



THE SCHOOL OF TECHNOLOGY

TECH NEWS

CITY COLLEGE OF NEW YORK

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222

BY STUDENT FEES

TIIC Plans Term

By LINDA GROSS

On Sept. 29, at five o'clock, Warren Wolff, president of the "Technology Intersociety Interfraternity Council," introduced to Council, TIIC's new officers and then presented a tentative program of activities for this term. Among Warren's plans were those concerning increased publicity and membership for TIIC, "home improvement" for the North Campus, and, more social functions and lectures to the Technology students. Although numerous suggestions were made, there was nothing formally voted upon at the meeting due to the fact that many of TIIC's member organizations were not represented. (There are twenty organizations belonging to TIIC and only eleven were represented at the meeting.)

North Campus Cited

Council has already accomplished its usual job of co-sponsoring the Tech School Placement Office at their orientation lecture class for senior Tech students. At this time the officers of TIIC helped distribute information bulletins and forms for job placement to those students attending the meeting.

In recent terms Council has heard numerous complaints from students concerning the

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Slip Stick Seminars Scheduled

By MEL PELL

This fall AICHE and Eta Kappa (HKN) are again offering slide rule courses to those students that are beginning their engineering courses. The courses of instruction will cover everything required for the slide rule exams in E.E.104 and Ch.E.128. This includes use of the A,B,K, and six log log scales.

Use of the slide rule was once taught as part of certain engineering courses, but this was discontinued two years ago in favor of other material. The American Institute of Chemical Engineers and H.K.N., the E.E. honor society, undertook to teach slide rule proficiency as a service to the students.

The AICHE course begins this Thursday at 12:00 in H103 and will be taught by Eugene ("Footsy") Fisher. It will consist of eight sessions of 45 minutes each. The H.K.N. course will also be given on Thursdays. For further details see the H.K.N. bulletin board at Tech Crossroads in Goethals.

Prof. Minocher Patell of the Ch.E. department has indicated that the syllabus for the AICHE course amply covers all the required material. Joe Hochheiser, one of the students who has already taken the course said, "It was very helpful and included everything I needed."

New E.E. Profs

By FRANK SCHUTZ

In keeping pace with its growing enrollment, the School of Technology has employed seven new instructors. The seven new mentors are Clement Healy, Frank J. Sammer, Theodore Horbatowski, Stewart J. Maurer, Gerald Stillman and R. Davis of the Electrical Engineering Department and Eli Plaxe of the Civil Engineering department.

Frank Sammer

Frank J. Sammer, instructor of electrical engineering, is a graduate of City, having received his B.E.E. in 1955 and his M.E.E. in 1958. At the present time, in addition to his teaching duties, he is working towards his Doctorate in Engineering at New York University.

Before joining the City faculty, Mr. Sammer was an instructor in the Electrical Engineering department of Pratt Institute in Brooklyn. When asked to compare the abilities of his students at City and Pratt, he tried to be impartial.

"I used to tell my students at Pratt that City students worked a lot harder and knew a lot more than they did. Now I tell my City students that at Pratt they work a lot harder and know a

lot more. I just hope that my City and Pratt students don't get together."

In industry, Mr. Sammer has worked for Otis and General Precision Labs. At Otis he took part in the development of Ultralinear Sweep circuits for radar systems. At General Preci-



SAMMER, E.E.

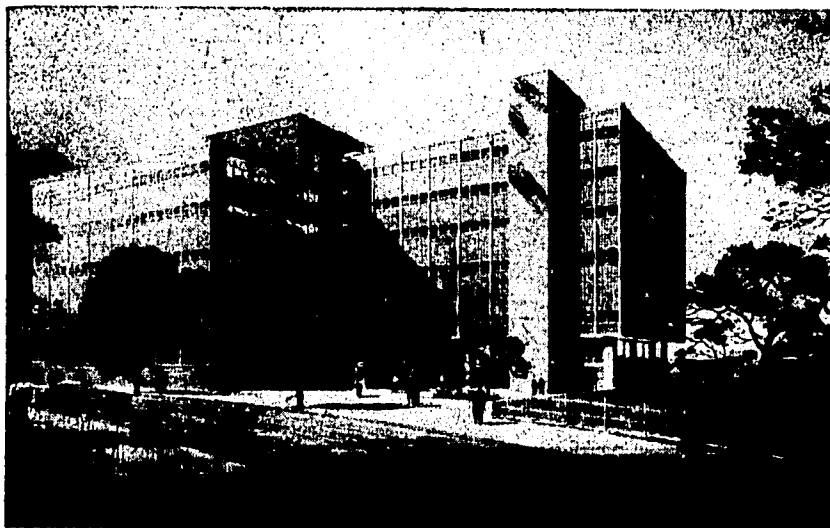
ion his work involved the design of a new magnetic amplifier, lighter and less expensive than previous models.

Stewart Maurer

Stewart Maurer, another new member of the E.E. department, is a graduate of New York University. He received his B.E.E.

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Strikes Slow Progress On Technology Building



NEW TECHNOLOGY BUILDING

JANUARY GRADUATES HOLD MEETING

By STEVE MAYBAR

This term, like so many terms in the past, there was a meeting of the science and engineering students that are graduating in January. This meeting was sponsored by the placement office and TIIC for the purpose of informing the students about the placement office.

There were about 350 students at the meeting on September 29, 1960. This seemed like a large group of graduates, but according to Mr. Schnaebele of the Placement office, this was smaller than the group that attended this meeting last September.

Interview Rules

Mr. Schnaebele discussed certain rules that the seniors should try to follow when taking their interviews. One of the most important of these is: don't try to outsmart the interviewer since he may get angry if you are not careful enough and confuse him completely.

Another very interesting point that was brought out by Mr. Schnaebele is the fact that this November 10 is to be called Federal Career Day at the college. This is the day when all of the sections of the government will come down to the school for the afternoon and answer questions about Civil Service for the graduates.

Loan Fund

Students were amused when reminded by Mr. Victor Axelroff (of the City College Loan Fund) that the City College Loan Fund helps the students and that it is in reality a very good organization to support.

The orientation closed with information by Mr. John Buckley about the methods of

making appointments at the Placement Office and the existence of an Employment Workshop at the school where questions about employment will be answered.

Parents Day Nears

On Sunday, October 16, 1960, the parents of all engineering students have been invited to attend "Parents' Day" at City College. The invitation was extended to all the parents of entering freshmen.

The program will begin with an open house in Bittenweiser lounge and a tour of Finley Center. A general assembly will then be held during which President Gallagher and several deans of the College will speak. The planned program will end with small discussion groups. The groups are to be headed by a professor and a student in order to give parents a complete viewpoint on any questions that they may have about the school.

The purpose of the program is to acquaint the parents with the college and its faculty. It will also serve to acquaint them with the problems of the students so that they can understand and advise their sons and daughters.

Previously, this program was held during the spring term only. This year it is being held both in the fall and in the spring, to start both the student and his parents off "on the right foot."

The College has tried to make this an enjoyable and profitable afternoon for your parents, so please urge them to attend the complete program.

In February, 1958, the major contracts for the new school of Technology building were signed. Original plans called for the completion of the six-story edifice in January of this year.

The initial work progressed slowly due to the time consuming task of excavating the Old Library building and Drill Hall.

A meeting of all those contractors involved in the construction of the building took place on Oct. 1 for the purpose of making a careful estimate of the situation. A timetable for the completion of the building also was drafted.

The board of estimate and the Budget Directors are now completing arrangements for the contracts dealing with the moving and installation of the old and new laboratory equipment. Acceptance of the new bid applications are to commence during early winter. Construction authorities anticipate the end of the prime contractor's part of the operation before winter sets in. This will enable unhampered construction of the internal facilities.

Exodus in '61

School sources optimistically contemplate the start of operations to transfer existing facilities, both laboratory and administrative, the coming summer of 1961. Information concerning courses affected by the relocation will be available in the near future.

Actual construction of the Tech Building started in 1959. Progress was handicapped by the steel strike and a local strike of cement workers. By the spring of 1960, the frame was clearly visible as the building began to take its final shape. During the first month of summer, additional unforeseen delays beset construction plans when the member unions of the Building Trades of the Metropolitan area ordered their men to stop work. The member trades included those of sheet metal workers, steamfitters, and brick layers. These strikes led to delayed installation of the piping and heating system in the building. These strikes lasted throughout the summer. Mid-summer found the elevator and escalator installers union on a strike, which has not yet been settled.



Engineering Societies Offer Varied Programs For New Year

By SANDY COHEN and
JOY COFSKY

American Society of
Civil Engineering

Faculty Advisor:
Professor R. Coalter
C.E. Dept.

Pres.: Mike Gritzak

V.P.: Ingrid Lindfors

ASCE is open to those who are past their sophomore year and who have five or six credits in technology. They must be Civil Engineering students. The meetings take place in Harris Hall, Room 106, on Thursday between 12 and 2. Non-members may attend meetings.

ASCE offers showings of films in the field of Civil Engineering and friendly discussions. In the middle of the term their semi-annual induction dance is held. There are faculty and student skits, along with the induction of new students into the organization.

After graduation members of ASCE can join the national society. The society offers to teach what you don't learn in class in the field of Civil Engineering.

American Society of
Mechanical Engineering

Faculty Advisor:
Prof. G. Tower, Dept. M.E.

Pres.: R. Zipkin

V.P.: H. Kosberg

ASME welcomes freshmen majoring in mechanical engineering to its lectures on Thursdays on North Campus. This society provides information to engineering students on the new developments and techniques in industry.

Members of ASME receive such benefits as a Journal of Mech. Eng. each month, free technical papers, discounts on technical books and free tickets to Mech. Eng. society meetings in New York. Occasional dances are held. National dues are \$5.00 per year for this society.

American Rocket Society

Faculty Advisor:
S. Zieberg, Dept. M.E.

Pres.: Larry Heidelberg

V.P.: Ira Skurnick

ARS was created four years ago, and in October of 1959 was chartered by the national board. The purpose of ARS is to advance the science of rocket and jet propulsion.

All students, including freshmen and those enrolled in the school of Liberal Arts may join the society. Two monthly magazines are published by this organization: Astronautics and the Journal of A. R. S.

A. R. S. has discussions in which speakers and professors give lectures in various related fields. Instead of holding formal meetings, A. R. S. engages its members in group and individual projects. Students compete for the annual \$1000 ARS scholarship. The executives of this society hold meetings in 337 Finley.

Society of Automotive
Engineers

Faculty Advisor:
L. Hem, Dept. M.E.

Pres.: Mel Friedman

V.P.: Irvin Koniak

SAE invites students in any

term who are enrolled in the school of engineering. They need not be Mechanical Engineering majors. Dues of \$3.50 a year must be paid and meetings take place in room 126 Shepard, Thursdays, 12-2.

This year's members will not only receive the monthly journal from the national organization but they will also be able to see films, attend lectures, go on trips and come to dances; all sponsored by SAE.

If members of SAE need any technical information, the society will obtain papers for them. Free technical papers are available through SAE. This society will also help students to get summer jobs in fields related to their major interests in technology.

Society of American
Military Engineers

Faculty Advisor:
Major M. Guest
Dept. of Military Science

Pres.: Morton David
V.P.: James McCusker

S.A.M.E. is the largest engineering society on the City College campus. Its members must be enrolled in the school of technology or R.O.T.C.

