures, keep their members informed of the most recent developments in industry. Topics during any particular Thursday Club Break may range from "Magnetohydrodynamics" to "The Use of the Computer in the Humanities." To augment their lecture programs the technical groups often take industrial field trips where they see the application of classroom principles.

## Social and Honor Societies

Only the best students in the School of Engineering and Architecture are members of the tech honor societies. The honor societies perform many valuable services to the students; among them, tutoring in math, physics, and engineering.

Social fraternities make a college education more than just four and one-half years of classes, books, and homework. Through these organizations, the engineering student can get more from his college experience than what is in his books.

The students of the School of Engineering and Architecture are particularly well served by their publications, TECH NEWS and Vector. TECH NEWS reports on the news of the college with a slant towards the tech school. The college's only publication with a nation-wide circulation, Vector prints articles of student research at CCNY.

Many of Technology Council's programs are aimed at improving the education and quality of life at City College. Tech Council's major programs are free tuition, educational affairs, film, and E and A Day.

## Free Tuition Struggle

Under the fine leadership of

Stephen Harkavy, President — Fall '65, Technology Council became thoroughly involved in the free tuition fight. Steve initiated the plan to have a nationwide free tuition organization. This term Student Government, with the aid of Technology Council, House Plan Association, and Interfraternity Council, is following up on the plan Steve started and is working on a state-wide free tuition organization.

The student representatives to the Student-Faculty Committee for the School of Engineering and Architecture are appointed by Tech Council and are also members of the Council's Educational Affairs Committee. Both the Student-Faculty Committee and the Educational Affairs Committee are presently investigating the liberal arts and social science courses required of tech students. The committees are looking into the possibilities of having liberal arts and engineering majors take courses together.

Last term Technology Council stepped into the area of tutoring as an organizing force. Towards the end of the term a new co-ordinated tutoring registration system was established. As the new term begins, the Council is hopeful that much of the red tape has been eliminated and that a student needing aid will find it much easier to get help.

## Tech Film to be Made

The Technology Council has felt that there should be a film about the tech school to acquaint freshmen, non-engineering majors, non-engineering faculty, and parents with engineering in general and with the School of Engineering and Architecture in particular. Since there presently is no such film, the Council decided and began last term to produce an orientation film. With the invaluable assistance of the City College Film Institute, the Council expects to have the film completed by the end of this term.

## E and A Day

E and A Day, held every second year during the spring term, is a major program of Technology Council. The open house is an excellent way for high school students, industry representatives, and all people interested in engineering to become acquainted with the school.

As one of the largest organizations on campus, Technology Council plays an important role in student and college affairs. Through its program and its member organizations, Technology Council tries to improve the quality of the student's education and to broaden his perspective to include the world around him.

# WELCOME TO E & A DAY

By RICHARD SCHWARTZ,

Student Co-Chairman

Welcome to the ship of technology. Hope and the promise of a better, more comfortable tomorrow will be your guide through the voyage on which you are about to embark. While you travel, you will see the distant form of an idea too far to grasp yet near enough to appreciate while you float in a sea of questions which need answering. In our world, the Engineer and Architect are surely the navigators who steer the ship into a logical path destined for the fleetling ultimate goal which withdraws but never disappears over the horizon of knowledge as the ship approaches.

## Aims of E and A Day

This voyage is a hard and sometimes painful trip, but the rewards of the navigator on the intellectual plane most certainly justify the struggle. This voyage is, of course, the journey which the student takes when he decides to study architecture or engineering. Today, we plan to show you the basic tools with which the engineer and architect are developed to stand in their place in society. We hope to present an interesting show of the wares which make the engineer and architect unique in a society where uniqueness is so often sought. We hope to reveal to the hungry eye of the prospective engineering student the reasons the engineer and architect have the ability of individualism as well as social compatibility. The requirement that we place upon the interested prospective student is that he ask any questions which he may have so that he will be able to make an educated decision as to whether he would like to become an engineer or architect. All too often students decide on studying engineering or architecture without knowing the basic facts about them which we hope to present at the Engineering and Architecture Day. Our day will also serve two other purposes. One of these will be to influence students who had not previously given thought to becoming engineers or architects to think twice before closing the possibility out of their minds. Our final aim will be merely to enlighten students who may not at all be interested in studying engineering or architecture, to what it is all about, so that they will have a discussion knowledge of the field.

## Four Depts. Represented

The four branches of engineering which are present at the school will be well represented in both the laboratory and class-

room. Any questions which arise will be answered by faculty members or qualified upperclassmen.

The civil engineering department will display its materials: testing, fluid dynamics, soils, and sanitary laboratories. The prospective civil engineering student will see the different principles which form the foundations of civil engineering. A film will be shown which will summarize the daily routine of the different kinds of civil engineers.

The chemical engineering department will show its laboratories in the hope of enlightening the student as to the advantage of chemical engineering. The unit operations lab, which definitely points out the bases of all chemical engineering will be in operation, and actual experiments will be run to point out theory in practice. The process controls lab, the polymer lab, and the metallurgy labs will all also be opened. Any question which arises will be answered by capable members of the teaching staff. There will also be a film shown on this field of engineering.

The electrical engineering department will have on display its power machinery, process controls, and networks labs in operation, so that the student interested in this field can obtain some first hand knowledge as to what electrical engineering is all about. Transistors, computers, and other modern day electrical achievements will all be discussed. Once again, a film will be shown for presentation of the full scope of electrical engineering.

## Reactor and Computers

The mechanical engineering department will present its various labs for the students' inspection. The machinery, metallurgy, and thermodynamics labs will be operating to show the mechanical engineering field. A film on mechanical engineering will be shown.

Added highlights will be a visit to the school's subcritical nuclear reactor, IBM 7040 digital computer, and computer rooms. Also,

free refreshments will be served.

The forecast for building construction in this country for the next twenty years surpasses that of any previous similar period. This will be due in large part to the expanding renewal and redevelopment work in our urban centers. This will create many additional opportunities in the profession of architecture. The department of graphics and architecture will have an exhibit, drawings, models and other material representative of the course of study in architecture.

## ROTC Display

The department of military science will also have a display of the notable objects a student will come across if he joins the Reserve Officers Training Corps (ROTC). Rifles, uniforms, bridges, and cannons will be on display.

The Engineering and Architecture Day has been held semi-annually in the past. This will be the second time it has been held in the new Steinman Technology Hall which opened in 1962. The same basic format of tours as in the previous day in Steinman will take place. Tables will be set up for each department in the lobby, and the student can go to the table of the department which most interests him. If a student is unsure about which field he is interested in, he is welcome to go on all the tours, in hope that this will clarify his viewpoint. We plan a large turn-out and hope that possibly this day will have a constructive effect on the people visiting the school.

**IF  
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READ THIS  
THEN READ  
TECH NEWS**

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The National Honorary Mechanical Engineering Fraternity

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"... I the success not only be also and feel that our graduates l ing and l only be a c the College ing in cor papers in effort and duce from journal wi shoulders the short p the School, and the st have supp manner o have been sure that wholehear forced by insure thi those inte must keep all times t in a techn a very h you all po cerely yo Dean of S

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# Vector — The National Magazine of the City College

"... I feel very sanguine of the success of such a journal here not only because of the need, but also and principally because I feel that our students, faculty and graduates have the ability, training and experience which will not only be a credit to the School and the College, but also be outstanding in comparison with similar papers in other institutions. The effort and work required to produce from time to time such a journal will fall largely upon the shoulders of a few, but during the short period in the history of the School, the faculty as a whole and the student body as a mass have supported in a splendid manner other ventures which have been started here, and I am sure that in this new effort, wholehearted support will be afforded by everyone. In order to insure this unanimous support, those interested in the journal must keep clearly before them at all times the idea that the articles in a technical journal must be of a very high standard. Wishing you all possible success, very sincerely yours, Frederick Skene, Dean of School of Technology."

## Vector's 30th Year

This letter referred to **Vector**, the CCNY engineering magazine, now enjoying its thirtieth year.

It all began in November, 1935, when a group of students laid the plans for "a purely technical" magazine called **Vector**. It was decided on that the main purpose was to print original engineering articles written by the students at City. It was also to publicize the student's work to his fellow students and to the faculty.

From the determination of the few students came the first issue. It was thin in comparison to today's issues but, as today's, it had interesting, informative and up-to-date articles. The first issue contained an article on the knock in autos deftly entitled "Detonations," another on "Generation of Primary Theory," and other articles and a few local advertisements to complete the issue.

## Makes Continued Progress

As time marched on, so did **Vector**. Subjects covered were always up-to-date and included an article on "The Effect of the Wind on Buildings," another on the Mid-Town Hudson (Lincoln) Tunnel, and lately an article on electronically controlled highways. Throughout the years all of the engineering fields have had articles printed.

One of the little known parts of the magazine is the views of the editor ranging over varied subjects and entitled "Vector Analysis." These editorials through the years have dealt with present interests in the social, academic and industrial life of the engineer. To prove this fact, the editorials included the need for extra-curricular activities, criticism of their critics, agreement with the critics regarding some previous editor (rare), reasons for the failure of a majority of graduate students in industry and lately, the target, Technology as an evil or as a helpful servant.

## Nation-Wide Circulation

Over the years, the number of collegiate magazines has increased tremendously and there has been instituted an unwritten law among colleges that when it receives a magazine from another college, it returns a magazine on the same subject. This fact has caused **Vector** to travel throughout the United States and receive

awards through the years. When **Vector** is received at a college, the names of the articles and their authors are immediately apparent giving example of the students and academic level at our college.

## Varied Advertising

The magazine is also sent to the advertisers who are, in general, corporations to whom most of our students apply for a job.

Speaking of advertisers, **Vector** has had them ever since its beginning. The initial ones consisted of local concerns. One adver-

tiser, still doing well, advertised a log-log decitrig sliderule for \$10.83, ten inch rule for twenty-five cents, and an automatic drafting pencil—50 cents.

Another small concern advertisement requested your spending of any free hour across the street from the campus to a shave or a haircut performed by three expert barbers ready and waiting for the unbelievable sum of twenty-five cents. For an ending, the statement, which at one time meant something, "You can't af-

ford not to look your best at all times."

Today, as the prices, the number of advertisers has gone up. The advertisers go to a great deal of time and money to advertise for the right engineer. **Vector** has them for the graduating student to choose.

## Vector Recruiting

Today's **Vector** has a staff which contribute jokes, puzzles, thought-provoking questions, and teacher or graduating senior interviews. The staff writes a large

amount of the articles printed because you, the CCNY student, do not make use of this important tool. We admit that you need not contribute to our "Engineering Highlights," containing modern advances in engineering, but your claims in reference to articles are groundless. So if you want to use and contribute to **Vector**, either article-wise or just plain help (Freshmen, Sophomores, etc.) come to room 337 in Finley any Thursday from 12 to 2. And add to your school.



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And the most important job interview you may ever have is with the man from G.E.

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## TECH NEWS A Tradition Of 35 Years

By RICHARD ROSENFELD

The E&A Day issue of TECH NEWS marks the 45th year of the publication of news of the School of Technology and the 35th year of TECH NEWS. This issue is the largest ever published.

The reporting of Tech information began in 1921, just two years after the establishment of the Tech School. At that time news was printed in *Campus* under the supervision of a TECH NEWS editor. Professor Bischoff, the newly appointed chairman of the Architecture Department was one of the first Tech editors.

In 1931 the first paper devoted exclusively to Tech students made its appearance. The first TECH NEWS was published by the ASCE student chapter and meant primarily for Civil Engineers. The cost of the publication was borne by the CE's.

While any tech news published in 1921 could only boast of an audience of 32 students and 9 instructors, the TECH NEWS of 1931 had in the lower classes alone 200 freshmen and 90 sophomores to write for.

Four months after the first issue, ASME, AICHE and AIEE offered to join TECH NEWS, feeling that the name of the paper implied that it should represent all Tech groups. In accepting the offer, ASCE also proposed the establishment of a Tech Council to further coordinate the activities of the societies.

### Leading The Way

TECH NEWS helped to formulate and publicize other ideas for the benefit of the Tech School. Among the most important were the establishment of a Tech Library, a Tech placement office, particularly important during the depression years, a Tech magazine to handle articles of a different nature than could be handled by TECH NEWS (Tech Journal was established and was the forerunner of Vector), and the establishment of an Engineer's Day.

In the fall of 1933 TECH NEWS published its first "full size" edition. The issue was meant to replace *Campus* which had been suspended the previous spring for its April Fool's edition. With the reinstatement of *Campus* a week later TECH NEWS went back to writing for Tech students only, and published in its usual mimeographed form.

### A Disagreement

In 1936 a disagreement between ASCE and the other Tech societies threatened the existence of the paper. The original agreement between the groups stated that of the five editors, two be CE's. The other societies felt this to be unfair, while the CE's felt they were being too generous. Editorial content was the spark which ignited the controversy. The CE's wished to avoid issues of a political nature, as they were responsible to the Board of Higher Education for the publication. The three other societies, unable to reach an agreement, withdrew their support, and the next year began *Tech Bulletin*. The ASCE was asked to join, but refused. *Tech Bulletin* was published until 1940.

