

# THE SCHOOL OF TECHNOLOGY

# THE NEWS

## CITY COLLEGE OF NEW YORK

OL. XIV — NO. 2

WEDNESDAY, MARCH 1, 1961

222

BY STUDENT FEES

## Vector Celebrates 25th Birthday

The upcoming March issue of **VECTOR** will commemorate twenty-five years of publication of one of the finest magazines on science and technology, our own **VECTOR**.

In this spirit, the new issue will be a special one with many more pages than usual. It is expected that all students, not only tech people, will find articles of great interest in it.

There will be a panorama of the last twenty-five years in scientific discovery as reported by **VECTOR**. The results of a search for new methods of power generation will be highlighted. These new methods involve no moving parts, and represent a direct conversation of fuel to electrical power.

The current race for space in the world has presented many new problems, notably that of the physiological and biological problems encountered by men in space travel. One very familiar one is that of atomic radiation; how to protect against it and how to treat it. The medical problems in the exploration of space will be discussed in the article on "Biological Problems in Space Travel."

Radiation has produced another problem for our scientists, that of the disposal of the waste material from nuclear power plants. The various fluids used in the power cycle carry away with them atomic radiation, and these fluids must now be disposed of or stored in such a way that they will not endanger the

community with the deadly radiation. The methods to be employed will be discussed in **VECTOR**.

Another feature will be a description of teflon, a new plastic.

The current features will not only be included but expanded.



Steve Shepard, Editor of Vector

There will be profiles of the chairmen of the eight departments of engineering and the related sciences, physics, math, and chemistry. The humor page will be expanded to include the "Best of Stolen Stuff" of the past twenty-five years. In addition, look for a new, stimulating crossword puzzle and some more "Vector Volts" brain teasers.

For these and much more, buy **VECTOR** on sale March 13-15.

## Teacher Can't Talk; Lectures Postponed

By MEL PELL

Students who trudged through the snow during inter-session to attend a lecture in computer programming were disappointed to find that the instructor, Mr. Demos Eitzer of the Electrical Engineering Department, had laryngitis and could not teach it. However, Mr. Eitzer has regained his voice, already started two other lecture series, and will soon begin a third. The last lecture series will be given Wednesdays, March 15, 22, and 29 in 126 Shepard from 2-4 P.M. There is no advance registration or formal enrollment for the course.

The lectures are intended to enable students and faculty members to properly program problems for the Royal McBee LGP-30 computer. The machine has recently been programmed to handle a new, more powerful language and this language will be taught during the lectures. The programming method can only be used on our computer,

and is not suitable for others without alterations.

Faculty members will be al-



Mr. Demos Eitzer

lowed to program problems of their own selection.

Mr. Eitzer also plans an advanced course to be given in summer session. It will be open to a limited number of qualified undergraduates, and will deal with advanced programming.

There is no credit given for attendance at these lectures.

## Arch. Artisans Await Results

By JUDITH GOLDBERG

ATTENTION  
All Evening Session  
Tech Students:

Those students having attained at least 78 credits, and who have at least a B average, are invited to get in touch with Tau Beta Pi, the honorary engineering fraternity, regarding their application for membership.

## Chem. E. Changes Cited

By IRA J. GLICK

On Feb. 16, 1961 at 12:30 in Harris 103 Prof. Kolodney (Chem. E) addressed the AICHE and told those present of the forthcoming changes in the Chem. E curricular in keeping up with the new advances in theory and industry. Already Chem. E. students have been allowed to take five credits of electives in the School of Liberal Arts. Among the newer changes are the elimination of Ch.E. 170 (Electrochemistry and Pyrometry), and Ch.E. 246 (Fuel and Lubricants). A course in Instrumentation will be added instead, which will involve the measurement and control of process variables. A laboratory in non-metallic materials will be added to Ch. E. 166 which had previously dealt only with high polymers. These changes will go into effect in the spring 1962 term. Prof. Kolodney said that if you had planned to take either Ch.E. 170, and/or Ch.E. 246 in the spring '62, you should leave your program as is and don't worry. He did not expand on what he meant by "don't worry."