This year's members will be able to attend many meetings and listen to various speakers, most of whom are successful engineers. S.A.M.E. strives to encourage cooperation between military engineering and military services.

Society of Women Engineers

Faculty Advisor:
Prof. C. Froehlich, Dept. E.E.

Pres.: Katherine Oleksak

V.P.: Virginia Efros

All girls interested in engineering may join S.W.E. They need not be majoring in engineering. S.W.E. holds its meetings in room 115 Harris Hall, Thursday, 1:00 P.M. Speakers

come to these meetings and discuss jobs open for women in technological fields. There also will be several social functions this year.

Beaver Broadcasting Club

Faculty Advisor: I. Brownstein

Pres.: Eugene Graff

1st V.P.: Dave Fahaner

2nd V.P.: Neil Goldman

Anyone at all with an interest in either radio, music or writing may join B.B.C. The first meeting of the term was Thursday, Sept. 29, in Klapper room 10, at 12:30. Following meetings will be announced in the school papers.

B.B.C. familiarizes students with broadcasting techniques. It is helpful to anyone who plans to become a disc jockey, radio announcer, or script writer. Trips to A.B.C., the U.N., and various other radio stations will be held this year.

VECTOR

Vector is your C.C.N.Y. engineering magazine, which published and sold four times during the school year. At present Edward Kiburis is the editor. The Vector office is located on the third floor of the Finley Student Center. Sophomores and Juniors are wanted and needed to work on the staff. Last term Vector embarked on a new program. They changed printers, type style, column style and they now have a full color cover. Tech students responded to Vector's new face by buying more of the magazine which sells for 25¢.

TAU BETA PI

On campus there are four engineering honor fraternities. One of them, Tau Beta Pi, is an all engineering fraternity, and is the leading engineering society in the United States. Mr. Friedman is president and

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Wes Roberts can tell you:

"THERE'S NO CEILING FOR A SELF-STARTER IN THE TELEPHONE BUSINESS"

When Wes Roberts was nearing the end of his senior year at San Jose State College, he was looking for a job with a wide open future. He found it when he joined Pacific Telephone in San Francisco.

Here's how Wes tells it: "I remember one of my first jobs. The boss said, 'Wes, I want you to work out a plan showing where we'll need new field operating centers to keep up with Northern California's growth over the next 10 years.' I didn't know whether I was more happy or scared."

Wes didn't tell us (but his boss did) that he handled the report like a pro. And today, as a

division supervisor, he's holding down a key telephone job.

Wes Roberts' story is not unique in the Bell Telephone Companies. The telephone business is growing fast—and men are needed who can grow just as fast.

Wes can tell you: "We get good training. But no one nurses you along. We hire managers—not errand boys. So far as I can see, there's no ceiling for a self-starter in this business."

If you're a guy like Wes Roberts—if you like to bite off more than you can chew and then chew it—you'll want to visit your Placement Office for literature and additional information.



"Our number one aim is to have in all management jobs the most vital, intelligent, positive and imaginative men we can possibly find."

FREDERICK R. KAPPEL, President
American Telephone & Telegraph Co.



BELL TELEPHONE COMPANIES

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Placement Annual Offered

tips on what to say to the interviewer as well as a listing of the job opportunities normally available from some 1,800 employers are contained in the 1961 edition of the COLLEGE PLACEMENT ANNUAL, to be provided free of charge to January grads shortly after Oct. 1. The ANNUAL, the official, non-profit occupational directory of the Regional Placement Associations, indicates that the job picture for the 1960-61 recruiting year will be a bright one, with companies listing ever heavier needs for both technical and non-technical personnel.

The City College is one of the more than 700 colleges throughout the United States and Canada who participate in the distribution of the ANNUAL to seniors. In addition, this year specially-marked editions will be available to alumni requesting recruitment advice from their placement office, and through the cooperation of the Department of Defense, to men being separated from the armed services. Here on the campus, the ANNUAL may be obtained at the **Placement Office, Finley 23.**

In an introductory section, the ANNUAL counsels the job-seeking graduate or senior on making his decision, as well as on training programs, letter writing, and the placement service itself. Special articles deal with alumni and veterans placement and jobs for women.

Engineers Are On Top Again

Once again, men and women with engineering degrees will find themselves most popular with company recruiters. More than two-thirds of the companies listed in the publication indicate an interest in some type of engineer, and cumulative totals show some 4,000 company requests for graduates with engineering degrees. Chief among the engineers, for the fourth consecutive year, are the mechanical engineers, with almost 800 companies listing openings for them. Close behind are electrical and electronic engineers with 820 listings, then chemical engineers with 532, and industrial with 479. Other engineering specialties cross-referenced in the book range from acoustics to welding.

Demand continues high, the ANNUAL reveals, for chemists, with 805 company listings; sales, 38 listings; and business administrators, 492 listings. Other fields categorized in the book range from accounting through claim adjusting, home economics, liberal arts, mathematics,

(Continued on Page 4)

Hints For Job-Hunters

By HENRY S. D'ARCO

According to the Placement Office, job opportunities are increasing again.

During the spring and summer months of this year, employment opportunities for engineers were not too plentiful. This left the January, June and August graduates with a narrow selective list to choose from. Although next year's graduates may not have the same conditions facing them, it is important to emphasize to upcoming graduates the need for planning. A student who has planned beforehand the steps he will be taking when he does seek employment, will avoid confusion and mistakes.

Early Planning

This planning stage should be accomplished during the student's Lower Senior or Upper Junior term. The biggest problem confronting undergraduate engineers in their planning is to determine in which phase of his engineering field he would like to specialize. If you are in your early twenties don't worry about jobs, but if you are approaching thirty you've got to make a long-lasting decision. Some helpful hints in your planning are presented here:

- 1 — Make a list of the firms in the locality in which you would like to work; list those firms doing work in which you wish to specialize.
- 2 — Find out important facts about these firms (Dunn & Bradstreet rating, etc.).
- 3 — Plan carefully your resume or letter of application.
- 4 — Obtain literature concerning approach towards job finding.

The student following the above procedure will be well prepared in his graduating term for the follow-through of his planning.

Follow Through

Here are some hints for the follow through of your planning:

- 1 — Report to City College Placement office for employment orientation. Dates are listed in placement office for each graduating class. For June and August graduates in engineering and science the date is Thursday, Dec. 8th 12:15-2, Townsend Harris Auditorium.
- 2 — Check out your list of firms with those available at Placement Office and mail out your resumes to those firms not listed by the Placement Office.
- 3 — To firms that don't reply to your first letter, mail a follow-up letter 30 days after mailing date of the first letter.
- 4 — Prepare data on your application for employment beforehand.
- 5 — For interviews set up by the Placement Office and by your own initiative, get all of the information you can on the firms.
- 6 — Organize and rehearse your sales talk. (In an interview you have to sell yourself.)
- 7 — Check carefully on personal appearance and during interview be poised and relaxed.

If the student will compare the above method of job-seeking with those other haphazard methods used by other people he will quickly realize why this should reap such results as a better starting salary and better employment opportunities.

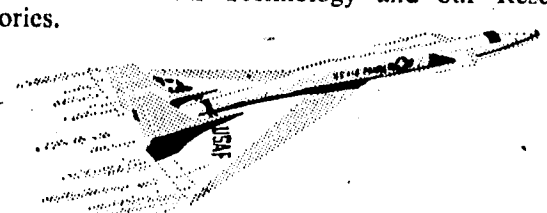
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ENGINEERS-SCIENTISTS HAMILTON STANDARD

Division of
UNITED AIRCRAFT CORP.
will interview on
OCT. 18 & 19

ENGINEERS—BS, MS, Ph.D degrees in EE, ME, MET for outstanding career positions in analytical, design and development engineering.

SCIENTISTS—BS, MS, Ph.D degrees in Physics, EE, ME for challenging new study programs in Missiles & Space systems, Electron Beam Technology and our Research Laboratories.



A typical project under development: the air induction and environmental systems for the B-70 bomber.

Employment Statistics

STARTING SALARIES									
ACCEPTED PRIVATE EMPLOYMENT							ACCEPTED CIVIL SERVICE		OTHER PLANS **
1959 GRADS			1960 GRADS						
Degrees	No.	Avg.	No.	Avg.	Med.	Mid.	Med.		
		Mo. Sal.		Mo. Sal.	Mo. Sal.	50%	No.	Mo. Sal	
Chem E.	25	481	39	508	515	500-525	5	490	8
C.E.	10	479	10	454	450	450-453	34	437	7
E.E.	135	520	159	533	533	517-550	4	439	10
M.E.	67	501	77	524	525	500-535	5	413	13

* Tabulations for 1960 Grads based on information voluntarily received from 520 seniors representing 78% of the total registered for employment assistance. In interpreting these data caution is advised in terms of a 91% return from engineering seniors registered, 46% from liberal arts and 68% from science majors.

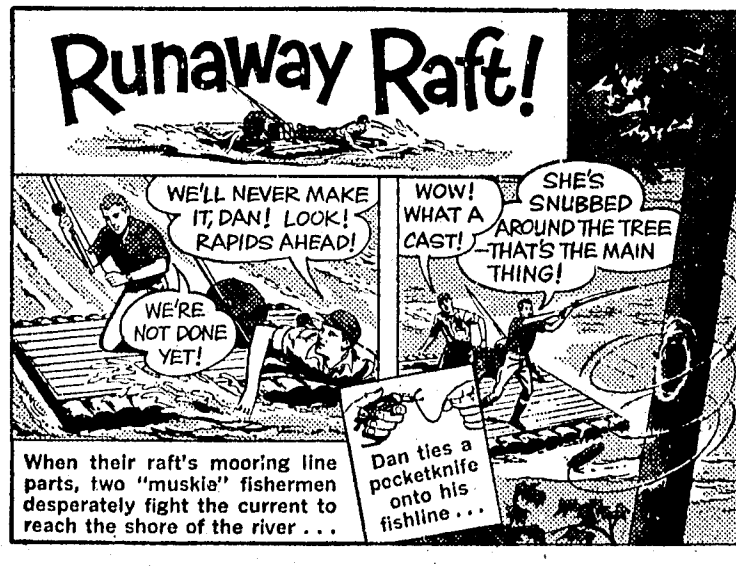
** These figures include seniors who reported intention to attend full time graduate school, accept fellowships or assistantships, take teaching positions, enter military service upon graduation.

Graduation Figures

Present enrollment of undergraduates in day and evening session total approximately 3600 in engineering and 6685 in Liberal Arts and Science. Enrollments in the Engineering Graduate Division (evening classes only) number 562.

TOTAL GRADUATES OF 1961 — 1,641									
	Jan. 1961		June 1961		Aug. 1961		Total		
	Day	Eve	Day	Eve	Day	Eve	Day	Eve	
ENGINEERING									
Chemical E	26	0	24	0	6	0	56	0	
Civil E	33	5	35	4	9	6	77	15	
Electrical E	89	32	93	18	10	12	192	62	
Mechanical E	64	16	47	11	3	3	142	30	
LIBERAL ARTS									
All Specializations	100	15	320	30	100	10	580	55	
SCIENCE									
Math	6	1	19	1	3	0	28	2	
Physics	14	2	40	5	13	0	67	7	
Chem	25	2	67	7	21	3	113	12	
Biology	18	2	52	5	20	1	90	8	
Geology	12	2	32	3	11	0	55	5	
Other	15	1	40	4	12	1	67	6	

Runaway Raft!