### The War Years

In 1942, TECH NEWS, for the first time, became a paper published by all the Tech societies and

## The Architect's Profession

The New York State Law defines the profession of architecture as follows: "A person practices architecture who holds himself out as able to perform or who does perform any professional service such as consultation, investigation, evaluation, planning, design, including aesthetic and structural design, or responsible supervision of construction, in connection with any private or public buildings, structures or projects, or the equipment or utilities thereof, or the accessories thereto, wherein the safe-guarding of life, health or property is concerned or involved, when such professional service requires the application of the art and science of construction based upon the principles of mathematics, aesthetics and the physical sciences."

### Alike Yet Unalike

It appears then that architecture is closely related to engineering, since both are concerned with the application of mathematics and the physical sciences to the construction of works for the well-being of mankind. There are significant differences, however. Architecture is not regarded as one of the branches of engineering but as a distinct professional

fraternities on campus. In this form, however, the paper lasted only three terms, and in September of 1943 TECH NEWS merged with *Campus*.

For a short while the paper printed under the mast head of *Campus* and the TECH NEWS, but through the neglect of the Tech students and the *Campus* editors, Tech information became limited to one column in each issue and finally disappeared entirely.

Once again in 1946-47 the paper reappeared in mimeo form, but finally ceased publication due to lack of funds. Through 1953 the only publications were those of the individual Tech societies.

### New Life

In 1954 the Tech societies again pooled their efforts and began publication of a new and improved TECH NEWS. Professionally printed, the paper boasted a large staff and a wider scope of interest. The rebirth was hailed by President Gallagher and Dean Allan.

In 1959 TECH NEWS began publishing as a full fledged newspaper, with full sized editions. The reason for the change was partly to eliminate many problems which had existed with the photo offset edition, (particularly having to prepare copy two weeks in advance of publication), and partly due to the rapid growth of the Tech School in the late '50's after the Sputnik boom.

TECH NEWS also became an independent publication at this time, supported by advertising revenue and student fees. Not run by the Tech societies, its scope broadened until today it is read by all students.

Most recently TECH NEWS has had fewer and fewer Tech students on its staff, leading some individuals, including Dean John R. White (Engineering & Arch.), to wonder if in the future the Tech in TECH NEWS will still be meaningful. However, not everyone takes this position. Many have praised the wider viewpoint of the paper and its attempt to write for the Tech student not only as such, but in his larger role as a City College student.

discipline. In the legal definition, the word *aesthetic* is emphasized. Man does not live by bread alone; among his spiritual needs not the least is the need for visual order and beauty in his environment and in the buildings where he lives, studies, works, worships and has his recreations. The architect must have deep and thorough training in that synthesis of the structural with the visual and the functional, which is the hallmark of distinguished architectural design.

The specific task of the architectural profession is over-all responsibility for building projects, from their first conception to final completion. In this the architect acts not only as the technical expert who prepares the drawings, specifications and other construction documents from which the contractors may then erect the building, but also as the trusted impartial advisor of his client.

Because of the extent of the specialized knowledge and skill necessary for practice, architecture is recognized, not only as the foremost of the visual arts, but also as one of the leading professions. Its practice involves skilled planning, an understanding of sound and economical construction, building structures and equipment, proficiency in the administration of construction, and familiarity with business practices, finance and law.

### Four-Phase Division

The practice of this complex profession may theoretically be the work of a single individual, but it is more likely to be undertaken by a well balanced team. Whether an architectural working organization is large or small, its activities in connection with a building project are normally divided into four stages:

(a) In the **Schematic Design Phase**, an understanding is reached with the client concerning the requirements of the proposed building. After thorough study, a tentative design is described in general terms and a cost budget prepared.

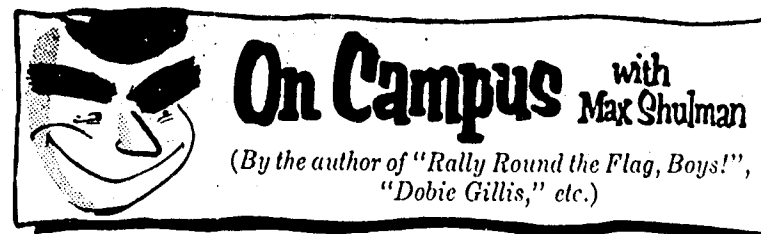
(b) In the **Design Development Phase**, the design is thoroughly restudied. Drawings are prepared to illustrate the plan, appearance, site development, and features of the construction and equipment. For small projects, stages (a) and (b) are combined and designated as "preliminary studies."

(c) The **Construction Document Phase** begins after the design has been approved by the client. The architectural organization prepares working drawings, specifications, general conditions, bidding information, and proposal forms covering the structure, methods and materials of construction, building equipment, site development, and responsibilities of the contracting parties.

(d) During the **Construction Phase**, the architect administers the work of the contractors. He establishes acceptable standards for workmanship, materials and appliances, checks shop drawings prepared by the contractor, keeps the contracts if needed. When the accounts, and orders changes in project is satisfactorily completed, he certifies as acceptable the work of the contractors.

### Combination of Talents

The student who expects to succeed in architecture must have a certain degree of native talent, besides a willingness to work hard, with long sustained con-



### ROMAN IN THE GLOAMIN'

Now as the end of the first semester draws near, one fact emerges clearly: you are all going to flunk out of school.

There are two things you can do about it. First, you can marry money. (I don't mean you marry the money itself; I mean you marry a person who has money. Weddings between people and currency have not been legal anywhere in the United States since the Smoot-Hawley Act. Personna® Stainless Steel Blades, on the other hand, are legal everywhere and are, indeed, used with great pleasure and satisfaction in all fifty states of the Union and Duluth. I bring up Personna Stainless Steel Blades because this column is sponsored by the makers of Personna Stainless Steel Blades, and they are inclined to get edgy if I omit to mention their product. Some of them get edgy and some get double-edgy because Personna Blades come both in Injector style and Double Edge style.)

But I digress. I was saying you can marry money but, of course, you will not because you are a high-minded, clean-living, pure-hearted, freckle-faced American kid. Therefore, to keep from flunking, you must try the second method: you must learn how to take lecture notes.

According to a recent survey, eleven out of ten American undergraduates do not know the proper way to take lecture notes. To illustrate this appalling statistic, let us suppose you are taking a course in history. Let us further suppose the lecturer is lecturing on the ruling houses of England. You listen intently. You write diligently in your notebook, making a topic outline as you have been taught. Like this:

- I. House of Plantagenet.
- II. House of Lancaster.
- III. House of York.



Then you stop. You put aside your pen. You blink back a tear, for you cannot go on. Oh, yes, you know very well that the next ruling house is the House of Tudor. The trouble is you *don't* know the Roman numeral that comes after III.

It may, incidentally, be of some comfort to learn that you are not the only people who don't know Roman numerals. The fact is, the Romans never knew them either. Oh, I suppose they could tell you how much V or X were or like that, but when it came to real zingers like LXI or MMC, they just flung away their styluses and went downtown to have a bath or take in a circus or maybe stab Caesar a few times.

You may wonder why Rome stuck with these ridiculous numerals when the Arabs had such a nice, simple system. Well, sir, the fact is that Emperor Vespasian tried like crazy to buy the Arabic numerals from Suleiman The Magnificent, but Suleiman wouldn't do business—not even when Vespasian raised his bid to 100,000 gold piastres, plus he offered to throw in the Colosseum, the Appian Way, and Technicolor.

So Rome stuck with Roman numerals—to its sorrow, as it turned out. One day in the Forum, Cicero and Pliny got to arguing about how much is CDL times MVIX. Well, sir, pretty soon everyone in town came around to join the hassle. In all the excitement, nobody remembered to lock the north gate and—wham! before you could say *ars longa*—in rushed the Goths, the Visigoths, and the Green Bay Packers!

Well, sir, that's the way the empire crumbles, and I digress. Let's get back to lecture notes. Let's also say a word about Burma Shave®. Why? Because Burma Shave is made by the makers of Personna Blades who, it will be recalled, are the sponsors of this column. They are also the sponsors of the ultimate in shaving luxury. First coat your kisser with Burma Shave, regular or menthol—or, if you are the devil-may-care sort, some of each. Then whisk off your stubble with an incredibly sharp, unbelievably durable Personna Blade, Injector or Double Edge—remembering first to put the blade in a razor. The result: facial felicity, cutaneous cheer, epidermal elysium. Whether you shave every day, every III days, or every VII, you'll always find Personna and Burma Shave a winning combination.

\* \* \*

© 1966, Max Shulman

Personnam amo, Tom Personnam amat, Dick Personnam amat, Harry Personnam amat, quique Personnam amat — et quoque amabit.

centration. Not only should he be well above average in academic subjects, particularly mathematics; he should also love drawing and be in sympathy with the artist's point of view, though he need not be an accomplished artist. He should have a deep interest in the forces of social change and his own relation to them.

The architect stands high in

public esteem or "status," as evidenced by several survey studies. The rewards of a career in architecture are above all spiritual. The deep inner satisfaction of seeing a thing of intrinsic merit, which one has nurtured from its first inception, actually rise in the city or countryside, to stay there long after one is gone, is seldom equaled.

# WHAT IS ENGINEERING?

## Electrical Engineering

The field of electrical engineering contains everything relating to the generation and uses of electricity. The work of an electrical engineer varies from pure research through development, design, manufacture, application and operation of devices relating to power generation and transmission, communications, data processing and automatic control. Formerly the attention of the EE was mainly directed towards the subdivisions of power and communications — power referring to the generation, transmission and distribution of electricity, communications relating to radio, television, telegraphy, facsimile, radar and acoustics.

Today, the applications of electricity are continually increasing. The trend is towards automation, a greater use of computers, and the development of new devices, embodying newly developed concepts — such as the laser — have greatly widened the horizons of the EE. Electrical engineering is a continually expanding field; with each discovery, there are innumerable applications. A large storage computer at one time occupies an entire room — today, it would fit on a desk. Formerly, it would take minutes to solve a problem, which would now be solved in seconds. This miniaturization and increase in efficiency of computer speed resulted mainly from use of microminiaturization — that is, constructing an entire circuit on a very small ceramic substrate — making resistors, capacitors, inductors, and transistors as an integrated part of the slab of material — rather than using a separate resistor, capacitor and transistor and connecting them with wires. The entire circuit, which may be of the same size as the original transistor, is formed as one unit. A resistor, rather than being a piece of carbon with two leads, is a deposit of a high resistance material on the ceramic substrate. These technological advances have not been limited to computers — integrated circuits have found their way into communications owing to their small size and high reliability.

The laser, from its first operation by Dr. Theodore Maiman, on May 29, 1960, to a thirty million dollar industry today, has opened up many new horizons. Starting with a ruby laser generating coherent pulses of red light, laser technology has increased through gas lasers, semiconductor lasers, ion lasers, "chemical" lasers, of every color. Uses of the laser have been seen in welding, ranging, communication, photography, chemical control, measurement, and medicine. On February 16, a tumor was painlessly removed from a patient by use of a laser. More applications of the laser will undoubtedly be seen; the next six years of laser progress will surely eclipse the first six.

The essence of all engineering is to adapt nature to fill a particular need of man, in the most efficient and economical method. To the EE, this means developing ideas into meaningful devices. New ideas will constantly be developed and new facets of old ideas will continually appear. The scope of electrical engineering will never remain static, but will always increase.

## Chemical Engineering

Chemical engineering is the evaluation, design and operation of machinery and methods for the economical conversion of matter to more desirable or useful kinds on an industrial scale.

This rather formidable definition means that a chemical engineer, using mathematics, physics, chemistry and economics as basic tools, designs and assembles operating units to do one of two basic things: (1) subject molecules to treatments that will change them into molecules of new kinds or (2) separate the molecules of an original mixture to yield "fractions" of greater utility. As an example of the first, coal, air and water are actually transmuted into nylon. The separation of crude petroleum into gasoline, kerosene, lubricating oil and many other products is an important instance of the second.

### Diverse Fields

It is absolutely essential that the chemical engineer have a sound comprehensive knowledge of chemistry. However, to accomplish the tasks previously described, he must concern himself intensively with the engineering science and technology of fluid flow, heat transfer, evaporation, distillation, extraction, absorption, size conditioning, and many other so-called "unit operations," all of which are approached primarily through physics and mathematics.

Broadly speaking, there are five main types of activity for chemical engineers: research, design, operation, sales and management. The chemical engineer is concerned with economic and human, as well as technical, relations and often matures as an executive, utilizing his scientific training and professional experience to direct industrial enterprises.

Since the horizons of chemical industry are broadening rapidly, the opportunities in the field are great.

## Mechanical Engineering

Mechanical Engineering is concerned with the development and production of goods and services required by mankind. It may be divided roughly into three principal fields: (a) power generation, including utilities, transportation, and domestic services, such as heating, ventilation, and refrigeration; (b) design and development of machines, goods, and services; (c) over-all organization, management and tooling for the production of these machines, goods, and services.