Prof. Kolodney also said that Ch. E. 260 and Ch. E. 262, courses in Unit Operations Laboratory, will not be given in Fall '61 but will resume in Spring '62. This is the result of movement of equipment to the new technology building.

In regard to a query on a graduate study program, Prof. Kolodney stated that President Gallagher has asked for \$3 million to start such a program. When asked if it were all right to take 6 credits in Liberal Arts without paying, Prof. Kolodney said "It's perfectly all right to take 6 credits in Liberal Arts." If you are taking a language sequence for example you will not be charged for the extra credit.

One student commented about a possible system which predetermined the number of students slated to fail Ch. E. 128 each term. Prof. Kolodney stated that a long time ago, in classes of 100-150 students, in-

(Continued on Page 2)

City College's School of Technology will introduce a new five-year program in September leading to a Bachelor of Architecture degree, it was announced today by Dr. Buell G. Gallagher, president of the college.

Applications for admission to the architectural program for 1961, will be accepted until April 15, Dr. Gallagher stated.

Although the courses had been planned to start on the Freshman level, Professor Frank Rappolt (Chairman-Drafting) stated that, with a response from approximately twenty students now in their Sophomore year, advanced courses will begin this fall.

The program, open to students who meet the regular academic requirements for admission to the college, is the result of three years of planning by the faculty and was described by Dr. Gallagher as a major addition to the curricula of City College.

At the same time he announced an expansion and renaming of the School of Technology's Department of Drafting, which will administer the new architectural program. It will be known as the Department of Architecture and Graphics.

No new faculty will be hired right away. The present drafting department has four registered architects on its staff. They are Prof. Frank Majer, Prof. Gilbert R. Bischoff, Prof. C. Gould deNeergaard and Prof. Andre Halasz. Instructors will be drawn from the Civil Engineering department and the Art Department.

Dr. Gallagher said the new degree has been introduced because of increased demands for architectural training during the past decade. Suggestions for the creation of such a program have been received from students, faculty, and outside architectural and engineering organizations for a number of years, he said. At the present time, he observed, only three institutions in the metropolitan area offer degrees in architecture: Columbia University, Pratt Institute and The Cooper Union.

The new curriculum was planned with the assistance of an advisory board of distinguished architects. It is designed to meet the accreditation standards of the National Architectural Accreditation Board and the New York State Board of Regents, Dr. Gallagher added.



Dean Allen

High School graduates who meet the regular academic and grade requirements for matriculation at the college will be able to take the first four years on a tuition-free basis. At the end of that time they will receive a Bachelor of Science degree. The fifth years of study will be given on a tuition basis, since the state education law prohibits the City Colleges from offering tuition-free programs beyond the standard four year course of matriculated study. It is estimated that the cost for the fifth year will be approximately \$750.

Upon completion of the fifth year the student will receive the professional degree of Bachelor of Architecture.

Although the degree will be offered in the School of Technology, the program will draw on the facilities of the College of Liberal Arts and Science as well, Dr. Gallagher pointed out.

The curriculum will include work in English, humanities, social studies, chemistry, geology, graphics, mathematics and physics. The architectural sequence will consist of a design sequence, courses in the history and principles of art and architecture, structural courses, drawing, perspective, construction methods, site and landscapes, contracts, specifications, cost control and a course in professional practices in the architectural field.

A listing of the courses in the Architecture curriculum has been inserted in the bulletin now in use for the School of Technology. Interested students may obtain the list in the Office of Curricular Guidance of the School of Technology, Shepard, 118. Election cards should be filed with the Registrar.

The Registrar's office stated the New York State Regent's Scholarship for Math, Science, and Engineering can be applied to the School of Architecture.

Guidance and information will be provided to prospective

(Continued from Page 4)

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ENTHUSIASTIC  
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TECH NEWS



# TECH NEWS

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## We Feel Neglected

After reading about the alterations to take place in the South Campus cafeteria, we finally realized that the College has come of age. "Feasible Suggestions" mentioned in the CAMPUS editorial of February 24th included "piping in music and putting in coat racks." It seems that the College's drive to have all North Campus students come down to South Campus is now complete. After all, who would want to eat in that poorly lighted, unsanitary, cramped place in Shepard Hall erroneously called the "North Campus Cafeteria."