WE'LL NEVER MAKE IT, DAN! LOOK! RAPIDS AHEAD!

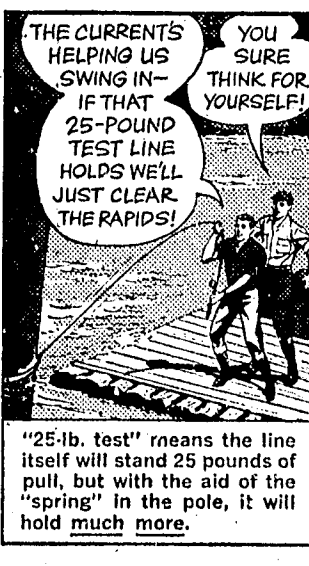
WOW! WHAT A CAST!

SHE'S SNUBBED AROUND THE TREE — THAT'S THE MAIN THING!

When their raft's mooring line parts, two "muskie" fishermen desperately fight the current to reach the shore of the river...

Dan ties a pocketknife onto his fishline...


THE CURRENT'S HELPING US SWING IN— IF THAT 25-POUND TEST LINE HOLDS WE'LL JUST CLEAR THE RAPIDS!



YOU SURE THINK FOR YOURSELF!

"25-lb. test" means the line itself will stand 25 pounds of pull, but with the aid of the "spring" in the pole, it will hold much more.


LATER



VICEROY? THANKS! SAY... WHY DO YOU THINK VICEROY'S BEST?

BECAUSE VICEROY'S GOT IT... AT BOTH ENDS! GOT THE FILTER, GOT THE BLEND!

THE RIGHT TASTE BECAUSE Viceroy's got it... at both ends



GOT THE FILTER...

GOT THE BLEND!

VICEROY FilterTip CIGARETTES

© 1960, BROWN & WILLIAMSON TOBACCO CORP.

TIIC Plans Term

(Continued from Page 1)
study conditions in the North Campus Library. Warren suggested some "home improvement" for the North Campus and especially the technology library. Stating that the lighting is insufficient and should be improved, Warren also noted that there is limited working area due to the fact that a considerable amount of space is now occupied by extra tables which are piled on one another. If room for these tables could be found elsewhere the library could accommodate many more students and make it more convenient to study there. (If you have any suggestions concerning a place for the tables please contact any member of Council or the Tech News Office, Rm. 355 Finley.)

A second plan for the North Campus is that of making improvements on Knittle Lounge, which is relatively small and, by the way, the only lounge located on the North Campus. There was also the idea of having another lounge in that area but this presents a problem, since the Dept. of Student Life prefers that all lounges be located on the South Campus.

TIIC Pushed

To this date, entering students have had little opportunity to hear about TIIC, and many never learn of its existence. This term TIIC has twenty member organizations and if all of them work through Council in a uniform group their membership will be large enough (TIIC incidentally represents over 2,000 students), to requisition a table at registration similar to those of House Plan and other fraternal organizations. TIIC hopes to get this table in order to acquaint new students with their organization by answering questions and distributing information to all those who are interested. It is believed that this would greatly increase their membership and strengthen their organization.

Social Activities

Social activities were hardly overlooked, and there were several suggestions made for an increased number of social events for this term. Council will, of course, sponsor its largest social event, the E-Day Ball in April, but would also like to have a social function in the Fall term. The basic idea of this activity at this point is on the order of a swimming party, ice or roller skating party or perhaps a theatre party. Last year there was a theatre party which turned out rather badly due to late planning. However, this year planning will be done far in advance. It was also suggested that this event take place during the Christmas Vacation. (One more excuse for not studying!)

Ideas were also presented for a student-faculty dinner and a Freshman Day (planned as a jr. E-Day), with demonstrations given to freshmen Tech students.

Seminars Planned

The most educational of the plans mentioned was that of presenting a lecture in the Tech School which would be of interest to students in all branches of technology. Previously, lectures were presented which interested only one specific department of the Tech School. Along with this idea came one for a debate on such topics as

Nuclear Disarmament or the Feasibilities of Atomic Weapon Control, etc. There is also the possibility of having lectures from a Leadership Development Program. This would entail having faculty members from Student Life speak to sophomores and possibly lower juniors on the qualities of good leadership and would help those interested in running for official positions in any organization.

Everything mentioned however, only comes under the heading of "suggestions and

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Placement...

(Continued from Page 3)
and therapy to veterinary medicine. In all, there are more than 10,000 company occupational cross-references.

Reflecting its increasing acceptance as the official job-hunting directory, the ANNUAL has a record circulation this year of 195,000 copies and a growth in total pages to 416.

Tech Societies...

(Continued from Page 2)

Joseph DiStefano is vice president. Tau Beta Pi is opened only to juniors and seniors. A junior has to be in the upper one eighth of his class, and the senior has to be in the top one fifth of his class. Besides scholastic requirements the selection shall be based on integrity, breadth of interest both inside and outside of engineering, and adaptability and unselfish activity.

A few planned activities for the year are: 1) a theatre party; 2) dancing instructions for engineers; 3) tutoring; and 4) an art exhibit during E Day. One of the biggest events will be when the new pledges are initiated into the fraternity, with a dinner at one of the New York hotels.

PI TAU SIGMA

Pi Tau Sigma is the mechanical honor fraternity on the CCNY campus. Harold Orienstein and Kemeta Palhgen are president and vice president respectively.

To qualify for this honor fraternity, a student has to be in the top quarter of the junior class, or be in the top third of the senior class. Besides this, elections are based on standards of character, service to the school, and the promising of future success in the field of mechanical engineering. A few of their activities include: 1) To make a scrapbook of photos and histories of members of the mechanical engineering department; 2) A semi-annual dinner with the faculty; and 3) tutoring.

ETA KAPPA NU

The electrical engineers also have an honor fraternity. The name of this organization is Eta Kappa Nu. Dan Schutzer is president and Don McKenna is the vice president.

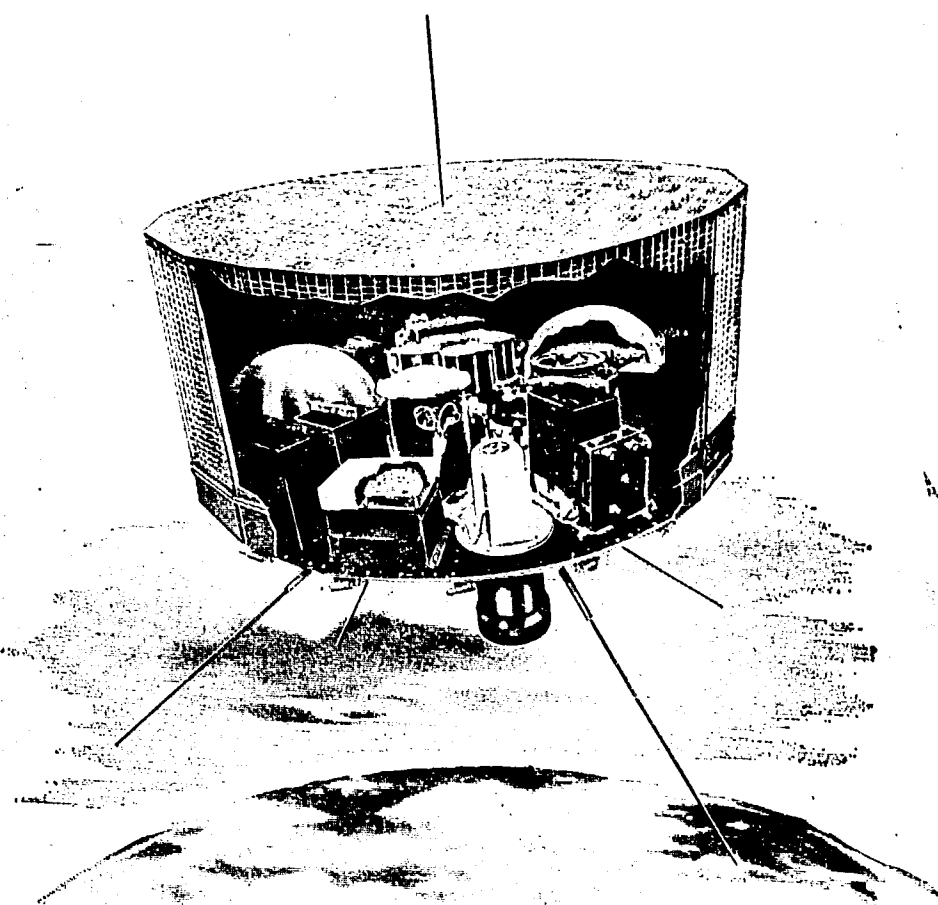
Outstanding junior and senior students in electrical engineering in the day and evening sessions are eligible for membership. But their admittance is

based on character and undoubted ability, which is evident in scholarship. A few of their activities include: 1) slide rule instruction and contest; 2) tutoring; and 3) taking photos of EE seniors for graduation and reference files.

CHI EPSILON

Last but not the least of the engineering honor fraternities is Chi Epsilon, an honor fraternity for civil engineers. President and vice president are Fred Joubert and Robert Dresnach. In order to be eligible for the honor society juniors and seniors must be in the top third of their classes, but election is based on sociability and character.

Just a few activities on the agenda for the year are: 1) a theatre party on Saturday, November 19; 2) a Pre-Induction Dinner meeting on Wednesday, December 7; and 3) the installation of officers on Wednesday, January 11.



RCA, builder of Tiros Satellite, needs young engineers today for spectacular achievements tomorrow

Tiros has broadened man's scope of the heavens and earth. From an orbiting observation post high in the sky, it transmits a new wealth of meteorological information to earth-bound stations below.

Tiros is only one of many RCA successes in the wide, wide world of electronics. And as the horizons of electronics steadily expand, the need for more and more competent and creative engineers increases in direct ratio. That's why RCA, now in the forefront of electronic progress, offers such tremendous opportunities for Electrical Engineers, Mechanical Engineers, and Physicists.

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through engineering assignments that give you a clear picture of various fields you might choose.

Or, if you'd like to continue your graduate study... RCA will pay full cost—tuition, fees and approved text—while you go to school or study two days a week, and work at RCA three days.

These are only a few of the many reasons for getting all the facts about a career with RCA. See your placement officer now about getting together with an RCA representative, for an interview on:

OCTOBER 24

Or, send your résumé to:

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College Relations, Dept. CR-8
Radio Corporation of America
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The Most Trusted Name in Electronics
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COLUMN

Vive La Difference

By JOSEPH DiSTEFANO III

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Wednesday
While working this past sum-
mer as an exchange student for
the "Stadtwerke Bremen Ak-
tiengesellschaft," the electrical
supply company in Bremen,
Germany, I learned something
about the European system of
undergraduate engineering edu-
cation.