The field of power generation currently includes adaptation of atomic energy as a source of heat to power engines in the generation of electricity, in aircraft power plants and in guided missiles.

The aeronautical industry is a

primary employer of mechanical engineers. Problems in aerodynamic heating, internal air flow, structures, power plants, guided missiles, in addition to manufacture, all fall on the shoulders of the mechanical engineer.

Automation and the "automatic factory" challenge the mechanical engineer to devise an entirely new concept in design representation in which coded instructions to the controls of automated machinery replace the conventional engineering drawing.

The mechanical engineer's responsibility for the organization and control of production frequently leads him into positions of responsibility in industry.

In general, it can be observed that training in mechanical engineering is sufficiently broad to prepare an individual to step into areas of the widest diversity.

## Civil Engineering

Civil engineering is the branch of engineering concerned with the development and construction of large facilities in the public interest. As with all other fields of engineering, the purpose of civil engineering is to apply the principles of science in an economic way to the needs of mankind. With this aim, civil engineers design, construct, and operate a large variety of works and structures. These projects include many phases in building of roads, railroads, waterways, bridges, air-

fields, and water supply and sewage systems.

Of the divisions within civil engineering, structural engineering is the largest. Civil engineers in this specialty are involved with the design and planning of environmental buildings, industrial facilities, and public works and utilities. Connected with this field, a civil engineer must have a knowledge in other branches of his profession such as materials, soil mechanics, and foundation engineering.

Other divisions in civil engineering are hydraulic engineering which is concerned with structures to utilize and control water, highway engineering, a field in which civil engineers locate, design, and maintain the nation's roadways, and city planning where the engineer is involved with the comprehensive planning of new communities and the redevelopment of existing cities. In all, the American Society of Civil Engineers lists seventeen divisions which are affiliated to the profession.

The nature of a civil engineer's work requires not only the knowledge of the physical sciences, but also an awareness of the economic and social significance of his work. The largest number of civil engineers are employed by various agencies of the government that require the diversified knowledge of the civil engineer. The country depends on its civil engineers for the functioning of all of the vital public facilities.

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# ENGINEERING HONOR FRATERNITIES

## Eta Kappa Nu

By NORMAN ELIAS

In the summer of 1904, Maurice L. Carr, a student of Electrical Engineering at the University of Illinois, came by an idea. He discussed it with his classmates when he returned to school for the fall term, and when they indicated their enthusiastic support, he began to put into motion his plans for the formation of a college society of electrical engineering students. Having no official recognition from the university administration, these men selected a large cottonwood tree for their meeting place. From the shade of that cottonwood tree, there emerged the beginning of The Eta Kappa Nu Association, the national electrical engineering honor society.

### High Standards Set

The ideals and aspirations established in those early days of the society are best expressed by these words from the preamble to the constitution of Eta Kappa Nu: **That those in the profession of Electrical Engineering, who, by their attainment in college or in practice, have manifested a deep interest and marked ability in their chosen life work, may be brought into closer union so as to foster a spirit of liberal culture in the engineering colleges and to mark in an outstanding manner those who, as students in electrical engineering, have conferred honor on their Alma Maters by distinguished scholarship, activities, leadership and exemplary character and to aid these students to progress through association with alumni who have attained prominence. . . .**

Today, Eta Kappa Nu encompasses alumni chapters in cities across the country, and college chapters in a large (and still increasing) percentage of the nation's engineering schools. The central organization performs a variety of services, one of which is the quarterly publication of "The Bridge." This magazine contains timely articles on such topics as micro-electronics, lasers, etc., along with other articles of particular interest to the membership of Eta Kappa Nu.

### Twenty-Year History

The history of Eta Kappa Nu at the City College began twenty years ago, in February, 1946 when Beta-Pi Chapter was installed at this school as the thirty-eighth college chapter of Eta Kappa Nu. The chapter owes a special debt of gratitude to Professor Henry B. Hansteen of the Electrical Engineering department. Professor Hansteen was instrumental in the procedures which led to the installation of the chapter, and except for a brief interlude, has served as faculty advisor over the entire twenty years since that installation. It is through his continuing interest and activity on behalf of Beta-Pi that this chapter has become one of the best—if not absolutely the best—chapter in Eta Kappa Nu. Under his guidance, the chapter has established a variety of programs designed to further the aims of the national organization, and to make City College a better school for all of its students.

### Photos and Slide Rules

Among these projects is the slide rule instruction program. Students taking their first courses in engineering begin to find the need to call upon techniques of slide rule calculations that are

more involved than simple multiplication and division. In response to this need, Beta-Pi announces to the students taking their first electrical engineering course a schedule of classes in these refined operations. The classes are run by members of the chapter.

The members have also established a senior photograph serv-



Gabor P. Torok, H.K.N. President

ice. On several occasions a graduating senior or alumnus of the Electrical Engineering Department is likely to need a recommendation from the faculty. Although written records are available, a photograph of the student is an invaluable aid in reminding the faculty member of facts that will make the recommendation valuable. Each term, the Beta-Pi chapter of Eta Kappa Nu organizes a program whereby seniors in the E.E. curriculum are photographed. The results are included along with other records kept by the E.E. department.

### Sophomore Award

To stimulate high standards of scholarship, and service, the outstanding sophomore award has been instituted. Students in electrical engineering who have completed their studies at the City College just through the sophomore level are eligible for consideration. The requirements that this student must meet are very strict, and in cases where none of the candidates meet these requirements, the award is not given. This guarantees that the recipient is truly an outstanding sophomore.

Every term, the chapter invites guests to present lectures at several meetings (Beginning with this term, the program is to the general student body). Speakers are invited from industry to discuss work with which they are familiar. They present viewpoints which truly represent conditions in the field of electrical engineering and help round out the education of those who are future engineers. Announcements of upcoming lectures are posted on the H.K.N. bulletin board on the second floor of Steinman Hall.

### Athletic Innovation

Perhaps the most popular activity sponsored by the chapter was an electrical engineering senior-faculty softball game held last May. The response from both sides to H.K.N.'s institution of this event was huge. For many of the students, it was a once in a lifetime chance to tag their favorite teachers, and for the teachers, it was a chance to show their ability in a field far removed from electrical engineering.

At any rate, the chapter recognizes such events as great aids in improving student-faculty cooperation. Still, the students who played last year felt cheated when they lost. This, of course, calls for a re-match which Beta-Pi hopes to announce this spring.

As a service to the school of engineering, Beta-Pi Chapter along with local chapters of the other engineering honor societies determines the class standings of all junior and senior electrical engineering students. Cataloguing (which is the technical name of this activity) is held on Saturdays during the beginning of each term. H.K.N. sends a large number of its members to the Administration Building on these days to help prepare lists such as those now posted on the upper floors of Steinman Hall. The chapter also takes advantage of these occasions to determine which students are eligible for membership. At the completion of cataloguing, those upper juniors who have taken at least eight credits of EE courses, are in the top fourth of their class, have a B+2 average overall, along with those seniors who are in the top third of their class and have at least a B average in their electrical engineering courses, and those graduate students who, having completed at least 15 credits of electrical engineering graduate courses, have either a B+4 average or have passed a First Doctorate Examination (these men) are notified of their eligibility for membership.

A long standing tradition has been Beta-Pi's free tutoring service. Students having difficulty in courses related to the engineering curriculum are invited to apply for tutoring.

### Social Functions Held

Despite the serious nature of most of its activities, the members of Beta-Pi chapter still find time for less formal functions. At the end of each term there is a farewell get-together held on campus. Here, the graduating members get a final opportunity to greet their brothers in a social atmosphere.

This and other social events are enjoyed by all those who participate, and the experience gained in operating any such activities can be of benefit to the entire chapter membership. The lives of all will call for the exercising of organization and leadership abilities which cannot be taught in a classroom or from a book. A guiding principle in the operation of the Beta-Pi Chapter of Eta Kappa Nu has been the establishment of an active organization which offers its members an opportunity to develop these vitally important abilities, and the desire to take advantage of this opportunity is considered a prerequisite for election to membership in the Eta Kappa Nu Association. It is with this principle in mind that the chapter maintains all of the programs which have been outlined.

### Top Eastern Chapter

For these activities, Beta-Pi Chapter has received nation-wide recognition from the Eta Kappa Nu Association. The chapter's display case, on the sixth floor of Steinman Hall, is filled with awards won since its installation. This year, for the third consecutive year, the Beta-Pi Chapter has won the award for best chapter of H.K.N. in the eastern region of the United States (four regional awards are presented

each year; the winner in each region is the recipient of the highest recognition that is given to a chapter by the national organization. The tradition that these awards represent is one which the chapter continues to strive to maintain.) Through these efforts, this chapter at City College seeks to set an example for the chapters at all of the other schools and seeks to keep the goal of eligibility for membership in the Beta-Pi Chapter of the Eta Kappa Nu Association as a stimulus for higher achievement by the entire electrical engineering student body of the City College of the City University of New York.

## Omega Chi Epsilon

Article on the Omega Chi Epsilon Honorary Chemical Engineering Fraternity For **TECH NEWS' Engineering And Architecture Day** Iss. February 26, 1966.

By RICHARD A. SCHWARTZ

Chemical Engineering education has witnessed a large growth rate in the past fifteen years. This is due to the increased role of our nation's chemical industry in the every day events of mankind. Fields as diversified as plastics and mining have all come into the realms of chemical engineering education. To honor excellence in the chemical engineering academic field, a national honorary chemical engineering fraternity was created at the University of Texas in 1950. This fraternity was named Omega Chi Epsilon which symbolically stands for "honorary chemical engineering." As the chemical engineering field grew, so this honorary organization expanded also, until today it is represented at eighteen college campuses throughout the nation.

City College's chapter of Omega Chi Epsilon is a recent arrival, having come about in the spring term of 1963. The branch of the national fraternity at the school is termed the Lambda Chapter of Omega Chi Epsilon. Although the addition of this chapter to the national was recent, City College has long had an honorary chemical engineering fraternity. Alpha Chi Epsilon was a local chemical engineering honor society at the City College founded at the school many years before the installation of the national society. Alpha Chi Epsilon was indeed the organization which became Omega Chi Epsilon in 1963, and the traditions of both organizations have merged to form our present day society.

### Requirements Broad

The foremost tradition which Omega Chi Epsilon upholds is the requirement of scholastic excellence of its members. An amount of participation in extra-curricular activities is also desired. The exact requirements for admission into the ranks of Omega Chi Epsilon upholds is "B" average with a major subject "B" average for seventh termers, and a 0.8 overall and major average for eighth termers. A poor record of extra-curricular activity represents grounds for non-admission to the fraternity.

### "Integrity in Technology"

The broad aims of the organization are not merely to run an honorary fraternity, but to bring honor to the field of chemical en-

gineering. Toward this goal, the pledge period requires that the student pledge desirous of becoming a member brother acquaint himself with the famous chemical engineers so that he may be able to appreciate truly honorable traits in the industry. The idea of "Integrity in Technology" is foremost in the minds of the brotherhood. A truly great chemical engineer is measured in terms far exceeding the mere scope of calculations; he must also possess the quality of integrity.

### Pledge Responsibilities

The actual pledge period lasts at least six weeks during which time various doctrines and tenets of honorable engineering practice are learned. Each pledge is required to do a few hours of service work for an assigned faculty member. The work is usually of the academic type. Also, pledges and brothers alike are required to tutor, free of cost, lower classmen who have not been doing well in their engineering subjects. This tutorial responsibility is handled through the auspices of the Technology Council.

At present, there are fifteen members of Omega Chi Epsilon. These fifteen men represent the people most aptly qualified to honor the engineering profession as exemplified by their records. The organization averages four to eight pledges a term with four to eight members graduating per term. There is one major affair held by the organization every year. This is the induction banquet where brothers, new initiates, and faculty members get together for an evening of feasting, fun and frolic. The evening is topped off by the presentation of the induction certificates to the new initiates. The banquet usually has a very good turnout due to the fact that it is held during a period when school work is at a minimum.

### Distinguished Members

In past terms, members of Omega Chi Epsilon have distinguished themselves in the school in various roles. Member Steve Harkavy was president of the Technology Council, member David Goldwasser is now a faculty member, and member Roger Aaron was president of the American Institute of Chemical Engineers Student Chapter at the College. The present officers of the fraternity are Richard A. Schwartz who is president, Stanley Fink who is vice president, Neil Dick who is treasurer, and Ellis Denmark who is secretary. We also have a very capable Technology Council representative in Barry Billig.

### General Diversification

Future plans for the fraternity emphasize diversification in action. We will have our own display during Engineer's and Architect's Day and have a booth set up to explain just what chemical engineering is about. We are planning to arrange an award for the outstanding sophomore, to go to the sophomore chemical engineering student with the most outstanding scholastic and leadership qualities. We are arranging a file to survey the vocational situation of our past alumni. We also plan to enter some athletic teams in the campus intramural leagues. As the chemical engineering profession grows so honorable engineers will be required and Omega Chi Epsilon plans to do its part in their training.

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## Pi Tau Sigma

By LEONARD SOLOMON

One of the greatest honors that an engineering student can achieve is to be asked to pledge one of the school's five engineering honor fraternities.