We think that the entire student body owes a vote of thanks to the members of Student Council who, while eating in the South Campus Cafeteria, never allowed themselves to step up North. They would have been so shocked that they never would have been able to legislate such trivialities.

The Student Council might have noticed that the tables in the North Cafeteria have been sealed up so students would have to put their books on the tops of the tables. They would notice how clever the cafeteria management was in filling every nook and cranny in the cafeteria with tables thereby making it impossible for students to pass down the aisles. They would learn that the cafeteria has now hired Burns Guards to clear the aisles. The Burns Guards have been seen not paying for what they get on the Snack Bar line. The students, of course, are paying for all this tomfoolery. The cafeteria management states that it is losing money.

The conditions in the North Campus cafeteria are intolerable and unfit for the students. If the cafeteria management somehow manages to lose money when it has the chance of enticing the entire student body to eat, there must be something basically wrong with the management.

The recent hiring of the plainclothes Burns Guards antagonized and irritated the entire student body, not only by

their presence, but by the fact that it is the students, who as usual, are paying in the end for this waste. We think it is fair that the students should demand removal of the Burns Guards.

It is interesting to note that the restaurants on Amsterdam Avenue have been operating for a long time and making a profit while charging about the same price that the school charges. The management should try to ferret out the waste instead of blaming their troubles on the student.

Yes, the members of Student Council had better not come up to North Campus where they will be shocked at how the "other half" lives.

## Congrats . . .

We would like to congratulate the College for giving present and future students the opportunity to gain a degree in Architecture. There are few if any schools in the country which offer a degree in Architecture and a Bachelor of Science degree all together in a five-year study program. This we feel can add to the growing stature of the School of Technology as well as the entire College in general. The plans to start the course next fall can take place only if enough students now state their desire to start the program. If not enough students are interested the starting may have to be postponed to a later date.

We urge all students interested in Architecture to contact Prof. Rappolt, chairman of Drafting Department, in Goethals Hall.

## MANAGEMENT TRAINING for PRODUCTION ENGINEERS

(IE, ME, EE, TOOL ENG'G and MBA degrees)

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Formal training includes four months in each department of the manufacturing group: plant, production and industrial engineering.

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## INTERESTED IN G.E.?

E.E. and M.E. June & Aug. 1961 graduates:

Explore General Electric career opportunities with our representatives at group meetings March 16 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 March 22 & 23 campus interviews.

Placement Office has further details.

GENERAL ELECTRIC

DON'T procrastinate

RM. 335 Finley

JOIN TECH NEWS

Changes Chem. E.

(Continued from Page 1)

structors were given a guide for the normal distribution of grades. However, Prof. Kolodney said that there is no such system used now. Finally, Prof. Kolodney was asked whether or not the mark you received in Ch. E. 128 was the mark you would receive in the rest of your Ch. E. courses. In answer to this he gave a most emphatic "NO."

## Seniors—what can Kearfott's personalized training program offer You?

Check the experiences of These Recent Graduates

JAMES T. ORRICO  
Stevens Institute of Technology, '60



During his training program, Jim has already gained valuable experience in two diversified areas. In the Gyrodynamics Test Engineering Laboratory, he worked on the design of transistor circuitry and test equipment. At present, he is assigned to the Field Service Department which is responsible for preparing manuals and technical courses. Jim plans to expand his experience even further—into both administrative and technical areas of Gyrodynamics. Eventually, he intends to concentrate on highly advanced systems engineering. Right now he's busy laying the groundwork in the broad spectrum of specialties which systems engineering embraces. Jim feels that this training program is tailor-made to prepare him for exactly the kind of work he wants to do.