The German student, after
completing the equivalent to our
high school education, goes to
work for a firm and is given the
title of "Praktikant." During
his period he continues his edu-
cation in a practical rather than
academic sense.
At the Stadtwerke the stu-
dent-turned-worker is given a
work suit and told — "go into
the workshop and steal all you
can with your eyes." After a
week or so of "thievery" the
student is given some sort of
manual work to do, usually in
the capacity of a helper. Later
he graduates from the helper
position and is given something
to do under the guidance of a
foreman or a fellow worker.

Practical Training

All Praktikants are given a
few weeks at the drawing board.
They have already received a
good amount of technical draw-
ing instruction in the technical
high school. I've found them to
be excellent draftsmen; and
they print remarkably well. One
companion of mine was given a
job as cable-tagger for 30,000
cables in a central control sta-
tion and every tag looked like it
came from a printing press. (He
finished the job in a very short
time, too.)

I was told that the purpose of
this practical training (which, of
course, progresses further than
I have described) is to acquaint
the student with the terminol-
ogy and apparatus which he will
be studying in the following five
years. But after taking part in
this pre-academic program I get
the feeling (if I'm permitted to
make a judgment) that its worth
is small compared to what could
be absorbed if the student al-
ready had some academic train-
ing.

Tech Building Under Construction...



Is There Any Change?



Pull the switch and observe results.

Even though modern electronic computers work at almost unbelievable speeds, the scientist is way ahead of them.

Put quite simply, scientists have been thinking up complex problems faster than even the fastest computers could handle them. To close this gap, IBM created STRETCH, the world's fastest, most powerful computer.

The first STRETCH system will go to the AEC at Los Alamos to aid in nuclear reactor design. This goliath can do a million additions or subtractions a second. It can "read" the equivalent of four million characters per minute from magnetic tape. It can print the equivalent of three good-sized novels every hour. It can perform all these operations simultaneously, and if necessary

pause midway in the problem and tackle a more important one.

Creating such tools and putting them to work for science—or for business, industry, or government—is exciting, important work. It calls for talents and skills of every kind, from liberal arts to Boolean algebra to astrophysics.

So whatever your particular talents and skills, there may be just the kind of job at IBM you've always wanted. The IBM representative will be visiting your campus this year. Why not ask him about it? Your placement office can make an appointment. For further information about opportunities at IBM, write, outlining your background and interests, to:

Interview Date: Nov. 1

IBM

Manager of Technical Employment
IBM Corporation, Dept. 887
590 Madison Avenue
New York 22, New York.

HOW TO SQUEEZE A MILLION CALCULATIONS INTO ONE SECOND





TECH NEWS

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Welcome

We would like to welcome the new freshmen engineers of the Class of 1964, as well as congratulate all the upperclassmen who are making the rounds again. The new class of engineers will soon utilize the modern Tech building now being finished at 141 St. and Convent Ave. It is with sorrow that we realize that most of the upperclassmen may use the building for only a few terms, that is if they will be here to use it at all.

We would like to make a point of information to all of the incoming students, as well as the majority of upperclassmen. Your stay at City College will most likely be one of the highlights of your entire life. Make the best of it. Participate and involve yourself in the school and partake in Student Government, the Newspapers, the Athletic Teams, and the many clubs and social organizations in our school. Even though you are matriculated into College as a student, (try your best to be a good one). Become a WELL ROUNDED PERSON!

New Policy

Tech News is embarking on a new policy of digging up as much information for the students' interest as possible. We will have a special column written by the Honor Fraternities, a new humor section, a research paper whenever possible, and a predominance of feature articles for your interest. One new interesting sidelight will be a listing of all the engineering conferences about town in a column called "About Town." If you like this new style paper and wish for us to continue it in this vein, drop us a line in Finley 335. (Whenever you go down South — if ever you do.)

McCarthyism

We are sorry about the unfortunate statements concerning one of our College newspapers and their managerial board. We sincerely hope that all the accusations are either justified or amends made to those persons involved. It would be a very tense situation in this College, if anyone could accuse without giving proof.

Thanks

Tech News wishes to thank the Board of Directors meeting of the Engineering Alumni of the City College for their generous donation to the paper. We thank them sincerely for the continuous support which they have given us in the past.

Telemetry Speaks

By STEVE MAYBAR

One of the most important parts of any scientific project is the search for applicable data. It is data that sends the engineer into the lab to perform an experiment. If all of the information needed were known, then there would be no need for any more experimentation.

Once we have decided that we want data, the next step is to decide just what data is important. After this is decided it is relatively easy to go into a lab and take the readings. Unfortunately, this is not always possible. With the discovery of such things as the atom bomb, scientists had to develop ways of getting information at a distance. With this need was born the science of telemetry. Telemetry is the science of making measurements at points which are far away and of transmitting these measurements back to some point where the measurements can be interpreted. In the case of today's missiles, the link is radio waves.

Transmission Theory

There is a theorem in radio that to transmit information one of three things is required. These three things are Power, Bandwidth, and time. At least one of these is needed for a given amount of information. This means that if you want to increase the amount of information that is being transmitted one of these three quantities must be increased. Based on this idea there are many different system which can be used. The one that we shall discuss is called F.M.-F.M. for reasons that we shall soon see.

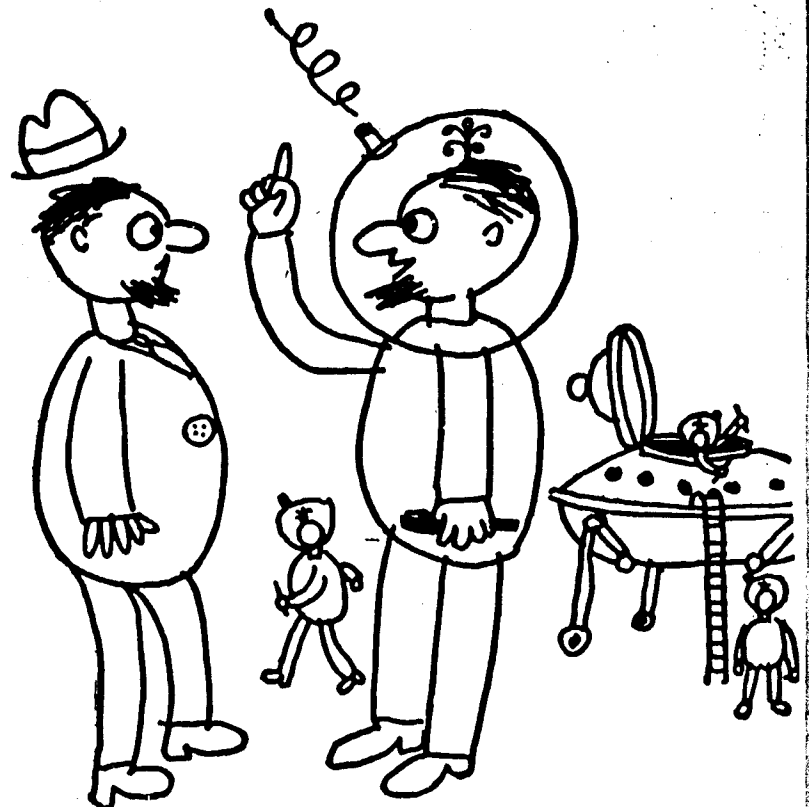
Since we are going to the trouble to make measurements we want to make sure that we can separate one measurement from the other. The first step in our scheme is to divide the low frequency range into a number of channels. These channels range in frequency from about 400cps to 70 KC. There are many different ways of breaking up this spectrum. One of these is given by the I.R.I.G. standards. There are 23 different channels in this system. They are numbered from 1 to 18 and from A to E. The numbered channels are narrow band channels while the lettered channels are wide band channels. It is obvious that the wide band channels can handle more information than the narrow, and so the lower numbered channels (bandwidth increases with channel number) are used for handling information which is slower in variation. This means that channel 1 might be used to measure the acceleration of the rocket or the battery voltage or some other slowly varying function. Channel 1 has an information frequency limited to 6 cps.

Subcarrier Oscillator

Once we have decided what information is to be measured and the rate of change of this information, we can pick appropriate channels for each measurement. Now the problem comes in. How do you get the information that you want to confine itself to any specified frequency? This is done with the aid of a Subcarrier Oscillator. This is an electrical oscillator which produces a stable frequency output. When the information is fed into this oscil-

(Continued on Page 11)

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FOUNTAIN PEN
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THERE'S A POINT CHOICE OF 32—ONE IS CUSTOM-FITTED FOR YOU!



ABOUT TOWN

The third annual Conference on Science and Technology in Israel and the Middle East will be held October 15th and 16th in the Hotel Astor. More than 400 scientists and educators will hear reports on scientific and technical advances of particular interest to countries in the Middle East.

The conference is sponsored by the American Technion So-

ciety which provides financial and technical assistance to the Technion-Israel Institute of Technology. Among those prominent in the organization are Dr. Buell G. Gallagher, City College; Dr. Niels Bohr, University of Copenhagen; Dr. Harold Urey, California Institute of Technology; and Dr. V. Zworykin, Radio Corporation of America.

EDITORIAL (cont)

Bagels and Lox

Where is Raymond the bagel-seller. The spirit of the Tech School, without their diet of salted-pretzels and sardonic humor, is bland compared to last term. The Raymond Institute seems to be a memory.

ED NOTE: One of our reporters is combing New York for him now.

TECH LIFE

By LARRY KOWITT and STEVE MAYBAR

By the time that this column goes to print we will have been back at City College for three weeks. To those students joining us for the first time I offer my sincere welcome. You, the entering Freshmen, will find all that you want at the college if you will only take the time to look for it. To those students who are returning after a Summer vacation I also offer a sincere Hello! To you are entrusted the reins of leadership in all of the active organizations on campus.

Some people claim that City College is a "Subway College" and that, therefore, the best that the student at CCNY can hope to do is to get a good education. This, however, is not the fact. The real fact of the matter is that every term many different organizations go around at the beginning of the term soliciting membership for their group. Every term these group leaders find the same thing: Student Apathy. Too many students lose sight of the reason that they came to College. Students come here to learn and to mature. It is impossible to mature by simply sitting in class and, as soon as class is over, run home by Subway and forget that CCNY exists till the next school day!

The time when the student body starts to take an active interest in student affairs is long overdo. It is not the location of a school, but the activity of the students that make the school what it is. You, the student, owe a debt to your alma mater! It has given you the means for personal growth. You must preserve these means for future students. When are you going to start paying this debt? It is time that you, the student, took an active part in the multitude of things going on around you. This is one of the more important ways that you can repay the debt to your school. Once you pass through the door and go out into the world it is too late to repay this debt. It strikes me as curious that students are willing to fight once things are taken from them, but are not willing to strive for more than they have at the present time.

Admittedly there are many people to whom this last paragraph does not apply. The unfortunate part of this is the fact that these people are a minority. It is time that the rest of the student body lived up to its responsibility of supporting in every way the organizations on campus. This does not ONLY mean joining clubs and paying dues. It means coming to meetings and taking part in the program that others have planned for the term. If you, the student, do not like the program that was planned for you, it is your own fault in not taking part in the planning of the program. Now is not the time to sulk, to criticize the existing program, and withdraw support from the organization. Now is the time to stand up and take an active part in the program planning so that the future will be better than the past.