One would think that if a student had the opportunity to associate himself with one of these fraternities, he would jump at the chance. Strangely enough, this is not the case. There seems to be almost a complete ignorance on the part of freshmen and sophomores as to what these fraternities try to accomplish.

The five fraternities are Tau Beta Pi, the National Engineering Honor Society; Pi Tau Sigma, the National Mechanical Engineering Honor Society; Eta Kappa Nu, the National Electrical Engineering Honor Society; Chi Epsilon, the National Civil Engineering Honor Society; and Omega Chi Epsilon, the National Chemical Engineering Honor Society.

Pi Tau Sigma is typical of these organizations. The fraternity was founded at the University of Illinois on March 16, 1915. During the spring of 1914, Professor C. R. Richards, then Head of the Department of Mechanical Engineering at Illinois, suggested the idea of organizing an honor society among Mechanical Engineers. The matter was not pushed, however, and little was done during that school year.

By the first of the year 1915, the organization started to take definite shape and started to have a sufficient number of active supporters among the more responsible students to warrant the request for recognition from the University. In March, the original charter was granted, and in April, initiation was held when seventeen students and seven honorary members were made charter members of the Illinois Chapter. Now, the total membership is over 35,000 with 77 active chapters.

The National Council of the Fraternity does several things. It publishes "The Story of Pi Tau Sigma," and an annual magazine called "The Condenser." It gives the "Pi Tau Sigma Gold Medal Award" to a young mechanical engineer for outstanding achievement in his profession within ten years after graduation, and the "Richards Memorial Award" to a mechanical engineer who has demonstrated outstanding achievement within a period of not less than 20 years and no more than 25 years following graduation. It is also a member of the Association of College Honor Societies.

Although the national organization does perform these functions, the true life blood lies in the individual undergraduate chapters. In the CCNY Chapter, the student members catalogue student record cards, maintain a technical literature library, serve in the Mechanical Engineering Department Office, and work as graduate readers for M.E. instructors. Through its membership in Tech Council, it is actively trying to solve the problems that confront the engineering department as a whole. It will also begin a tutoring program next term.

As stated in "The Condenser," the annual publication of the fraternity, "The object of this organization shall be to foster the high ideals of the engineering profession, to stimulate interest in and 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."

The aforementioned aims of the fraternity are high indeed, but they are just typical of the ideals of all five honor fraternities. To be eligible for one of these fraternities means that you have the intellectual credentials to be admitted, but to be invited to pledge means that you have the character, integrity, and honor to go along with it.

So if you do become eligible to pledge an honor society in the coming terms, find out about it; go down to the smoker; and do your best to attain membership and continue the high traditions and goals of the organization.

## Tau Beta Pi

New York Eta is City College's chapter of Tau Beta Pi, the National Engineering honor society. Through this society men from all fields of engineering and architecture are given the opportunity to work together for the betterment of their school and community.

Aside from the distinct honor associated with belonging to Tau Beta Pi, the society sponsors many activities. These range from technical and non-technical speakers to fellowship programs, from theatre parties to field trips.

Distinguished scholarship and exemplary character are the prerequisites for admission to Tau Beta Pi. The society insists that the two qualifications are inseparable and true collegiate honor is earned only when both qualities have been demonstrated by the student.

Scholarship is determined by class standing and the members of Tau Beta Pi, along with the other honor societies, compute and post these standings at the beginning of each term. Students eligible for election to the society — seniors in the upper fifth of their class or juniors in the upper eighth of their class — are then invited to a student-faculty tea. There, members of the faculty from each department, members of Tau Beta Pi, and eligibles meet on an informal basis.

Later, interviews are held to determine if the candidates pos-



Symbol of Tau Beta Pi

sess the second requirement for membership, exemplary character. Thus, distinguished scholarship, while the primary requisite for admission, is not the sole criterion.

Exemplary character is based on integrity, breadth of interest both inside and outside of engin-

earing, adaptability, and unselfish activity.

Tau Beta Pi considers true integrity the sine qua non for membership. It transcends in importance scholarship, activity, and every other qualification. Without private and public integrity, the society believes that no organization is worthy of existence. Honor



William J. Leibowitz  
President of Tau Beta Pi

and high standards of truth and justice are included under integrity.

Breadth of interest sufficient for eligibility in the association is that which will enable a man to maintain his position in a community by the exercise of qualities other than engineering ability.

Tau Beta Pi also feels that a true engineer must be able to adapt himself ingeniously to all circumstances and conditions, making them conform to his purpose.

The rating of a man on the degree of unselfish activity he manifests indicates that Tau Beta Pi believes that no man can become a worthy engineer without the welfare of his associates, his organizations, and his community at heart. Therefore the society expects that a candidate display his willingness to aid and assist in worthy causes.

These personal attributes are best measured, Tau Beta Pi believes, not by the faculty, but by the candidate's own schoolmates, the students in the chapter, who unquestionably know him best.

Those who meet these requirements are then elected to pledge the organization. Pledging an honor society, however, is somewhat different from pledging a fraternity. Tau Beta Pi uses its pledge period to allow the candidates to get to know the organization, its members, and their fellow pledges. Most important, during this period the men work together for the benefit of City College. This usually takes the form of tutoring lower-classmen or working in some college office without pay.

Upon completion of this pledge period the new brothers are inducted into Tau Beta Pi and a formal induction dinner is held. This dinner-dance is the social highlight of the term and faculty members and alumni are invited.

Aside from the distinct honor associated with belonging to Tau Beta Pi there are many opportunities open to members of the organization. These range from technical and non-technical speakers to fellowship programs; from theatre parties to field trips.

This term, the fine traditions of the New York Eta Chapter will be carried on under the leadership of President William Leibowitz. Bill feels that membership in the society can help to further the development of the student both as a leader and as a well-rounded individual. He believes there would be little value at-

## Recruitment Interviews Now Being Held

Many companies are now conducting their recruitment interviews. Their representatives are

talking to students who will receive degrees at BS, MS, and PhD levels in engineering and science.

tached to the awarding of the keys and certificates if it were not for the benefits one derives by becoming an active participant in the organization.

The Tau Beta Pi activities planned for this term include a student-faculty tea, several guest speakers, and the induction dinner-dance. In addition, plans are being made to expand the tutoring program in order to serve a greater number of students. A theatre party and field trip are also planned. President Leibowitz hopes that these activities will provide a framework for the students' cultural and social development and he feels that this should certainly be one of the purposes of Tau Beta Pi.

Tau Beta Pi is one of the oldest honor societies in the country. It came into existence because Phi Beta Kappa limited its membership to students in the Liberal Arts.

Tau Beta Pi was founded at Lehigh University in 1885 by Dr. Edward H. Williams, Jr., as an honor society for Technology students. Its purpose is to mark in a fitting manner those who have conferred honor upon their alma mater by distinguished scholarship and exemplary character as undergraduates, or by their attainments as alumni.

Since the year 1885, when the entire association consisted of only one undergraduate member, Tau Beta Pi has become the recognized leading honor society in the engineering field. Only 80 years old, the society has 121 collegiate chapters and 31 alumnus chapters, and a total initiated membership of over 130,000 men.

Although pre-interview appointments should have been made in advance, there is some possibility that the placement office will be able to accommodate some students who were unable to arrange their meetings at the designated times.

It is advisable to sign up for future interviews at the specified times. This is especially important if the job-seeking student has particular preferences as to the company for which he would like to work. The company representatives have limited time at City College, and those students listing a firm as first choice will be given priority in time allotments. Those without appointments will be seen by interviewers only in the event that they have time left over after they have seen all applicants who have complied with the sign-up procedure.

TECH NEWS is printing a list of the companies whose representatives will be on campus between now and the next issue of the paper, and of closing dates to sign up for interviews that fall on dates after the next issue.

For more details on the firms, their citizenship requirements, the actual jobs available, and the rooms where interviewers may be seen, apply at the placement office, Finley 421.

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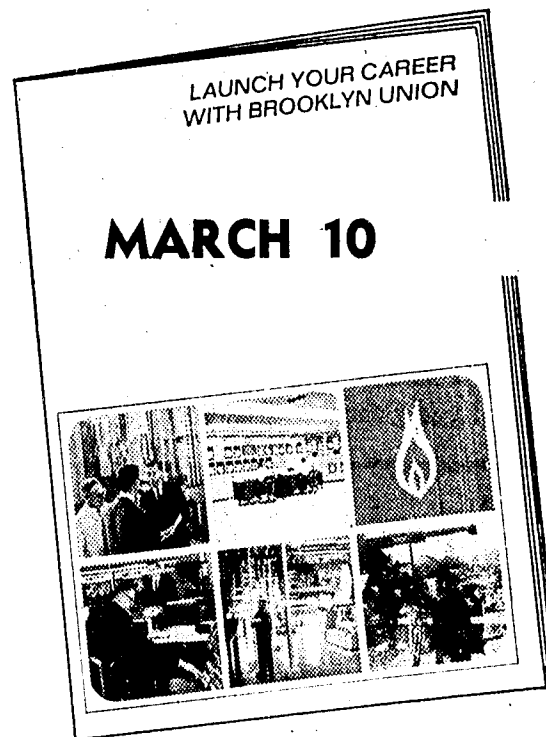
It is imperative that you keep all appointments and on time. Should cancellation become necessary, notify the Placement Office as early as possible.

(Continued on Page 11)

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## City College

Before you is one of the top engineering and architecture schools in the country; dissected so that you can see how it functions. Many have asked the engineering students: What is an engineer; just what does he do? As a student proud of his profession he will try to give a reasonable answer. However, any answer that will be given will be superficial; there is no simple description of what an engineer is or what he does.

We are trying not to define engineering in this exhibit, we are merely trying to give the otherwise uninformed public an insight into our profession. We will show how engineering knowledge can be put to use.

It is in halls such as these that the idea for moon shots and motors, for air conditioners, and automobiles, for television and tunnels are first thought of.

As you walk through the various displays, you will probably marvel at the fact mere human brain power is the basis for these machines. Thus many consider engineering students to be machines themselves; horn-rimmed cretins with a slide rule in one hand and T-square in the other, whose lives consist of a consistent assimilation of knowledge with no regard for the outside world. This, however, is far from the truth. You will notice that the students themselves are demonstrating the equipment. Using the ideas obtained through college instruction, the students are giving you a clear, concise picture of what's going on. In order to do this, the student cannot merely sit back and take in the theory behind the display; he must know why the equipment was invented, where it is used, and how it benefits mankind. Thus the engineer is a person who can not only absorb information but is able to reason, to realize the needs of his fellow man, and to communicate with others. In short, the engineer is a person quite like you who is an important member of an important profession like your family doctor or lawyer.

Most of the experiments that you see are actually performed by the students in the engineering curriculum at the College. After seeing what we have to offer in our displays we're sure you will agree that our school is one of the best. With a little concentrated effort, a lot can be done with a free education as our past engineering graduates have shown. We are sure that future graduates, many of whom you will be seeing today, will uphold the high traditions of City College.

To our younger visitors, we hope that these displays will inspire many of you to seek a career in engineering or architecture, and that some day we may count you as a graduate of the City College School of Engineering and Architecture.

## HIMMELSTEIN

Does It Better

### Inquiring Technographer

By PHILIP BURTON

QUESTION: How can student-faculty relations be improved? Where asked: On campus.

George Gottlieb, Lower Junior, Chemical Engineering. Student-faculty relations are, I think, in a good state now. We care in school to learn, not to make friends with professors. How do you expect a professor who has so many students to establish anything but a perhaps cold, but nevertheless necessary, academic relationship.



Gottlieb

Herman Berliner, Graduate student, Economics. Student-faculty relations should have one main goal, and that is to improve the quality of education. The key to the goal on the student's side is to show the responsible nature of the student body. Student Government this year has begun to establish the permanent structures that will lead to the desired improvements and also show students' responsibility. There are now student-faculty committees for each of the schools in the College; there are student-faculty committees for the majors of the individual departments with more on the way. The problem in all these committees has not been faculty. They have been very willing, while students have been lacking. If the students do show themselves to be responsible then relations, and more important, education, will improve. We have made other gains that have placed students on some of the important faculty committees. We have made a start, but only a start — the rest is up to students. The goal is easily within our reach.

Bob Bogart, Upper Senior, Civil Engineering. One way would be for students to join the various professional and other societies on campus such as the ASCE. (American Society of Civil Engineers.) In this way, students could meet the members of the faculty connected with these organizations on a friendly, and social basis and at the same time benefit personally.



Bogart

Gerri Winick, Lower Junior. Education for the mentally retarded. I sincerely believe that student-faculty relations should be improved. I think this could best be accomplished by instituting coed and faculty dorms. Just think, you can walk to class with your favorite prof! If this idea is too outlandish, we might settle for a student-faculty hop. (as a start.)

Eileen Chale, Upper Senior, Art. Student-faculty relations can be improved by increased contact between the two. To this end, one

## President's and Dean's Messages of Welcome

THE CITY COLLEGE

of  
The City University of New York  
Convent Ave., at 138 St.  
New York, New York 10031  
Office of the President

February 14, 1966

Welcome to The City College! Although your visit to our campus is necessarily brief, I hope you will use it to good advantage. View the exhibits, talk to our students and faculty, learn about the many opportunities open to you in the ever-expanding fields of technology. Learn, too, about the excellent facilities that are available in our School of Engineering and Architecture.