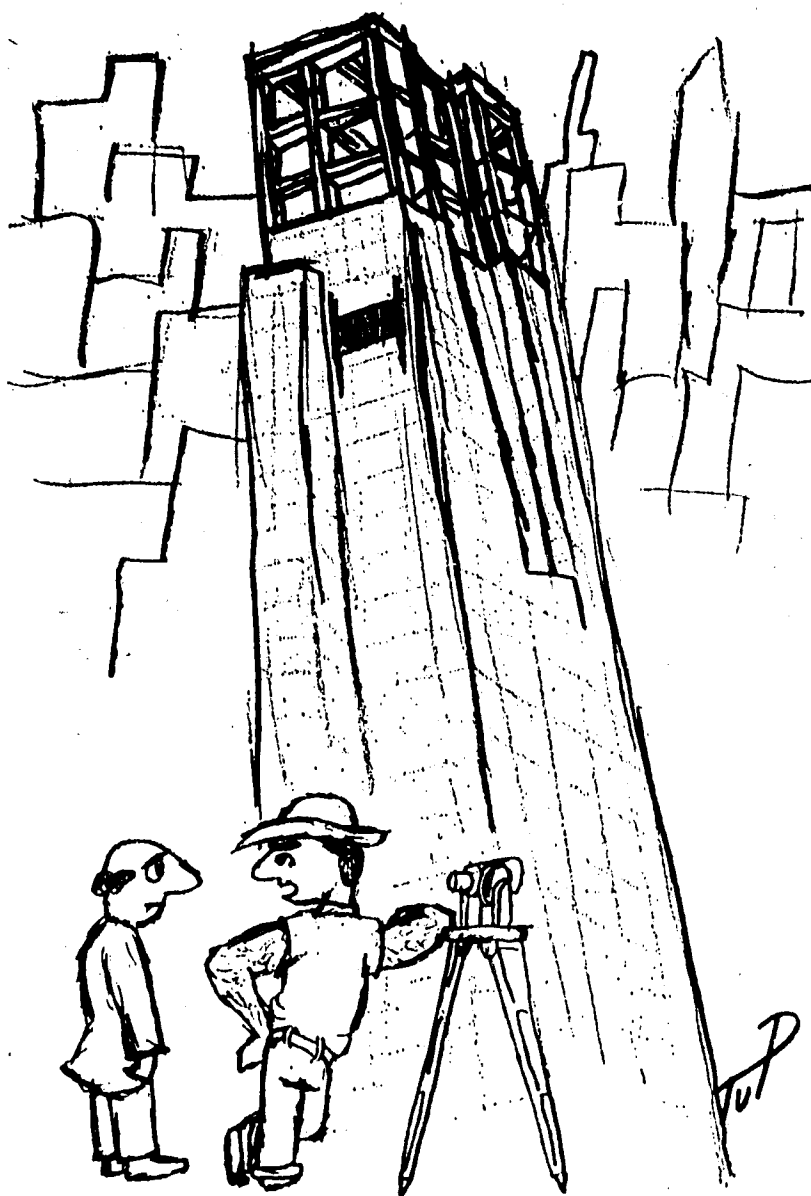
There are in this school many hard workers who would like to take part in the activities around the school. Rather than being applauded by their friends they are jeered and so the school loses more good students to the apathy of the student body. Some of these hard workers do manage to trickle into the student activities. Once there they have two problems to fight. One of these is the planning of a program for the term. This is no easy job by itself. Those who don't believe this past statement are invited to try planning a program in conjunction with some club on campus. The second problem that these few people face is that of Student Apathy. I have seen that phrase in action, so many times that I am sick of it. If students took as much pride in their schoolwork as they do in student affairs then there would be a very small number of students in the school, and there would be no need for more than a few teachers.

IT IS TIME THAT YOU THE STUDENT DID SOMETHING TO SHOW THAT YOU ARE A PART OF CITY COLLEGE! NEVER MIND THE BOOKCOVERS THAT YOU USE. ALL THAT THEY DO IS SHOW THAT YOU HAVE VISITED THE BOOKSTORE.

Now is the time to stand up and be counted as someone who has done something for his school. Even if you have as little as an hour a week there are many jobs that you can do for the benefit of the school and yourself at the same time. All that you have to do to find these jobs is to simply open your eyes to the things that are going on around you. This applies to everybody — graduating seniors as well as entering freshmen. Don't wait for the other guy to do it all. You may wake up one morning and find that the other guy is no longer around.

All of this indifference on the part of the students poses yet another challenge to organization leaders. The ball has been thrown to you the student leaders. Now is the time for rededication and a little harder effort to improve on the programs of the past so that the programs of the future will be better. It is up to you to get the ball rolling. With a little effort we can change indifference to enthusiasm. LET'S ALL PITCH IN AND THROW APATHY OUT.

The editors of this column are now going on record as saying that this column will give all of the help to the organizations on North Campus that it possibly can. If the organizations will supply the paper with the facts they can be assured that the facts will be



"He wanted a touch of Italian Renaissance."

E.E.'s Plan for Term

Under the leadership of Ron Moskowitz and Steven Maybar, the presidents of the College's chapters of the Institute of Radio Engineers and the American Institute of Electrical Engineers this term, IRE and AIEE expect one of their most successful terms.

After starting the term last week with an introductory meeting in which Professor Wolf, Prof. Abromowitz and Mr. Brown spoke to an audience of over 100 students this week, the joint organizations are sponsoring a lecture on microwave communications. This lecture will be given by Western Electric, an acknowledged leader in the field of microwave communications.

The past summer was not wasted by the officers of the organizations. Meeting every two weeks, the officers reported their success or failure in the scheduling of lectures for the term.

The lectures for the term include a talk by the designer of the bevatron, Dr. Falk of the

Brookhaven National Laboratory, on October 13.

Prof. Mark W. Zemansky of the college's Physics department will give a lecture early this term on cryogenics, (low temperature physics). The Radio Corporation of America will present a lecture called D.C. to infinity. The lecturer has worked on communication devices at all frequencies for a long time and is well known in the field as an expert.

A lecture by Mr. Dick Dugat of EICO company promises also to be one of the shining lights of the term, lecture wise. Mr. Dugat is a project engineer at EICO and is well versed in the field of electronic design and production. Since a project engineer at EICO is expected to design the electronic circuit and also choose the components and parts which are needed for the production of the finished product, Mr. Dugat is well acquainted with this line of work.

The AIEE-IRE is still signing up members for the student chapter and invites all students to all of their lectures this term.

made known to the students through this column. We are glad to help in any way that we can.

At this time I would like to mention that a vote of thanks is due to the officers of the AIEE-IRE for giving up their Summer so that the organization might have a better program than it has in the past. We applaud their effort in the students behalf.

Following is a list of clubs that are meeting this week and their topics of discussion:

The AIEE-IRE will meet in Shepard 306 to listen to a lecture about the design of Microwave Relay System. Time: Thursday, Oct. 6, 1960 at 12:20 P.M.

Society of Women Engineers (SWE) will hold an organizational meeting on Thursday, October 6, 1960 in room Harris 115. Time of the meeting is 1 P.M.

SAE presents Mr. M. L. Pennell, Director of Engineering, Transport Division of Boeing Airplane Co. The topic will be "Trends." Included in this will be Subsonic and Supersonic Design Considerations. Place for this talk is the Henry Hudson Hotel, 353 West 57th Street (9th Ave.) on October 19, 1960. Time for this talk is 7:45 P.M.

The Astronomical Society will meet Thursday, Oct. 5, at 12:15 P.M. in Shepard 016 to discuss plans for the new term.

NEW PROFS

(Continued from Page 1)

in 1957 and his M.E.E. in 1959. This is the first time that he has taught. While he hasn't formed any opinions after only a week of classes, (he's waiting for the results of his first quiz), he does find his students very bright. They can really keep you on your toes.

Mr. Maurer teaches Circuit Theory and Electrical Machinery. At Hazel Time Research, his



MAURER, E.E.

projects involved micro analysis and synthesis of circuits.

For relaxation, Mr. Maurer enjoys a good, brisk hike, far away from diodes and electromagnetic forces. He has been an active member of several outdoor clubs in the past.

Gerald Stillman

Gerald Stillman is a professional engineer who also is teaching at City for the first time. A graduate of City, Mr. Stillman (B.E.E. '46), is a past president of Eta Kappa Nu and an alumnus member of Tau Beta Pi. In 1955 he received his M.S. from the University of Pittsburgh, with a major in electrical engineering.



STILLMAN, E.E.

Mr. Stillman's interests lie in the field of power distribution and the planning of power transmission. Most of his work has involved designing for public utilities. He has taught classes to company employees in the past but this is his first encounter with college students. He finds them very alert.

To pass his spare time, Mr. Stillman translates Yiddish novels into English, (two of which have been published). He is also active in Jewish historical research. (He adds that his two children also have a talent for passing his spare time.)

(In the next issue of Tech News we will continue this article about our new instructors.)

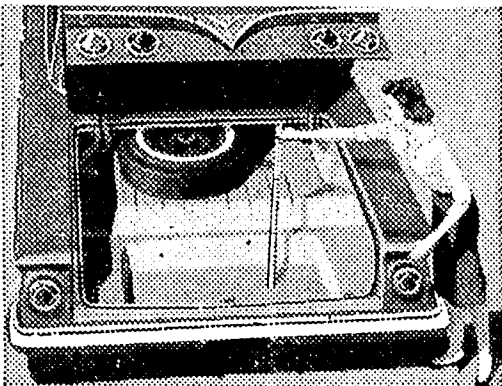
"SMOKER"
Sigma Beta Phi
36 West 21 Street
New York City
FRI., OCT. 7 8:30 P.M.

FRIDAY! THE GREATEST SIXTY-ONE DERFUL CHEVROLET

Here's the car that reads you loud and clear—the new-size, *you-size* '61 Chevrolet. We started out by trimming the outside size a bit (to give you extra inches of clearance for parking and maneuvering) but inside we left you a full measure of Chevy comfort. Door openings are as much as 6 inches wider to give feet, knees, and elbows the undisputed right of way. And the new easy-chair seats are as much as 14% higher—just right for seeing, just right for sitting.

Once you've settled inside you'll have high and wide praises for Chevrolet's spacious new dimensions (in the Sport Coupes, for example, head room has been upped as much as 2 inches, and there's more leg room, too—front and rear). Chevy's new trunk is something else that will please you hugely—what with its deep-well shape and bumper-level loading it holds things you've never been able to get in a trunk before.

Yet, generously endowed as this car is with spaciousness and clean-etched elegance, it holds steadfastly to all the thrifty, dependable virtues Chevrolet buyers have come to take for granted. Your dealer's the man to see for all the details.



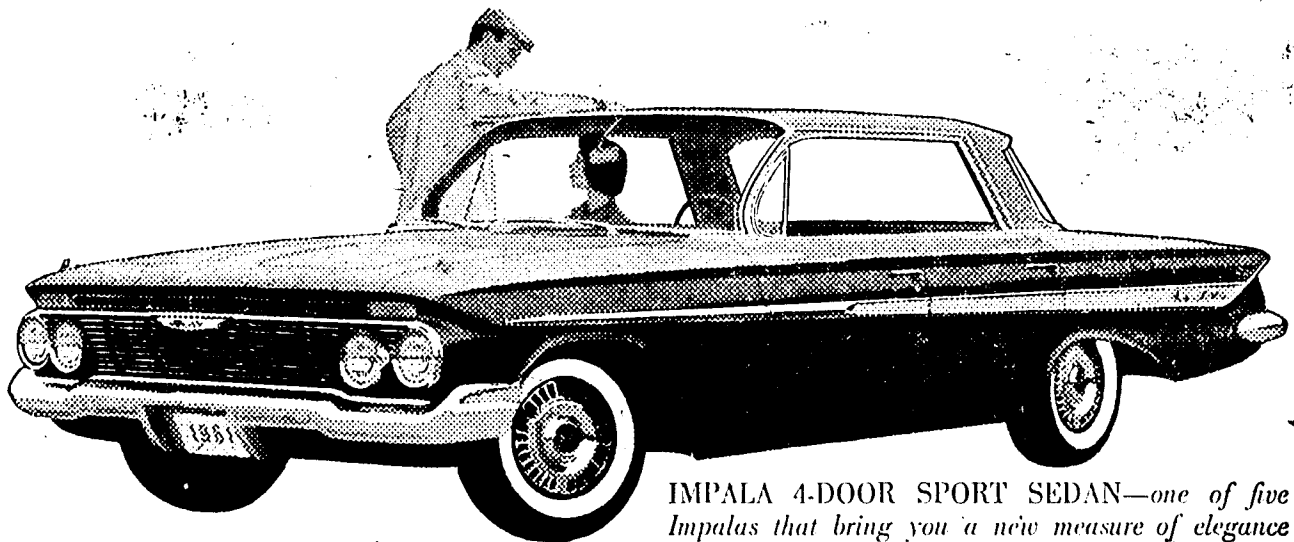
There's never been a trunk like it before! The floor's recessed more than half a foot and the loading height is as much as 10½ inches lower.

★★★★★★★★★★★★

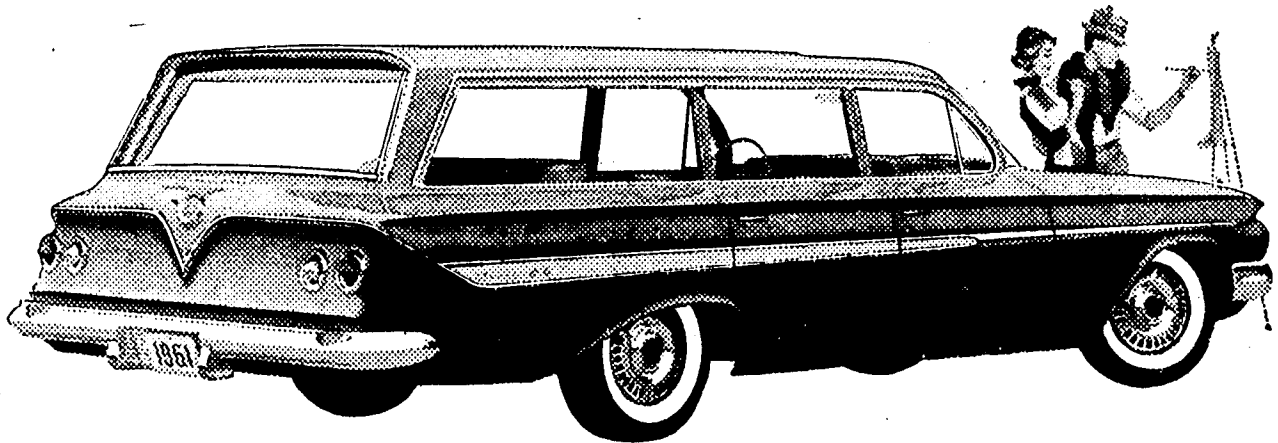
INTRODUCING THE '61 CHEVY BISCAYNE 6

the lowest priced full-sized Chevy with big-car comfort at small-car prices!

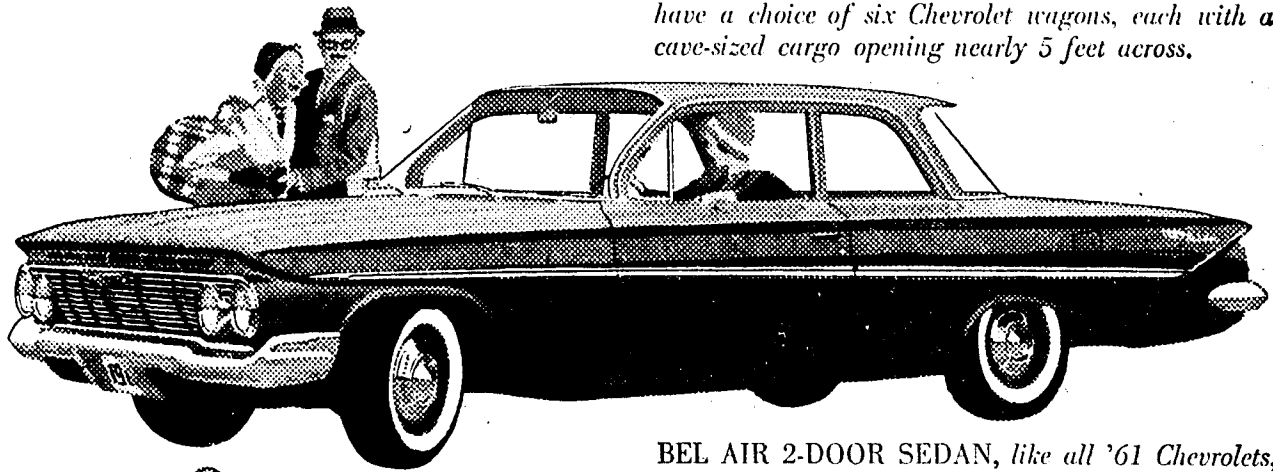
Chevy's new '61 Biscaynes—6 or V8—give you a full measure of Chevrolet quality, roominess and proved performance—yet they're priced down with many cars that give you a lot less! Now you can have economy and comfort, too!



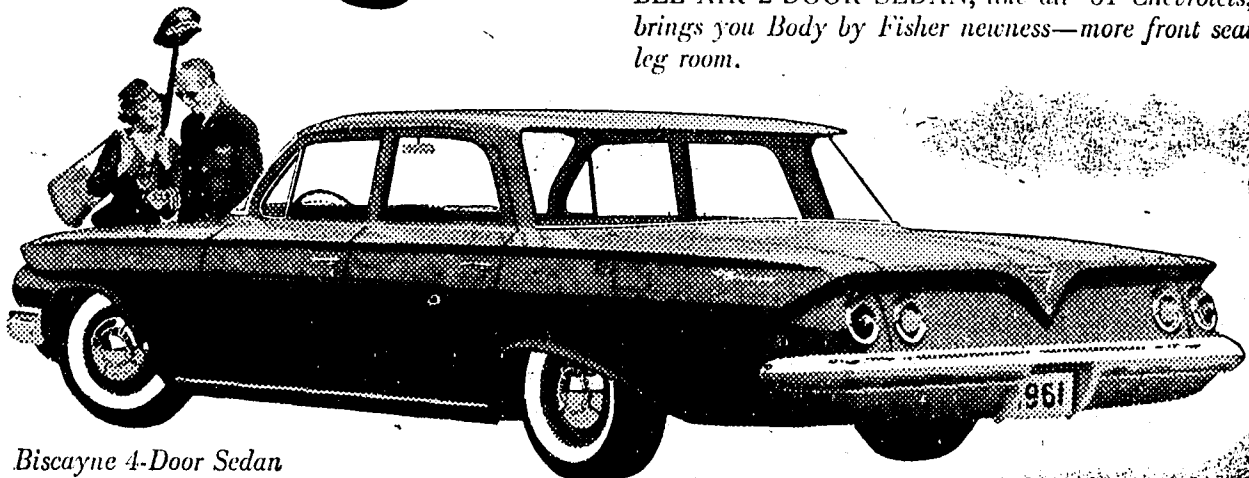
IMPALA 4-DOOR SPORT SEDAN—one of five Impalas that bring you a new measure of elegance from the most elegant Chevis of all.



NOMAD 9-PASSENGER STATION WAGON. You have a choice of six Chevrolet wagons, each with a cave-sized cargo opening nearly 5 feet across.



BEL AIR 2-DOOR SEDAN, like all '61 Chevrolets, brings you Body by Fisher newness—more front seat leg room.



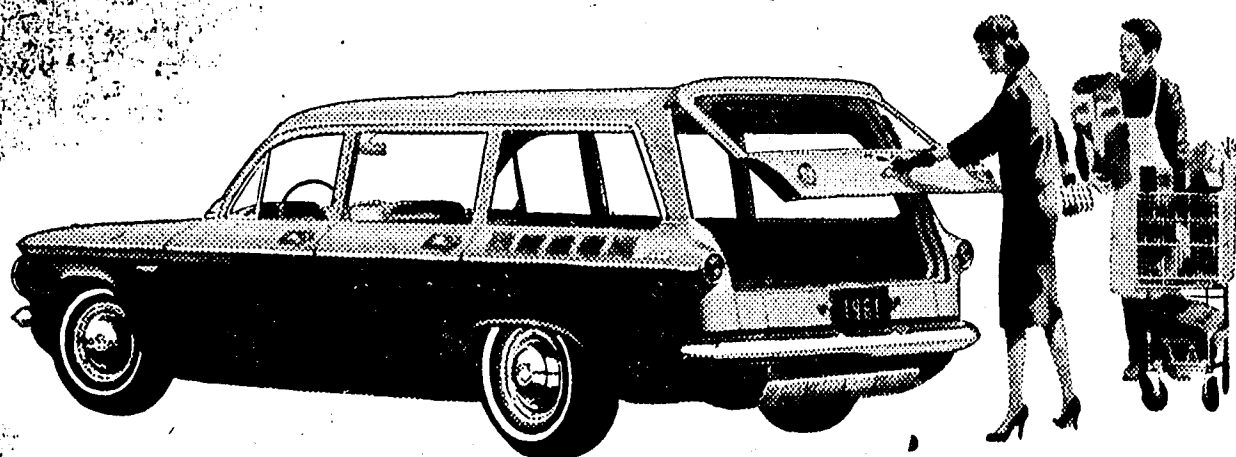
Biscayne 4-Door Sedan

See the new Chevrolet cars, Chevy Corvairs and the new Corvette at your local authorized Chevrolet dealer's

SHOW ON WORTH!

NEW '61 CHEVY CORVAIR

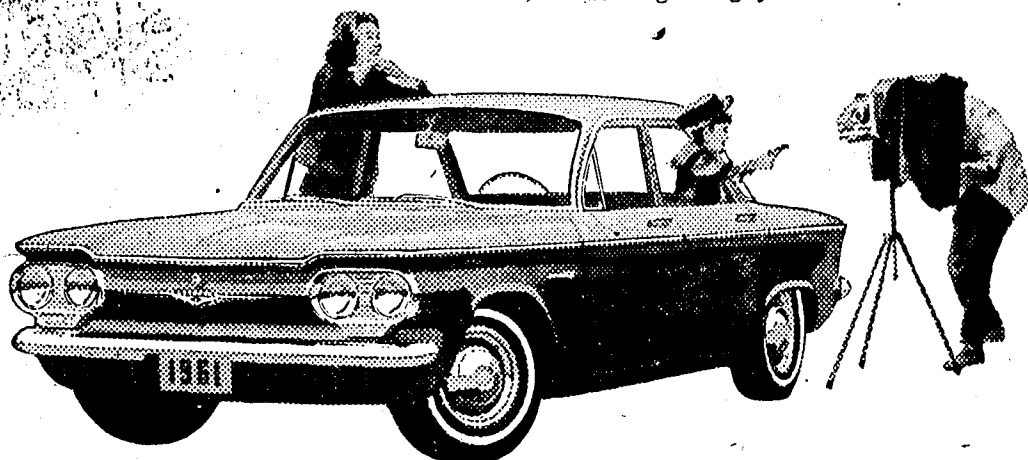
More space . . .
more spunk
and wagons, too!