PRES. GALLAGHER

But at the same time do not forget that a college education extends beyond the classroom and laboratory. C.C.N.Y. has always encouraged a wide range of extra-curricular activities. We feel that only in this way can the student learn to develop the sense of responsibility essential for personal maturity.

I hope that during your visit you will try to learn about ALL the advantages that City College has to offer its students, for it is the sum total of campus activity — both in the classroom and out — that goes to make up a City College education.

Buell G. Gallagher,  
President

might try to arrange student-faculty teas during breaktime on Thursday, and more student-faculty dances. Of course, the obvious solution is smaller classes. Also teachers might end the lecture sooner if only some students are interested, and let those interested continue the discussion on a smaller level. The teachers, instead of offering their office hours, might make themselves more approachable by offering this time to discuss specific topics that were only touched in class.



Chale

Ed Fares, Upper Senior, Civil Engineering. Student-faculty relationships can be improved by first realizing that in most cases no real problem need exist. One should realize that his prof is not an unreachable being but rather a human being who probably shares the same interests as his

(Continued on Page 9)

February 26, 1966

We are happy to welcome friends and visitors to the School of Engineering and Architecture during National Engineers' Week. Our school plays an important part in preparing young men and women for high level professional service to society in our city, state and nation and for satisfying and rewarding careers for themselves. For today, our students and faculty have prepared exhibits and demonstrations of some features of our program; we hope that they will interest you.

The words of President Lyndon B. Johnson in the attached message apply equally to engineers and architects. I commend them to you.

William Allan, Dean

THE WHITE HOUSE  
Washington

January 20, 1966

This nation is on the move — restless, searching, always seeking new and better solutions to old problems. If we are to remain in the forefront of the technological world, we must persist in asking questions and seeking answers at a level unknown to previous generations.



PRES. LYNDON B. JOHNSON

During Engineers' Week I am happy to acknowledge the important role played by engineers as agents of change and as prime movers in the process of progress.

Major technological achievements, wrought by the engineer in league with the scientist and the manager, have changed the course of history.

Yet the era of rapid change is only beginning. Our population will increase by fifty per cent during this century. Our gross national product will triple.

This means that in the decades ahead creative engineering will become even more essential. During this time we will revive and expand our cities, provide better transportation and communication, and construct homes, schools and work-places for a larger, more mobile, quality-conscious America.

In all of this the engineer will shoulder an important professional responsibility. Not only does he alter our landscape; he also influences our culture.

Young men and women who are technically inclined and who desire an opportunity to grasp responsibility should consider a challenging career in engineering. Technical talent of America's youth must be nurtured if we are to make the best use of new knowledge in the building of a great society.

Lyndon B. Johnson



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me

February 26, 1966

to welcome  
to the School  
Architecture  
Engineers' Week  
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Allan, Dean

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February 20, 1966

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## TECH LIFE

By LENNY SOLOMON

This is the special E and A Day edition of TECH NEWS. It is to be distributed on both February 25th, at the usual places, and on February 26th, to the visitors at the exhibition itself. I therefore say to those of you reading this on the twenty-fifth, come to E and A Day tomorrow, and to those of you reading this on the twenty-sixth, welcome.

E and A Day is a rather large undertaking. Much time and effort was put in by many people in order to try to make the show successful. I think that it will be interesting for you to know how this was accomplished.

On September 23, 1965, Tech Council held its first meeting of the Fall term. I attended this meeting, not as a reporter, but as a delegate from TECH NEWS and Pi Tau Sigma. Tech Council was new to me, and it had an exciting and awesome effect on me. I remember that I walked into the meeting room early, before anyone else had arrived. The first thing that I noticed was the room itself. I was accustomed to having meetings in classrooms during the twelve to two club breaks on Thursdays. This room was completely different. It had long draperies across the windows. The tables were polished and the chairs were padded and very comfortable. There were water pitchers and cups on the table. It somehow reminded me of the war room in Dr. Strangelove.

Slowly the delegates started to file into the room. They all had somber expressions on their faces, as I nodded hello. They looked pensive, as though they were contemplating the great problems of the world. I learned later that these were just looks of apprehension, because this was the first meeting of Tech Council for most of the delegates. Finally, the new officers came in, and the meeting was called to order.

It was a most interesting meeting, and among other things, we were told that Tech Council planned to sponsor E and A Day during the Spring term. At the conclusion of this meeting, we were asked to volunteer to work on one or more of the various committees that were discussed. When it came to my turn, I thought that putting on an E and A Day would be interesting, and that I was, after all, an engineer, so I signed up.

For about a month I heard nothing of this committee, until one day in early November, Jack Koplowitz, the chairman, decided to call a meeting. At that time we were informed about the history of E and A Day, its aims and goals, and the various problems that would come up. We were also notified that a general meeting of the full Student-Faculty Committee would be held on November 1st.

It was at this meeting that I first learned of the enormity of the situation. The chairman of the full committee, Prof. Harvey L. List (Ch. E), related, step by step, what had to be done. First, a date had to be decided upon. The last E and A Day, held two years ago, was in April. We were told that on that date many people did not come because the weather was ideal for going to the beach. Because of this possibility, we decided to hold this one earlier. After some deliberation, February 26th was the date chosen. No one dared bring up the possibility of a snow storm on that date.

A big problem with the last E and A Day was lack of publicity. It was felt that it was physically impossible for the committee itself to publicize the event to the fullest extent, so it was therefore decided to enlist the aid of Mr. I. E. Levine, the public relations department of the College, and Dr. Weisman, president of the Alumni Association.

Next, financing was discussed. After all, money would be needed to pay for the ground crews, the laboratory technicians, refreshments, stationery, programs, and miscellaneous costs for materials, such as lab specimens. It was decided that Mr. Koplowitz would go before the fee commission of Student Government and attempt to secure as much money as possible, while Prof. List would try to arrange for the payment for the technicians.

Now, the work really started. Jack Koplowitz and Richie Schwartz did most of the leg work in arranging for publicity and money. We learned that the people who were approached for help were more than happy to serve us. It appeared that everyone was doing his utmost to make E and A Day a success.

Letters went out to many companies that hire City College graduates. It was hoped that if they could see our facilities, they would realize the quality education that students receive at our college. All of the public and parochial high schools in the city were notified by telephone and letter,

informing them about our E and A Day. We asked for their cooperation in advising their students. In this way we hoped to interest high school students in both engineering and architecture, as well as City College generally. We also felt that it would be very informative to them. Arrangements were made for articles in our city newspapers explaining the Day, as well as spot radio announcements. Students were recruited to man the labs and guide the visitors through them.

Now this has all come to a climax, and E and A Day is finally upon us. To the many people who put in so much effort, I personally thank them. Now I can only hope that the Day will be a success, for only then will it justify all the effort put into this worthwhile project.

## Library Prints Student Guide

A "Library Handbook for Students," the first of its kind at the College, has been recently published by the City College Library.

Compiled by members of the Library staff assisted by a Student Government Library Com-

## Technographer...

(Continued from Page 8)

students. I first realized this when I became an active member and vice president of the student chapter of the ASCE, which is a professional organization to which many of my instructors belong.



Farkas

Berkovitz

David Farkas, Lower Soph. I think a change in attitude is necessary. Emphasis should be in securing an education, not getting a degree, or following a prescribed course. Professors often have as many problems in this regard as students. The stress on getting a mark, not learning, on finishing a degree or getting a job, not an education. Until this attitude is broken down the school remains a degree machine. Of course our friendly neighborhood draft boards aren't helping this problem and neither are businesses, so the change must start with the student and can hopefully be instilled by the faculty and the administration.

Michael Berkovitz, Upper Junior, Physics. Have a bar on the campus, with professors as bartenders!!!

## Arch. Ed. . . .

(Continued from Page 15)

have been consulted are concerned with changing teaching tools and goals.

The study project has already advised the Universities of Maryland and Tennessee and Ball State University at Muncie, Ind., on setting up architecture schools according to the new interdisciplinary criteria. Cornell University has similarly assisted the University of Puerto Rico.

mittee, the 32-page manual provides detailed information covering all aspects of the Library.

Included in the handbook are floor plans, descriptions of divisions and units of the Library, a

guide to use of the Library's facilities, and a list of rules and regulations.

The handbook will be distributed throughout the Library upon request.

## THE CITY COLLEGE SCHOOL OF ENGINEERING & ARCHITECTURE

### NOTICE TO ALL STUDENTS OF ENGINEERING & ARCHITECTURE

Many of you are eligible for the prize and/or scholarship listed below. Applications will be welcomed by the Committee on Awards.

An application blank may be obtained from Mrs. Herring, room 201, Goethals Hall. This should be filled in and returned before March 20 (or before April 15 in the case of the Lubetsky Scholarship).

FRANK A. RAPPOLT, Chairman  
Committee on Awards

### ELIZA FORD PRIZE

The income from a principal sum of \$5,000 will be paid each June to that student of the School of Engineering and Architecture who is most generally deserving and who shall have done the best work during the period of two years preceding the award. This prize was established in 1921 in memory of Miss Eliza Ford, a faithful and efficient public school principal in Brooklyn.

In selecting the winner, the Committee on Awards interprets "best work" to include both scholarship and extra-curricular activities.

### BENJAMIN LUBETSKY MEMORIAL SCHOLARSHIP

The Benjamin Lubetsky Memorial Scholarship is awarded each year to a deserving full time student of engineering in need of financial aid.

## ASCE SMOKER

FEBRUARY 25, 1966 — 6 P.M.

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For Further Information

Call Gene — KI 8-4611

# Recommended Reading For New Engineers

A selective list of pamphlets and reprints for young men and women—circle numbers of publications you want and mail with cash, check, or stamps to ECPD, 345 East 47th Street, New York, N.Y. 10017.

## Reports

ECPD has published annual reports since its organization, the first appearing in 1933. Reports are available for the years 1934, 1936, 1938, 1939, 1945, 1947, 1948, 1949, 1956, 1957, 1959, 1960, 1962 and 1963.

9 Annual Reports ..... \$1.00

## Guidance

- 10 Engineering — A Creative Profession (32 pp., 1964) 25c (20% discount on 50 or more)
- 11 So You Want to Be an Engineer. (Reprint from Power, March 1938, 2 pages) 5c.
- 12 Manual for Engineering Career Advisers. 20 pp., 1964. 25c
- 13 After High School — What? 5-page folder; 3c each; \$10 per 500
- 14 Do I Have Engineering Aptitude? 8-page questionnaire by A. P. Johnson. In units of 50 or more only — 50 for \$2.
- 15 Need Financial Aid for College? 5-page folder; 3c each; \$10 per 500.

You Can Be a Civil Engineer. (Write ASCE, 345 East 47th Street, New York, N.Y. 10017, 16 pp.)

Careers in the Mineral Industry. (Write Society of Mining Engineers of AIME, 345 East 47th Street, New York, N.Y. 10017.)

Careers in Metallurgy and Metallurgical Engineering. (Write The Metallurgical Society of AIME, 345 East 47th Street, New York, N.Y. 10017.)

Careers in Petroleum Engineering, 16-pages. (Write the Society of Petroleum Engineers of AIME, 6300 North Central Expressway, Dallas, Texas 75206.)

Mechanical Engineering (1964). (25c. Write ASME, 345 East 47th Street, New York, N.Y. 10017, 20 pages.)

For information on Electrical/Electronic Engineering, write IEEE, Box A, Lenox Hill Station, New York, N.Y. 10021.

Will You Be a Chemical Engineer? (Write AIChE, 345 East 47th Street, New York, N.Y. 10017.)

Your Career as an Aerospace Engineer. (Write AIAA, 1290 Avenue of the Americas, New York, N.Y. 10019.)

Technical Career Opportunities in Engineering Technology. 25c. (Write to ASEE, University of Illinois, Urbana.)

## Engineering Education

20 Accredited Curricula Leading to First Degrees in Engineering in the United States. (Reprinted from Annual Report. Includes basis for accrediting and locations of institutions.) 25c.

21 Accredited Engineering Technology Curricula in the United States. (Reprinted from Annual Report. Includes basis of accrediting, location of institutions.) 25c

22 "... The Most Desirable Personal Characteristics ..." (By A. R. Cullimore. An exploration of opinion. 28-page pamphlet, with Charts, 1918.) 25c

23 EUSEC — Engineering Education and Training. (Conference on Engineering Education, Paris, France, September, 1957.) (a) USA Contributions to Conference, 64 pp. \$3.50

24 (b) Proceedings of the Confer-

ence, 106 pp. no longer available in USA.