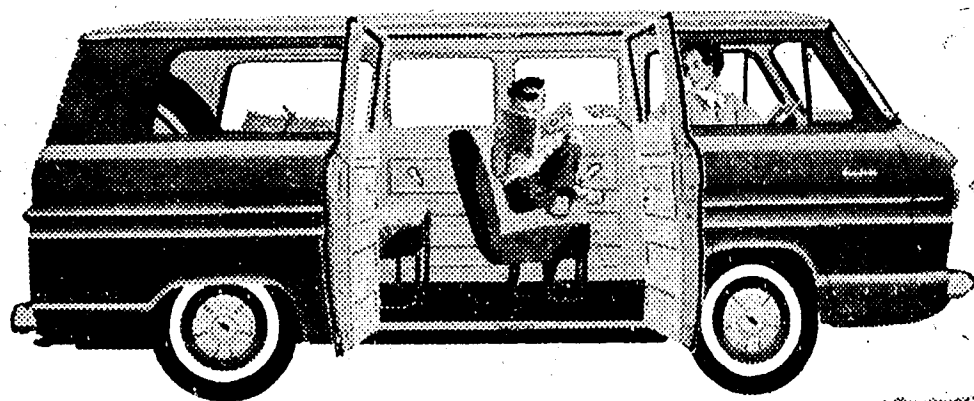
The newest car in America: the CORVAIR 700 LAKEWOOD 4-DOOR STATION WAGON.



CORVAIR 700 CLUB COUPE. Like all coupes and sedans, it has a longer range fuel tank.



CORVAIR 700 4-DOOR SEDAN. Provisions for heating ducts are built right into its Body by Fisher.

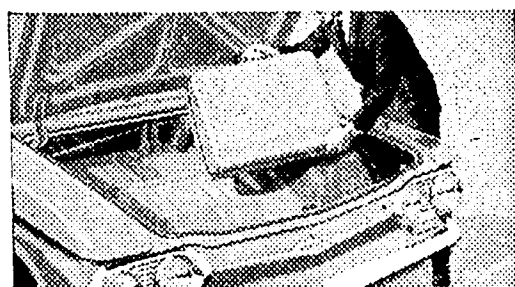


Here's the new Chevy Corvair for '61 with a complete line of complete thrift cars.

To start with, every Corvair has a budget-pleasing price tag. And Corvair goes on from there to save you even more. With extra miles per gallon . . . quicker-than-ever cold-start warmup so you start saving sooner . . . a new extra-cost optional heater that warms everyone evenly. Riding along with this extra economy: more room inside for you, more room up front for your luggage (sedans and coupes have almost 12% more usable trunk space).

And our new wagons? You'll love them—think they're the greatest thing for families since houses. The Lakewood Station Wagon does a man-sized job with cargo, up to 68 cubic feet of it. The Greenbrier Sports Wagon you're going to have to see—it gives you up to 175.5 cubic feet of space for you and your things.

Corvair's whole thrifty lineup gets its pep from a spunkier 145-cu.-in. air-cooled rear engine. Same rear-engine traction, same smooth 4-wheel independent-suspension ride. See the polished and refined 1961 Corvair first chance you get at your Chevrolet dealer's.



Spare tire is in the rear in coupes and sedans—leaving more luggage space up front.



Even middle-seat passengers sit pretty, thanks to Corvair's practically flat floor.

Now in production—the GREENBRIER SPORTS WAGON with up to twice as much room as ordinary wagons (third seat optional at extra cost).

See the new Chevrolet cars, Chevy Corvairs and the new Corvette at your local authorized Chevrolet dealer's

NEW REGISTRATION PROCEDURE NEXT TERM

By JOE NADAN

In January 1961 a new departmentalized form of registration will be adopted at the college.

The registration procedure as currently envisioned will be separated into four general segments:

- Distribution and Control.
- Sectioning.
- Inspection.
- Final Auditing.

Students will report to designated classrooms in Shepard Hall at designated times to pick up their registration cards and related material. Six such classrooms will act as issuing centers — three for liberal arts and education, two for technology and one for the various miscellaneous groups including transfers, reentering students, etc. Before leaving this room the students will receive an I.B.M. registration card and an I.B.M. address card along with a protective envelope.

Registration Supermarket

The student will then proceed to the back of the Great Hall where registration will continue, utilizing the previously distributed I.B.M. cards. According to Prof. Taylor, the new system, employing I.B.M. tabulators and

counters will be operated much akin "a supermarket." Clearly marked department desks, "manned by a minimum of one registration advisor" who will be empowered to answer all inquiries regarding prerequisites and curriculum, will be located in the Great Hall. The student "enrolls at each department desk" and his registration "is completed at each such stage," one section at a time. He will then be issued two class cards, one he will present to the class instructor and the other he will fill out for eventual processing in the tabulating room. Tallies of each section will be maintained by a number on the class card. For example: If a student receives a card with a seven in the upper right hand corner, he will know that he is the seventh to enroll in that class. This new system will "eliminate central funneling that we now have at the tally boards in favor of diffusing traffic among twenty-eight departmental heads." This system will not alter the ability of a student to manipulate his classes to his advantage; advantage being interpreted as meaning preferential instructors or hours.

The students' cards will be inspected for inclusion of required

sections and total number of credits. (Freshman and Lower Sophomores will still be required to enroll in two late hour sections and inclusion of these sections will be checked at this point.) The student will then have to fill out a Student Life department program card, after which he will proceed to the Finley Student Center for whatever additional processing required by the Student Life Department.

New Equipment

All the I.B.M. equipment necessary for the new changes in the registration procedure has been installed in the basement of Shepard Hall with the understanding that upon completion of the Administration building this equipment would be moved to the basement of this new building. The I.B.M. machines will be operated by a trained, full time staff consisting of a unit director, two tabulators, and two key punch operators supplemented by student aides as required and allowed by the budget. Prof. Taylor said, "The use of I.B.M. counters and data processors should warrant the hiring of as many student aides as the previous registration process did." A rough estimate

for the increased cost of such a modern system in comparison to the older semi-antiquated process, according to Prof. Taylor, would be 50%, including rental of the I.B.M. data machines.

A Vast Improvement

This system of registration, Prof. Taylor notes, will give vast improvements in time spent in the process of registration by the student, and his staff in computing the required figures and data, and alleviate the problem of traffic flow in tally rooms; however, two of the most stressing problems at the college, lack of sufficient number of sections in each course and lack of sufficient numbers of instructors will still remain as prominent as ever.

Watch Future Issues of
TECH NEWS
for more ideas on
SUMMER EMPLOYMENT
By those who were
Employed

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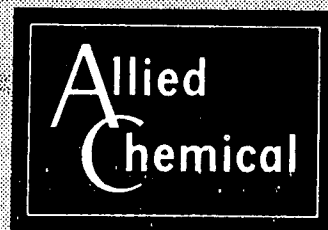
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THE ARMY AND ME

By IRA REISS, '61 ME

This past summer I answered the call to the renowned cry: "Uncle Sam wants you!"

The various branches of the federal government conduct a student trainee program every summer to acquaint engineering and science students with the opportunities for them in the Federal Civil Service. I was employed as a student trainee in mechanical engineering at Watervliet Arsenal, which is located ten miles north of Albany.

The primary objectives of Watervliet Arsenal is the research, development and pilot line production of all the artillery used by the United States Army. Though there has been much publicity in recent years about guided missiles it will be a long time before artillery will be obsoleted as a weapon of warfare.

The Product Engineering Unit, where I was employed, has the task of obtaining optimum weapon design through engineering studies to assure reliability, safety, ease of maintenance and increased weapon life. Studies are also made to obtain design simplification and standardization essential to more efficient mass production.

Motor Design

Though the arsenal is primarily concerned with ordinance, most of the summer I was engaged in the re-design and re-engineering of a rocket motor for a target drone. The drone is used by the Army in the testing of the Nike weapons systems. The motor is reportedly the longest burning solid propellant rocket motor in the world. Its burning time is eight minutes.

The primary objective of the engineering studies was to reduce the cost of the motor. To achieve this we attacked the high cost areas in the manufacture of the motor. The three main areas attacked were: the nozzles; the thrust tubes; and the welding.

The motor had two thrust tubes out of which the propellant gases were directed. The thrust tubes had very high alignment tolerances and therefore high fabrication costs resulted. The nozzles were made from pure arc-cast Molybdenum which costs approximately \$16 per pound. To reduce the fabrication and material costs the

motor was changed to a one nozzle design which halved the number of high tolerance dimensions and nearly halved the amount of Molybdenum used.

Much time was also spent investigating different methods of production of the motor casing and determining the possibility of a reloadable design. Our primary objective here was to reduce the number of forgings and welds necessary in the fabrication. At the time I left we were investigating the possibility of spinning the casing and reducing the amount of welding by approximately 80 percent.

Using Education

Though many people say that you can forget everything you learn in college when you go to work in industry, I found this statement to be far from true. I was using the knowledge gained in the compressible fluids course (ME 180) to do performance and nozzle calculations. The production courses gave me a broad background from which I was able to investigate the merits of different techniques for reducing the cost of fabricating the motor. The stress analysis of the motor was based on the comprehension of the subject acquired in CE 110 (strength of materials). Though I was dealing with some exotic metals, (molybdenum and an unusual stainless steel), the principles taught in Metallurgy were easily applied to them.

In the later part of the summer I was engaged in the drawing of a layout for the re-design of a breech mechanism which was to cost about one-third as much as the original design and was to be more reliable.

My fellow workers at the arsenal were the greatest group of people anyone could ever hope to work with. They were always anxious to help and to explain something that you did not know or understand. The government "red tape" and bureaucracy was as bad as one's worst picture of it.

Overall, it was a very profitable summer with much valuable experience obtained. Anyone who is able to get a Student Trainee appointment (it's by competitive examination) would find himself spending a very rewarding and enjoyable summer.

Social Engineers Wanted

"Going through college without partaking in extra-curricular activities is like getting only half a college education!" Whoever said this must have been thinking of CCNY's School of Technology — if he wasn't he should have been. City harbors a number of social engineering fraternities such as Sigma Phi Omega, Alpha Mu Epsilon, Epsilon Nu Gamma, whose purpose it is to give the student the "better" half of his education. Alpha Mu Epsilon is typical of these organizations. AME is a fraternity composed of and open to mechanical engineering students who have completed their lower sophomore term. The pledge period is devoid of hazing; the pledges are only required to wear a gear, the symbol of

their intended profession, for a short pledge period. Pledge activities are never allowed to interfere with studies.