26 EUSEC — USA National Report on Engineering Education and Training, 1960. \$3.00

30 Your Approach to Professionalism, by N. W. Dougherty. A Discussion for College Students and Young Engineers. 48 pages. 10% discount, 10-100; 25% discount over 100. \$1.00

## Young Engineers

40 Selected Reading for Young Engineers. (10 pages, 1962). 20% discount on 50. 15c

41 Selected Bibliography of Engineering Subjects.

- I. Mathematics & Physics (1962) 35c.
- II. Aeronautical Engineering (1950) 25c
- III. Civil Engineering (1962) 35c
- IV. Ceramic Engineering (1958) 25c
- V. Mining, Metallurgical, and Geological Engineering (1962) 35c
- VI. Mechanical Engineering (1955) 25c
- VII. Electrical Engineering (1958) 25c
- VIII. Chemical Engineering (1926) 35c
- IX. Industrial Engineering (1962) 35c

42 Personal Appraisal Form. (Six page questionnaire for young engineers.) 20% discount on 50 25c each.

43 A Professional Guide for Young Engineers. A guide for college students and young graduate engineers. By W. E. Wickenden; G. R. Henninger, editor. 48 pages, plus 3 appendices. (25% discount on 10 or more.) \$1.00

44 The First Five Years of Professional Development. (Training Committee Report, 1950, 160 pp.) \$3.00

45 (a) "The First 5 Years" 6 pp. \$7 per 100 plus \$2 handling. 10c

46 Detroit Industry Training Program. Six booklets on the six-point program for Young Engineers. Available from The Engineering Society of Detroit, 100 Farnsworth Avenue, Detroit 2, Mich. Sets \$2.50, from Detroit.

47 Kit Folders for "Young Engineers" Booklets (envelope and jackets) 25c

48 First Five Years Kit — A complete set of professional development literature for young engineers, including Nos. 40, 42, 43, and 8 x 11 sizes of 51 and 54, described below, in attractive folder and envelope kit. 40% discount on 50. \$2.00

49 Citizenship and Participation in Public Affairs. 24 pages. 25% discount on 100 or more; 40% discount over 1000. 25c

## Profession of Engineering

Faith of the Engineer: Poster size on rag paper for framing:

51 15 1/2" x 22" ..... \$2.00

52 15" x 9 1/2" ..... 50c

53 Reprint from Annual Report 10c.

54 Canons of Ethics for Engineers on rag paper suitable for framing, approx. 14" x 9" ..... 50c

55 Reprint from annual report, 1 page. 10c

56 The Second Mile (A survey of the engineering profession, by W. E. Wickenden; address before The Engineering Institute of Canada, revised.) \$9 per 100. 15c

57 Speaking Can Be Easy for Engineers. 24 pages, 1950, Report of ASEE Committee. 25% discount on 100. 50c

# Eng. Alumni Celebrate 30th Year

Engineering Alumni is celebrating its 30th anniversary this month as a constituent society of the City College Alumni Association.

The parent body was established in 1853 with the graduation of the first class from the Free Academy. In 1919, the School of Technology opened and because of the common interest in engineering, a strong bond soon developed between Tech alumni and undergraduate engineering students. Many graduates felt that because of the special interests and needs of engineers, a society of Tech alumni operating within and through the Alumni Association, would enable them to render more service to the students. Moreover, engineering alumni speaking with a combined voice, would be in a better position to recommend changes in the Tech curriculum.

In February of 1935, Engineering Alumni was formally organized as a constituent society. Payment of dues either to it or the parent body confers membership in both.

The plans of the founders have been realized and the Tech Alumni has been an instrumental force in developing programs for engineering students and alumni and for the college as a whole.

## Placement Bulletin

The Engineering Alumni now publishes a Professional Placement Bulletin as a service to its members who are interested in obtaining a new job. Situation-wanted ads are placed in this bulletin by alumni at no charge to them and the bulletin is circulated to various appropriate companies.

When publication of TECH NEWS in printed format was undertaken by the students, the initial expenses were underwritten by Engineering Alumni until fee funds became available.

Various subsidies enable upperclassmen to attend special group gatherings where they may obtain first-hand information about their chosen fields; graduation awards are presented for outstanding achievement in each field of engineering study; and occasional donations of equipment have been made to the Tech school and library.

## Aesthetic Contributions

While much of the alumni attention has been devoted to scholarship and employment needs, the aesthetic and recreational concerns of the College have also been encouraged. Engineering Alumni, in cooperation with the City College Fund, commissioned the mural in the lobby of Steinman Hall, and when the Finley Student Center was opened, the Tech alumni furnished it with a public address system.

The City College Alumni Association was founded to "promote the general welfare of the City College and its alumni, to establish beneficial relationships between the City College and its alumni; and to advance the principles of free public higher education without regard to race, creed, color or national origin." Engineering Alumni has made a major contribution toward accomplishing these goals.

earn  
**\$1500**  
or more this summer  
with  
**Good Humor**  
ICE CREAM

\* At least half the students working 13 weeks earned \$1500 or more. And here's what others earned ... even those working fewer weeks:

1 out of 2  
earned **\$121**  
or more  
a week.

1 out of 3  
earned **\$133**  
or more a week.

1 out of 4  
earned **\$139**  
or more a week.

You can earn as much or more this summer ... and you need no sales experience. You're carefully trained and work on proven routes where people have been buying Good Humor for years. Everything supplied, free ... there's nothing to invest.



## HOW TO QUALIFY FOR INTERVIEW

1. Minimum age 18.
2. Need a valid driver's license ... and must be able to drive a clutch transmission.
3. Be in good physical condition.

## REGISTER NOW

Ask your Summer Placement Director or Student Aid Officer to schedule you for our campus visit.

**INTERVIEW DATE**

**MARCH 2**

An Equal Opportunity Employer. (M/F)



# ACM Lectureship Series Planned

Founded in 1947 as the Society for the Computing Community, ACM is dedicated to the development of information processing as a discipline, and to the responsible use of computers in an increasing diversity of applications. Nearly 15,000 members operate in every sector of the computing sciences and their applications. True to the tradition of professional societies, ACM provides for a grade of membership that takes into account those who will, when they reach the appropriate level of education, choose careers involved with computing and become full members. Student membership in ACM accords almost all the benefits of membership while reducing the cost to an amount consistent with student income.

Student membership in the association is a prime means of maximizing professional development through ACM periodicals, meetings and other activities. These provide the culture for lively interaction (with both professionals and other interested students) that leads to expanded horizons and new insights.

The student chapter at City College enables the student member to maintain close regular association with students who are similarly interested in computing. Periodic chapter meetings offer a combination of social interaction and professional dialogue. Scheduled programs are devoted to significant technical and professional problems, survey discussions of computing topics, and matters of moment to those planning careers in this discipline. This term, the college chapter is instituting a program to have joint meetings with other campus organizations. The programs at these meetings will involve computer applications in these other fields. During the Easter vacation, we are going to have a tour of the Poughkeepsie IBM plant.

The ACM Lectureship Series provides the college chapter a roster for the selection of preminent speakers to report on the state-of-the-art in various sectors of information processing. The Lectureship Series Committee continuously revises the list of topics to reflect the significant advances — and then seeks out authoritative voices to present these subjects. These distinguished speakers volunteer their time as a contribution to computing. Student members will find attendance at the ACM Lectureship Series an excellent enrichment of their computing background.

ACM provides three periodicals to all its members, including student members. The actual cost of issuing these periodicals is greater than the student membership dues: ACM absorbs the difference between the cost of the publications and the student membership fees. These three publications are:

The **Journal of the Association for Computing Machinery** (quarterly) is primarily devoted to research and technical papers reporting basic advances in the computing sciences. These include automata theory, programming theory, numerical analysis, programming languages, logical design and switching theory, linguistics, and other tributary sciences. The **Journal** is inevitably

the publication of record for basic papers.

The **Communications of the ACM** (monthly) covers topics of immediate interest to the computing profession, news and notices, official reports of the Association, guest editorials on vital professional problems, discussions of proposed standards, as well as timely technical material. Its departments represent the pragmatic sub-fields of the computing sciences, from programming languages, to implementation and application of specific programs, information retrieval, machine translation, business data processing, scientific and engineering applications, and similar topics. **Communications** reflects the rapidly changing computing scene, adding departments and shifting emphasis as the reality of computing requires.

**Computing Reviews** (bimonthly) comprehensively covers the literature on computing, and its ramifying applications. A thousand

and reviewers provide critical evaluations of books, technical papers, popular articles, films and video tapes on every aspect of computing. More than 200 serial publications are currently scanned for pertinent materials so that advances and developments in every sector of computing are promptly brought to the attention of the membership.

Through the publications of ACM you will be kept informed about new developments in computing and information processing. In a young and rapidly growing field such as information processing, textbooks, which are at best from two to five years behind, cannot be depended upon to give you the most recent developments in the field. Contact with a professional organization and its publications is the best alternative.

By attending and participating in meetings of ACM, you have an opportunity to become acquainted with professionals who are work-

ing in the various branches of information processing. The stimulation which such contacts can afford is immeasurable.

As a student member of ACM, you will identify yourself with a professional group which is becoming more important to our nation's social and economic welfare.

If you contemplate a career in any aspect of information processing; if you agree that the functions and services provided by ACM are useful to you; then we welcome your application for student membership.

The only qualification for membership is that you be a full-time student at City College. The annual dues for student members are \$5.00 plus a small amount for the City College chapter.

For a membership application stop off at the key-punch room on the first basement floor of Steinman Hall. The student aide (who is probably a member of ACM) will be happy to help you.

## Recruitment . . .

(Continued from Page 7)

### Watch Developments:

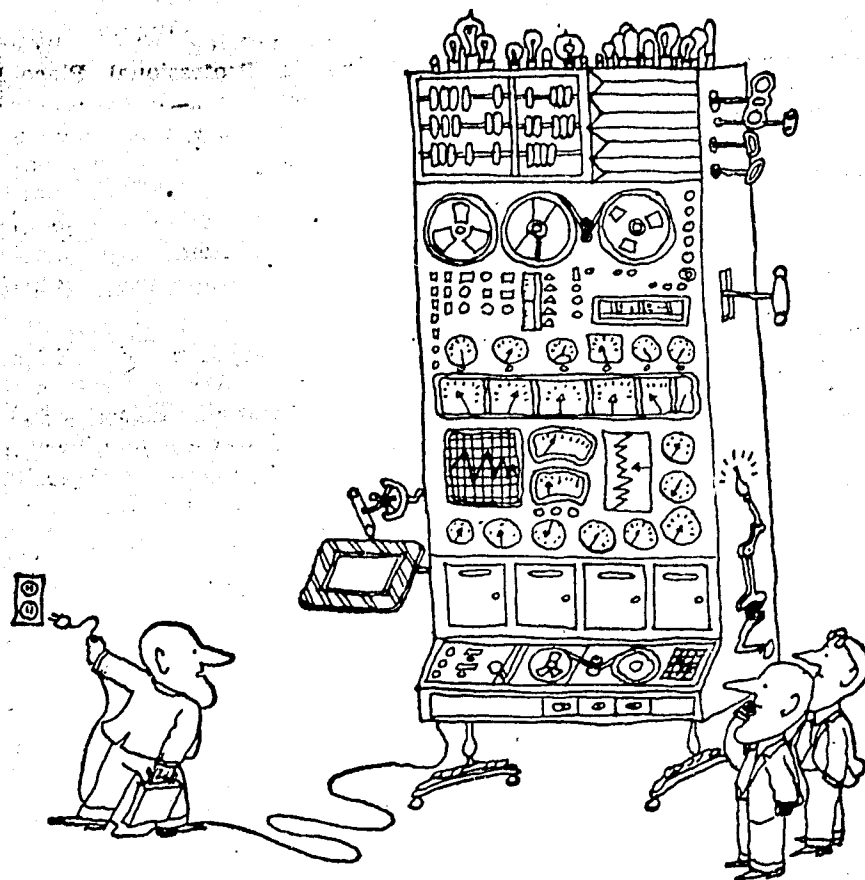
Changes will occur frequently in regard to additional companies visiting campus, cancellations of visits and further details concerning companies already scheduled. "Job Jots" giving such information will be issued as necessary. Copies will be available in the Placement Office and at other strategic points about the campus. Watch for announcements in the student newspapers and on bulletin boards.

### High Standard of Conduct Expected:

Keep all appointments promptly. Be honest, sincere, and courteous during the interview. Deception will fool only you. Keep up your fine performance after the interview. Answer all communications promptly. Play fair (and safe) by submitting expense accounts as if you are paying for them.

In the past unruly and boisterous behavior on the part of seniors signing up for interviews has been criticized by visiting company representatives.

## "Let's unplug the computer, boys! Start thinking!"



A lot of people believe that someday computers will do all their thinking for them.

Well, a funny thing is going to happen on the way to the future:

You're going to have to think harder and longer than ever.

Computers can't dream up things like Picturephone service, Telstar® satellite, and some of the other advances in communications we have made. Of course, we depended on computers to solve some of the problems connected with their development. But computers need absolutely clear and thorough instructions, which means a new and tougher discipline on the human intelligence.

And it will take more than a computer to create a pocket phone the size of a matchbook, let's say . . . or find

a practical way to lock a door or turn off an oven by remote telephone control, or to make possible some of the other things we'll have someday.

It takes individuals . . . perhaps you could be one . . . launching new ideas, proposing innovations and dreaming dreams.

And someday, we're going to have to find a way to dial locations in space.

Makes you think.



**Bell System**

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## A Short History

## The School of Engineering and Architecture

Reprinted from VECTOR  
By JONATHAN HAROLD SPINNER

Upon The City College emblem there appears the famed three-faced female of Greek mythology "Respice, Adspice, Prospice," or hindsight, present sight, and foresight. We can do much in both the future and the present with some understanding of the trends of City College's past. The history of the School of Engineering and Architecture gives us an insight into the department's needs, now and in the future.

## THE SCHOOL OF ENGINEERING AND ARCHITECTURE

In 1962, within the memory of most of those associated with the College, the name of the department was changed from the School of Technology to the School of Engineering and Architecture. This complied with the long-standing request of the faculty. They pointed out that, "there is a difference between engineering and technology. In essence it is that engineering is a way of doing things in contrast with technology, which is essentially a body of facts and techniques relating to the industrial arts." They further stated that, "the word 'technology' identifies an evergrowing body of technical knowledge but does not characterize the professional philosophy, objective, content, and instruction which distinguish the programs and degree offered in our School." The

department was referred to as the School of Technology since the engineering school had its inception in 1919.

Even then the College was changing. It was during this early period that the first great influx of students began. World War I had ended, the College's men who had served "Over There" were returning, and large numbers of high school graduates began to seek college degrees. Thus, the School of Technology was founded during the first great student influxes resulting in a student "over fill" at the College.

## DAVID B. STEINMAN

David B. Steinman was head of the department in the early period. A native of the Lower East Side, he had entered the College at thirteen. This was when students received both their high school and college degrees from the City College. Because there was no engineering taught at the College, the would-be bridge builder, after graduating summa cum laude (Bachelor of Science) in 1906, went on to Columbia and received a degree in Civil Engineering and a Ph.D. He returned to teach at City College from 1917 through 1920, leaving his position of Associate Professor to enter private practice.

Forty-three years later, Steinman Hall was named in his honor. He is not remembered so much for his role as a leader in inaugurating the School of Technology, but for his accomplishments as one of the greatest engineers in the world and for the honor he brought to the College.

## GEORGE WASHINGTON GOETHALS

Goethals was born in Brooklyn in 1858. He received his education through local and national public funds — one of the best investments ever made with these monies. He entered City College in 1874 with the object of achieving a Bachelor of Science degree. However, he took the competitive examination for West Point in 1876, won a free scholarship, and never graduated from the College. He graduated from the United States Military Academy with the second highest scholastic honor in his class. In 1920, City College gave the General his Bachelor of Science degree (honorary) and officially made him a member of the class of 1877.

When the campus buildings were named in 1955, he was given an honor usually reserved for former instructors at the College — the former **Tech Building** was named in his honor. Thus, the two buildings on campus associated with the School of Engineering and Architecture were named after men who, although great engineers, never graduated from City College as engineers.

## ENGINEERING AND ARCHITECTURE DAY

It was not until 1950 that "Engineer's Day" was established at the College. Its roots are found in the **open house** sometimes given the public by the School. In 1940, the first **open house** was held. A brochure, whose design and format were copied for **E-Day** brochures, was distributed, describing the various exhibits scattered around the North Campus quadrangle, and giving the reasons for the **open house**. Later, these reasons were adopted for **E-Day**.

"Engineer's Day at the School of Technology provides an opportunity for the lay citizen and for the professional man to observe a modern engineering school in operation. Exhibits of student design, special scientific exhibits, and the facilities of the College for instruction and research will be on display."

When, in 1948, the College held a week long celebration for world peace, the department held its second **open house**. Since 1950, **E-Day** (now **E & A Day** to draw equal attention to the architecture department) has been held sporadically. Whenever it has been held, the reasons given for holding the first **open house** still held true.

## DEGREES

In 1961, when the department was still called the School of Technology, a five year program leading to a Bachelor of Architecture was offered. The name of the "Department of Drafting" was changed to the "Department of Architecture and Graphics."

A student can go to the College tuition-free for four years and receive a Baccalaureate of Science. He can then go for a fifth year to obtain a Bachelor of Architecture degree, but he must pay the tuition (because of a state law which does not allow a college to offer a five year tuition-free program of study). The student may then proceed on to graduate study, at minimal expense, in the School of Engineering and Architecture.

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## AICHE's School Plan For Future

By KHALIR FARID, President

After some five years of formal college education, the chemical engineering student enters the workforce. In most cases, some type of engineering employment. At this point, he has taken his first big step towards becoming a member of the engineering profession.

The American Institute of Chemical Engineers defines a professional engineer as "an individual who, with adequate training, experience, intellectual capacity and moral integrity, effectively devotes his skills and knowledge to the service of society and his profession in whatever assignment he finds himself involved, being fully sensible of the personal responsibility and trusteeship conferred by special training."

No one becomes a professional upon receiving his degree or joining any organization, but a chemical engineering student certainly gets a good start towards achieving this professional status by joining the undergraduate student chapter of the American Institute of Chemical Engineers.

The American Institute of Chemical Engineers (AIChE) was formed almost fifty years ago when chemical engineering had just started to become a branch of engineering. It was formed for the purpose of "advancement of chemical engineering in theory and practice and the maintenance of high professional standards among its members." The organization is primarily a professional society, with its members being the chemical engineers in the wide area of evergrowing chemical industry. It has four grades of membership classification, each with different requirements and privileges. These classifications are: Members, Associate Members, Affiliates, and Student Members. The student members are those college students who are taking credits in accordance with the chemical engineering curriculum in an accredited college. The students, of course, constitute the chapter at CCNY.

Before going into some of the functions and activities of the student chapter, it might be of interest to discuss the National AIChE. Also, since the formation of the National AIChE, many local clubs have been formed in the major cities of the U.S. and these groups conduct most of the business of the national organization.

There are many working committees of the AIChE, some concerned with the operation of the organization and others dealing with the technical problems of the industry, such as waste disposal or distillation research. Still other committees are active in the professional fields of education, guidance and professional legislation. The committees are all active and have some notable results to their credit. The Accrediting Committee of the AIChE was the first of any society to set standards for an engineering curriculum, and to help engineering schools attain them. This program has been extended until accreditation is now general for all engineering schools.

The local sections hold several social functions where the members and their families get better acquainted.

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(Continued from Page 12)  
**TECHNOLOGY LIBRARY**

The Technology Library, now situated on the second floor of Steinman Hall, has been in perpetual motion for most of its existence. First located in the basement of Bowker Hall (the site of Steinman Hall), it was subsequently moved to a faculty room opposite the Great Hall in Shepard Hall, and then to the basement of Harris Hall, and then to the Great Hall itself, finally coming to rest in its new quarters in Steinman Hall.

The growth of the Technology Library indicates the expansion of the School of Engineering and Architecture. In 1934, an inventory of the library showed there were approximately eight hundred volumes. Today, with doctoral programs added to the undergraduate studies, the library has for eighty thousand volumes in Steinman Hall.

## GROWTH AND EXPANSION

Since its beginnings in 1919, with a faculty of one hundred and ninety, the School of Engineering and Architecture has shown its ability to change with the times and the needs of the College. In 1963, the student body was estimated at 10,000. The rapid expansion of the School of Engineering and Architecture in the past forty-four years coincides with the tremendous growth and advance of engineering and architecture during this same period.

The School faces the same problem technology in general — that of adjustment to new situations in as short a time as possible, without loss of excellence. The department has fought hard to make itself one of the best undergraduate engineering and architecture schools in the nation. It has now added doctoral programs to its curriculum, and soon more students, both undergraduate and graduate, will be entering the School. If the past can teach, then the School of Engineering and Architecture faces the happy prospect of continued excellence in the future.

# ChE's

(Continued from Page 12)

These sections also include monthly business meetings, luncheons, where some notable industrial, educational, and business leaders often appear as speakers. The National Chemical Engineering Institute also holds conventions of members which are of much interest to the chemical engineer.

One of the important activities of the ChE is the production of a publication on Chemical Engineering by this organization. The known of these publications is the periodical **Chemical Engineering Progress**.

The AICHE offers several awards, including some for student member scholarship. They hold a paper contest annually in each local area for the student chapters. In the New York chapter, this contest is called the Metropolitan Conference of ChE, and is attended by the various metropolitan colleges which have chemical engineering departments. It is held in one of the Conference Colleges, the host college being different each year. This year the contest is being held on April 30th, at Columbia University. The City College has been very successful at these contests and our students usually win the first or second prize, and often the first.

The student chapter at City College, which is currently the only college's sole connection with the AICHE, also has several activities. As guest speakers from industry are speaking on technical topics to the group of student members on Thursdays in the club meeting room between 12:00 and 2:00. These are of great interest to the students as well as services to them of the operations and needs of the chemical engineer in the industry where they are actually to be employed.

The Student Chapter also runs a coloring class in the use of the

slide rule, which is an essential tool of the engineer. These classes are taught by one of the Senior members and are usually directed towards the students taking their first Chemical Engineering course, ChE 12, in which it is required to pass a slide rule exam before a passing grade may be given for the course. Of course, even those students who have not started their chemical engineering course sequence may join this class. The tutoring job is being handled by graduating senior Robert Frishman this term.

One of the high points of each term for the members of the student chapter is the Semi-annual Smoker, usually held towards the middle of the term. This is not really a 'smoker' as fraternity men might understand it. It is not held for the purpose of recruiting new members. It is actually a reception or social function, where the students are afforded an opportunity to meet with the chemical engineering faculty and the other student members on a social basis.

It has been traditional, at these functions, for the students to present a skit spoofing the faculty and department, and for the faculty to retaliate with a skit about the students. In addition, the chemical engineering social fraternity, Sigma Chi Epsilon, also presents a skit.

The student chapter also provides an opportunity for many of the student members to participate in its operation. This means that a large part of the membership, at one time or another, gets a chance to hold an office in the organization, and there are many offices to fill. This gives some very valuable leadership experience and also a chance for the student to familiarize himself with his chosen profession. The officers for this term are:

President: Khalid Farid. Vice Presidents (2): Richard Schwartz and Barry Zimmerman. Corresponding Secretary: James Groel. Secretary: Ar-

# Executive Dev. Club

By ARNOLD STODOLSKY

The Executive Development Club (EDC) was chartered by Student Government in May 1965. The EDC was formed to handle the growing needs of the Personal Development Program, which started in the fall of 1963 by Dr. John D. Hickey (D.S.L.). Now the EDC runs the lower stages of the program while Dr. Hickey runs the more advanced stages.

The Personal Development Program serves the needs of engineering and architecture students for their entire tenure on the City College campus by offering a nine-semester project.

## First Semester: Discussant Phase

This phase is known as Freshman Orientation and the discussion meetings are an integral part of the required orientation. This is the only part of the program that is not voluntary.

## Second Semester: Discussion Leadership Training Program

This training consists of twenty-four clock-hours in the background and philosophy of discussion leadership, aims and objectives of a discussion, discussion leadership as an art form, responsibilities and opportunities of discussion leadership, the attitudes of the discussion leader, discussion leadership techniques, the use of aids, and the application of the special tools of a discussion leader.

## Third Semester: Field Experience as a Discussion Leader

Now the trained Leader uses his techniques to lead a group of freshmen during the orientation sessions.

## Fourth Semester: The Instructor Development Program

This phase of the program refines and redefines the theory and practice used in discussion groups. It consists of twenty-clock-hours of theory and preparation and consultation with the trainer.

## Fifth Semester: Field Experience as a Trainer

This phase provides the trained instructor with an opportunity to apply the techniques he has learned by administering the Discussion Leadership Training Program.

## Sixth Semester: Training Specialist Program

## Seventh Semester: Field Experience as a

thur Chatroo. Liaison Officer: Kurt Torster. Treasurer: Ronald Andrade. Membership Secretary: Thomas Ackerman. Publicity (4): Neil Dick, George Halbfinger, Charles Halbfinger, David Deutsch. Tech Council Rep.: Luis Alfonso. Tech Council Alternate: Ellis Denmark. Slide Rule Instructor: Robert Frishman. The Faculty Advisor to the student chapter is Prof. M. K. N. Patel.

This chapter at CCNY is student chapter sixteen, the total number of chapters in the country being well over one hundred. The number of student members at this chapter averages about 60 members per term, or a fair portion of all chemical engineering juniors and seniors.

The importance of belonging to the AICHE cannot be overemphasized for the chemical engineering students, as this is the place where they make their first contact with the people of their chosen profession and where they learn about the industry in which they will be employed.

# Amateur Radio Club

By KENNETH FLAXMAN

The amateur radio society is the "ham" club of the college. Licensed radio amateurs banded together in 1923 to form an organization that could satisfy their wants, such as the dissemination of knowledge relating to amateur radio, and the actual operation of amateur radio equipment.

The station of the Amateur Radio Society is located in the south tower of Shepard Hall — about seven stories above the ground — two flights of stairs above the bell. Operating under the call letters W2HJ, the Amateur Radio Society of City College has worked all over the world. In its early days, countries which no longer exist were contacted.