The social calendar is similar to other social organizations on campus. Parties are held in the fraternity house, across the street from Townsend Harris Hall. You're sure to find one in progress every Friday night with college co-eds. At various times during the semester, drag parties, softball, basketball and football games, picnics and fishing trips are conducted by the fraternity. During the school day there are always brothers at the fraternity house eating, studying, or telling tall tales about the girl who didn't get away.

(Continued on Page 12)

Telemetry Speaks... DON'T procrastinate

(Continued from Page 6)
lator it frequency-modulates the oscillator. The deviation of the oscillator is kept within limits according to IRIG standards. The output of this oscillator is passed through a band pass filter with very sharp skirts.

Now that we have all of this information the next step is to combine the output of all of the oscillator's into one composite signal. This must be done in a linear system so that signals don't affect each other. The system which accomplishes this is an adding or multiplexing circuit. Multiplexing is a sixty-four dollar word for adding. When we multiplex we add together two or more signals. From the multiplexing circuit the composite signal is fed to

the transmitter where it frequency modulates the transmitter output frequency. This signal is transmitted back to earth and, with the proper equipment, is detected and the information extracted. Now it is easy to see where the name F.M.-F.M. comes from. With the information obtained it is possible to evaluate all of the performance characteristics of the unit under test. Through the use of other devices it is possible to expand the number of measurements to well beyond one per channel.

Further information on this interesting subject can be found in a booklet entitled: "Telemetry." This soft-covered booklet is published by John Ryder and makes very interesting reading.



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Open Letter To Seniors

Dear Seniors,

Well we finally made it. We're the graduates of January, June and August of 1961. Along with the title "Senior" comes a feeling of accomplishment. It also means that there are many activities specially arranged for you by your Class Officers and the PROM Committee.

If you have not received the first copy of the SENIOR NEWSLETTER (it was mailed out before registration), please come into the Senior Office, room 223 Finley, and tell us about the omission. This is extremely important to you because 1) we are making out a tentative list for graduation and 2) with your name and address we can then notify you about further Class events.

The Senior Rings will be on sale in the C.C.N.Y. Bookstore after the book rush. There are new styles and a Special Style for students in the School of Technology. Ask to see them at the Bookstore.



The SENIOR PROM has been traditionally a Fall Term Event. Holding with tradition, the Class of 1961 is having the PROM December 10 through December 11 at the Granit Hotel in Kerkhonkson, N.Y. As we have it arranged, there will be an all inclusive price of \$55 per couple or \$53 with your Class Card. The cost includes:

- 1) four meals — Saturday lunch, dinner, Sunday breakfast and lunch,
- 2) a cocktail party — Saturday evening,
- 3) a semi-formal — NO TUXEDO NEEDED,
- 4) winter sports — skiing, sleighing, ice skating, etc.
- 5) indoor swimming,
- 6) all tipping, and
- 7) transportation.

We will be leaving from the school Saturday morning by modern Greyhound Buses, and we will return late Sunday afternoon.

Considering the cost of a dinner-dance in the city, where Tuxedos would be necessary, and the cost of the nite-club

TIIC...

(Continued from Page 4)

ideas." They are not definite plans. The only definite plan at present is the Student-Faculty Tea which will be held in Knittle Lounge, on Friday, Dec. 2nd, from 3-5 P.M.

At the close of the meeting Warren requested that each member organization of TIIC write out individually their program for the term and present it to him. This will give TIIC advance notice of the plans each organization has so that Council can lend its support if possible whenever it is necessary.

after the dance, the weekend PROM will be much less expensive and more fun. You will also get a two day vacation.

There will be chaperones at the PROM. We will have letters from Dean James Peace, Assoc. Dean of Students, sent out to your date's parents. To have the letter mailed to your date's parents, leave their names and address in the Senior Office. Please make your deposit (\$5 per couple) in the Senior Office, room 223 Finley. Come with your friends and we will try to get you accommodations together on a first come, first serve basis.

If you are worried about tests coming out on the Monday after the PROM — DON'T. We are now in the process of delivering letters to all instructors in the College telling them of the PROM and asking them not to give tests on that Monday, December 12, 1960. You can do yourself and the office staff a favor by checking with your teachers as to whether or not they received the letter. If they did not, please let the Senior Class Office know about it.

Senior Class Cards are now being sold in our Office. They are the class dues and your discount card to Senior functions. You will get \$2 off with your Class Card on the cost of the PROM, \$1 off on your cap and gown and other discounts which will be announced in the SENIOR NEWSLETTER. This money pays the printing and mailing costs of the Class, office expenses, and the Class Gift to the School.

If the term continues as it started, we will have the most active SENIOR CLASS seen in many years. Only YOU can make the Class of '61 an active SENIOR CLASS. Let's have no apathy in this, our last year at CITY, and our most important year (for FUN).

If you wish to call the SENIOR OFFICE at any time, we have a new telephone number. The number is, AU 3-9927.

Sincerely yours,
Barbara A. Seitz
PROM Committee

P.S. The SENIOR CLASS wishes to thank the editors of TECH NEWS for giving us the space for A LETTER TO THE SENIORS.

Social Engineers . . .

(Continued from Page 11)

AME is different from other social fraternities in that all the members follow the same curriculum. The brothers study with each other; brothers who have had certain courses help those who are first taking them.

The AME alumni association is quite active. At the alumni-undergraduate affairs during the term they give the student a true picture of industry. What are the current trends? How secure is the future? What should you do when you graduate? These questions and more are willingly answered by the alumni. In addition to this the alumni often procure jobs for the graduating seniors; it never hurts to know someone who is in a position to help you.

AME encourages new faces. Senior brothers are always graduating in large numbers and lower termers are needed to

A Lady(?) Named Donna

By LARRY KOWITT

"Hell hath no fury like a woman scorned," and someone must have done Donna wrong. That furious young "lady" really messed up the sea coast communities in the metropolitan area. Old timers in the neighborhood say that this was one of the worst that they could remember. (Coming from the "good old days" men that's quite an admission.)

That Monday morning was dark and gray in Long Beach. The wind was not that strong (which was quite misleading), but the ocean was viciously

ties jutting from the beach out into the ocean were completely submerged. The waves covered the beach and were washing into the fence. Eventually the fence lost its bottom board and some water started rolling down the streets. Nothing much to annoy the hurricane seasoned residents, though. The storm was to reach its peak about 2 P.M. At one o'clock, somewhere out in the ocean, a majestic swell began to form. As it rushed in toward the shore, it grew bigger and bigger. As it broke on what was left of the beach it was travelling very fast and was about 15 to 20 feet high. The monster wave smashed into the

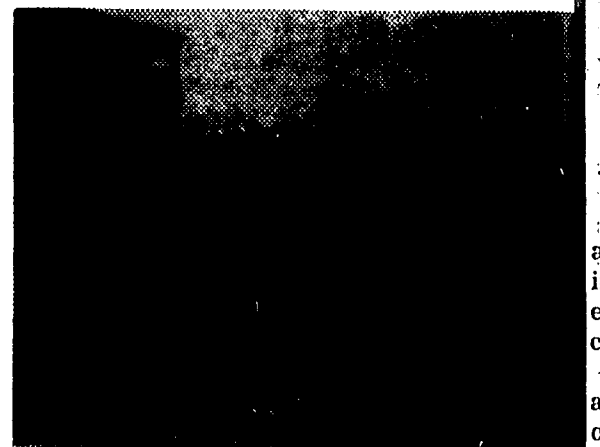
an hour it spewed forth out of the town, some times four feet deep. The water washed sizes of boards two blocks in the bay. (This was rough on the week end sailors as floating logs and boats don't mix.) The waves shoved the cars even further down the block. (Whoops, the goes the Rambler!!!) It flooded basements and garages. A group of neighbors went around rescuing people trapped in the basement apartments.

Volks in the Basement

After the storm, the monumental job of cleaning up began. (First open the car door and the water pour out. Gee



Ticket booth (in position bulldozers returned it to) and toppled cement fence.



Remains of the beach front cottages.

— Photos by Bob Bower

pounding the beach. At the end of the street was a board fence which would help to hold the waters back. During the summer, the yellow booth next to this fence is used to take tolls from the people using the beach. It was closed and boarded up now. On both sides of the street is a wire fence stretching to the next booth, at the next street. This is the same on all the streets in the West End of Long Beach. In back of the wire fence are the ocean front cottages. Some are protected by cinder block walls and others by reinforced cement walls.

Monster Wave

At about 12 noon the tide started to come in. The rock jet-

fence and splintered it. Angrily, the ticket office was shoved down the street in front of the onrushing waters. The cinder block fence was broken up (so was I, it was my fence) and carried away like pieces of balsawood. The cement fence was knocked over, and off its footing. Cars were carried down the block. The beach front cottages were stoved in, and down the block steps were carried away, leaving their porches hanging in mid-air.

Floating Ramblers.

The ocean had nothing to oppose it now. (Except my little Rambler.) Everything had been washed away. (The Rambler was starting to move.) For over

striped bass. I guess Ramblers are good lures!) The City of Long Beach sent bull dozers around to clean up the two foot of sand on the streets. The Long Beach missile base sent men around to pull out cars stuck in the sand (Hey, Pop, the Rambler is back), and to patrol the town against looting. Basements had to be pumped out and salvaged (My God, how did that Volkswagon get in here.) Power had to be turned on. Sunken garages had to be cleaned of sand, sometimes as high as five feet. Cars, furniture, walls, oil burner fences, and homes were ruined. Even after three weeks there much to be done. (I don't care what you say, there were seas in this car when I bought it!)

Glossary Of Engineering Terms

Efficiency — The reciprocal of the number of phone calls it takes you to get a date.

Relative Motion — Your aunt is touring Europe.

Momentum — The only thing

that keeps you going Monday morning.

Proportional Divider — Teacher that marks on a curve.

Petroleum — A natural fuel lubricant that makes bearings turn, automobiles run, and Texans wealthy.

Internal combustion — try pickles, ice cream and vodka.

Tension — that before-test-feeling.

T-Square — Non-alcoholic English Major.

Microwave — A small navy chick.

Radio — An obsolete form of communication.

Force — what to use if persuasion does not work.

Slide Rule — you must come to first base standing up.

Torque — to verbalize.

High Resistance — a quality undesirable in girls.

Pentode — a frog that lives in jails.

Thermodynamics — an ingenious modern form of purgatory.

Overload — a wide gal in a narrow girdle.

INTERESTED IN G.E.?

E.E. and M.E. January 1961 graduates:

Explore General Electric career opportunities with our representatives at group meetings October 13 at 3 p.m. or 5 p.m. in room F217. Sponsored by IRE, AIEE and ASME student chapters.

Training programs, types of engineering assignments, job locations and all your questions will be discussed.

Applications will be accepted AT THESE MEETINGS ONLY for General Electric's October 25 & 26 campus interviews.

Placement Office has further details.

GENERAL ELECTRIC

VOL. XIII —

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Parent

On Sunday about 500 parents and students attended the Parents Day at the school.

The program was addressed by the principal on the problem of the school.

TBF

It is common for engineers who are nearly every day discovering important new discoveries. The discovery of the transistor was made in the Grand Central Station from the discovery of the transistor.

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