Presently, the amateur radio society is mainly concerned with maintaining and operating a sta-

tion, and giving instruction in code and theory to prospective radio amateurs. To become a "ham," a name for radio amateur, one must pass tests administered under the authority of the Federal Communications Commission — these measure the ability to send and receive code, and require a rudimentary knowledge of electrical devices relating to amateur radio. To aid future hams in passing these exams, the club, with its more experienced members, gives instruction in code — a knowledge of International Morse Code to the extent of being able to send and receive five words per minute is required for the lowest form of license — Novice. The code is relatively simple to learn — It requires, however, much practice and some dedication to the final goal.

Amateur radio stations may operate with a variety of modes — code, voice, TV, and teletype. Presently, the club station is equipped to transmit only code and voice. Plans are afoot, however, to outfit the station for teletype. Fundamentally, the club's equipment consists of an SB-100 transceiver. Peripheral equipment includes a standby transmitter, a standby receiver, a kilowatt amplifier, and other miscellaneous equipment. The station is capable of operating at a high level of efficiency — however, the will to operate is necessary among its members.

The Amateur Radio Society holds weekly meetings at 12:30 Thursday afternoons, in 013 Shephard. Anyone who is even remotely interested in becoming a ham, or who is a ham, or who is interested in the construction of electronic gear would profit by attending a meeting.

# Professors Keep Busy

Like students, teachers are people who spend only a part of their lives in classrooms. What do they do when not tyrannizing poor defenseless students? They do all the ordinary things (eat, sleep, etc.) and quite a few extraordinary ones. Following is a brief survey of some of the extra-curricular activities of some of our professors.

## Works In Print

... A paper, "Synthesis and Isomerization of 2, 6-Dimethyln-butylbenzene," by Professor Francis E. Condon (Chemistry) in collaboration with an undergraduate, Andreas A. Zavitsas, was published in the **Journal of Organic Chemistry**, volume 30, June 1965.

... Mr. Sandor Halasz and Professor Morris D. Silberberg, both of the department of architecture and graphics, are authors of **Worksheets in Graphic Science and Creative Design**, published by Prentice-Hall, Inc. in May. The work is intended to stimulate the student in the use of descriptive geometric concepts.

**Papers and Lectures Presented**  
Professor Joseph Rennert (Chemistry) presented two papers recently at the Fourth annual Metropolitan Regional meeting of the Stevens Institute of Technology: "Photo-Reduction of a Quinone-imine" in collaboration with two students, L. Cohn and J. Wisenfeld; and "Anthrone Tautomerism" with S. Bleecker and D. Berkowitz.



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## Well-Rounded Engineer Epsilon Nu Gamma's Aim

By ROBERT LICATA

Today we have the pleasure of speaking with Mister Michael Goodfrat, an authority on our subject of discussion, Epsilon Nu Gamma, a social fraternity.

Mr. Goodfrat, before I start my question-and-answer procedure, would you like to make any opening remarks?"

Goodfrat: "No. I'm sure your rating questions will reveal more factual information than any of the brothers of my fraternity are even aware of."

Interviewer: "Well, all right. First, I'd like you to tell us a little about the origin of your fraternity."

Goodfrat: "To begin with, my fraternity started in 1943, when a close friend of mine was a student engineer of City College. We decided to discuss the practicality of formalizing their relationship. They reasoned that an organization solely for engineers would be a great merit. If the organization was a fraternity, it would be able to function socially as well as provide services for the school and community. The idea was already in practice at New York University. They decided to adopt the constitution of Epsilon Nu Gamma, the fraternity at N.Y.U. They were accepted soon after as the chapter of the National."

Interviewer: "But what advantage is there to only admitting prospective engineers? Wouldn't it tend to limit the fields of interest and the flow of ideas among a group of men primarily interested in math and science?"

Goodfrat: "That's very likely how you state it, but in practice, at our practice, that situation is hardly evident."

First, our group is never larger than thirty-five. This arbitrary figure maintains a group of close-knit friends. After all, what does fraternalism mean?

Secondly, the 'founding brothers' used discretion when they interviewed pledges. When the vote came around, the discussion was hot and lengthy. Close to 75% of the time, any pledge admitted was as well-rounded as could be desired. The pledge period contained many tests by which the brothers were able to determine whether a pledge's interests were narrow or broad.

By people of narrow interests it is fun to be with even for a short time, no less for a few years. These practices have been continued and constantly revised so that the pledge period is a true measure of a person's compatibility with an organized group.

We don't admit someone out of sympathy, nor do we exclude someone because of prejudice."

Interviewer: "It sounds as though the brothers are either weird or wonderful examples of college students."

Goodfrat: "No, they're just average guys who like to have a good time. Their academic lives are hard. Their study hours are rigorous. The pace they keep is grueling. The fraternity provides them with a release while socializing with others facing common problems. It enables them to share their lives with people who understand their problems. Think of it this way: in order to become a professional in any field requiring years of hard work and a high level of intelligence, one must be idealistic and a true individual. Epsilon Nu Gamma was founded and has lived as an idealistic individual."

Interviewer: "That's some sales pitch. Now I'd like you to give us a few facts about your fraternity which will round out our image of this fine example of fraternalism. Suppose you run through some of the social functions."

Goodfrat: "Well, we don't differ greatly from other fraternities in that respect. Our Friday Night Social Chairman arranges parties with female college groups in New York. He assures them of transportation and the guys of a good time. Other chairmen organize ski trips, camp-outs, luncheons, dinners, dances, alumni reunions and most any kind of party someone dreams up. We take many trips during vacations. Most every state in the Union plus Canada, Mexico, the Caribbean and even Europe has seen our members."

Interviewer: "Do you have your own house?"

Goodfrat: "Yes. We rent a basement apartment and refinished it ourselves. Actually the original house was on 140th Street but 'Time marches on,' and now we're on Hamilton Terrace."

Interviewer: "Well, I think we'll be hearing a lot more about Epsilon Nu Gamma in years to come. You and your fraternity are a credit to the engineering field. I believe you represent a group of true professionals. Although there are countless other questions I have, our time is up. Thank you very much, Mr. Goodfrat. It has been a great pleasure speaking to you."

Goodfrat: "The pleasure has been all mine."

## Arch. Education Being Revamped Across Nation

Reprinted from New York Times  
By ADA LOUISE HUXTABLE

American architectural education, scored by critics as still following 19th-century methods and ideas, is moving to meet the 20th-century crisis of cities.

Objectives and curriculum considered by experts to be far behind the needs of the times are being revamped by some of the country's leading professional schools. The purpose is to produce designers and planners equipped to deal with the increasingly complex building and renewal problems of cities on today's unprecedented scale.

Harvard University, which has been a leader in the field of architectural education through its top-ranking Graduate School of Design, is about to inaugurate an \$11.5-million campaign to enlarge the school's scope and activities and redirect its aims with an Advanced Program of Environmental Studies.

Harvard led an architectural revolution in the 1930's under the direction of Walter Gropius as dean of the graduate school, that was virtually responsible in this country for the break-through for modern architecture. Thirty years later, it finds its program lagging behind radically changed environmental needs.

Other schools across the country are facing the same inadequacies in programs and funds. Concurrent with changes at Harvard, the University of California at Los Angeles is establishing a completely new school of architecture, to open this fall, to meet the new needs. The university is state-financed.

The Harvard fund drive will aim for a \$6-million building to house its school, a \$2.5-million endowment for four professorships in advanced environmental studies, \$2-million to strengthen existing curriculums, and more than \$1-million for workshops and laboratories in architectural technology, computer techniques and comprehensive design.

The campaign is under the leadership of John L. Loeb, chairman of the school's development program. Mr. Loeb, a principal of the New York investment concern of Carl M. Loeb, Rhoades and Company, has made substantial university donations, including Harvard's Loeb Memorial Theater and New York University's Loeb Student Center.

Two million dollars are already pledged to the two-year cam-

paign, which is just getting under way. An additional \$2-million Federal grant for building purposes will be available under the Higher Education Facilities Act.

Half of the Harvard program will be devoted to a new kind of advanced work on the doctoral level dealing completely with problems of the environment.

Significantly, only one of the four new professors in this program in environmental studies will be an architect or designer. The other three will be a scientist specializing in resources and ecology, or the forces of the natural environment; an authority in decision-making, or programming through computer and other modern mechanical techniques, and either an economist, a lawyer or a public administrator.

### Goal Is Correlation

The objective of the program will be the correlated use of these interdisciplinary sciences and techniques, all of which are involved in modern building and planning dealing with large-scale problems of the environment.

Approximately 10 fellowships will be given in Harvard's advanced program of environmental studies. They will be similar to Niemann fellowships for journalists and those being sponsored by Harvard's Kennedy Institute that permit established professionals to return for specialized work, writing and research.

The second half of the program, on the undergraduate and master's level, will be a thrust to update education in architecture, landscape architecture and urban planning and design, largely through training with existing problems, aided by specialized laboratory techniques. Workshops and laboratories will be emphasized in subjects such as computer graphics and building technology and structure. Field experiences in urban renewal will be integrated into the curriculum.

The program at U.C.L.A., developed by the new school's dean, George Dudley, will have an equally farsighted base. It will consist of studio work coordinated with the social, behavioral and technological sciences, engineering, economics, law and fine arts. The degree will be in urban design.

### Medical Training Cited

Existing U.C.L.A. facilities, such as the Institute of Transportation and Traffic Engineering and the Institute of Government and Pub-

lice Affairs, will also figure in the new architectural training. The graduate is expected to bridge the concern of the architect dealing with single structures and the planner involved with the broad range of modern urban problems.

Experts in the fields of architecture and planning point out that the educational revolution is long overdue. They stress a similar revolution in medical education in this country in the 1920's, set off by the Flexner Report prepared on the subject for the Carnegie Fund in 1910.

The Flexner report scored the traditional system of part-time lectures by respected practitioners aimed at passing on existing knowledge and experience to students. It led to intensive curriculums of coordinated laboratory work and practical training in dual research and teaching programs, with the objective of producing new knowledge and progressively trained graduates.

Architectural education still follows the 19th-century master-student formula, with emphasis on present practice rather than the methodology of future solutions. The semester problem of a single building type or a grandiose architectural complex in pure design terms is still common.

Associate Dean William A. Doebele Jr. of the Harvard Graduate School of Design deplores the lag.

"It is a tragic social waste, in this period of urban crisis, to spend time and resources on this kind of teaching," he says.

It has also been pointed out that through lack of funds and facilities architecture and planning schools are unable to meet today's challenge, not only in terms of the quality of their graduates but also in quantity. They are failing to produce enough of the urgently needed properly trained personnel for urban work.

Particularly in planning, most schools estimate that two to three times as many qualified applicants could be accommodated as present means can support, with a good proportion turned away and lost to the profession each year.

A \$100,000 study in architectural education being made now by the American Institute of Architects finds re-evaluation and revision of curriculums to be the trend in many schools of the approximately 80 architecture schools in the country, 60 that

(Continued on Page 9)

## TECH NEWS

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## Retired Chem. Eng Holding Interviews

Seniors majoring in Chemical Engineering will be given the opportunity to have an interview, prior to the meeting with business representatives, with a man familiar with conditions in industry.

Dean John R. White (Engineering) announced that Mr. Martin Buck, who recently retired after 35 years with Shell Chemical Company, has consented to donate a considerable portion of his free time to identify the needs

of graduate seniors, particularly Chem. Es., and to help guide them towards the specific functions which would satisfy these needs. Buck was for many years involved in technical personnel recruiting and job performance evaluation.

The program at City College designed to help Chem. Es.



Mr. Martin Buck

don't have a clear knowledge of the brand range of specific functions and their corporate environment. Because they cannot know about all these things, for Mr. Buck, the students find it difficult to assess the comparative attractions of various offers until they are already on the job.

Mr. Buck, despite his long association with Shell Chemical Co., is not making a pitch for this or any other firm. The conditions, policies, and requirements regarding Chem. Es. do not vary greatly from one company to another within the industry.

### First Of Its Kind

The program, as conducted by Mr. Buck, is to his knowledge the first of its kind in the United States. All the costs of the program, including printed brochure and questionnaire, are borne by Mr. Buck. When asked about the possibility of interesting retired personnel in other fields of engineering in similar projects, Mr. Buck said he was sure that such people existed, but he has no idea as to the extent of their willingness to be of use or how they might be contacted.

The interviews consist of question and answer discussions on an individual and personal basis between the student and this experienced industrialist. When applying for an interview with Mr. Buck, the student receives a brochure and questionnaire, which he is asked to read thoroughly before the meeting. Only seniors are encouraged to apply at this time, as they are seriously looking past graduation toward a job, and can derive the greatest benefit from the program.

So far, about 30 students have been interviewed, and Mr. Buck describes the discussions as "useful and helpful." Appointment can be made through Dean White's reasons.

The scope of the program has been limited to Chem. Es. According to Dean White, "the program will continue at least until the end of this term." When most of the senior Chem. Es. have already been interviewed, Mr. Buck will begin seeing Civil Engineering seniors who are interested in fields such as water purification and sewage treatment and control.

VOL. XXIII.

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