PETER L. TODD  
Cornell University, '57

Because Pete wanted first-hand experience in several engineering areas—development, design, testing, and manufacturing, he was given engineering responsibilities on a variety of projects. During his assignment to the Systems Electronics Laboratory, for example, he helped develop and test an aircraft navigation system that is now fully operational. After completing his training program, Pete decided to ask for permanent assignment to the Precision Wound Components Section. One of the most important advantages of working at Kearfott, Pete reports, is the project engineer approach. Under it, you can develop specific skills, and, at the same time, gain the engineering perspective that comes from seeing a project through from concept to completed product.

CHARLES R. ELLISON, Jr.  
Villanova University, '60



What impressed Charlie most about his Kearfott training program was the immediate opportunity to apply theoretical analysis and optimum design techniques to realistic and stimulating problems. At the same time, he gained a comprehensive experience in the many other engineering aspects of carrying a project through to completion. Encouraged by tuition reimbursement and company sponsored courses, Charlie is now continuing his academic training toward an MS degree—and perhaps beyond. With midtown New York only 40 minutes away, he has easy access to the many fine colleges within the New York/New Jersey area—Columbia, NYU, Stevens, Newark College of Engineering, and others.



VINCENT MONTALTO, Jr.  
Penn State, '60

Summer employment with the company in 1959 gave Vince all the reasons he needed to join Kearfott after graduation. He likes the way Kearfott Project Engineers STAY WITH A PROJECT—from the study phase right through design, prototype, production, and reliability testing. They are not only responsible for all technical aspects, but for quality and price structure of finished hardware as well. Vince finds this philosophy opens the way for growth along a variety of paths—gives him experience and perspective in practically every phase of engineering. A family man, Vince enjoys pleasant suburban living with his wife and son in a nearby community—one of many fine residential areas within a 10-mile radius.

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Kearfott's remarkable record of expansion is a reflection of its achievements in electronics, electro-mechanical components, precision instrumentation—and now, the development of complete systems. The continued expansion of the company means exceptional growth opportunities for recent graduates in all six major divisions:

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In keeping with the dynamic atmosphere at Kearfott, a personalized training program gives the young engineer the freedom to explore many engineering fields before selecting the broad area best suited to his career interests. Performance leads quickly to advancement through Kearfott's policy of PROMOTION BY MERIT. For detailed information, see the Kearfott representative when he visits your campus.

## ON CAMPUS INTERVIEWS MARCH 13 FOR ASSISTANT PROJECT ENGINEERS

Make an appointment now with your Placement Director, or write to Mr. Francis X. Jones, Technical Placement Supervisor.



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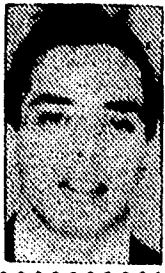
Little Falls, New Jersey



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# TECH LIFE

By IRA REISS



Lew Sunderland, Vice-President of TIIC, has been working hard the past few weeks trying to reorganize the Slide Rule Basketball league. The enthusiasm has been generated among the various tech organizations and they are raising teams at present. I have even heard that Sue Alexion, president of the Society of Women Engineers, is even trying to raise a team. The main obstacle is the obtaining of a playing court, as the North Campus gym are at present reserved for other basketball leagues and varsity practice. The only hope for the slip sticks is the use of Park Gym. The use of Park Gym by a mens' basketball league is unprecedented. I personally endorse the idea and urge the Women's Health Education department to allow this precedent to be established. This will surely cause the engineers to flock to the South Campus, even though Park is farther from Goethals than Finley. The favored teams for the Slip Stick Championship are the Society of Women Engineers and the bookish boys of Aau Beta Pi, all other teams will probably foul out against SWE or being too busy starring at all the trim ankles.

For those of you that have not noticed spring has officially arrived. . . . No, not because all of the snow has melted but, because Student Government sponsored its first picket of the season on February 12, 1961 against ABC Paramount. They called it a SIT-OUT. When spring arrives at most schools the usual symptoms of spring fever are panty raids, but not at CCNY. Here spring fever means that the students must picket in order to consume their surplus energy.

The grapevine has it that the reason the engineers did not attend the TIIC Student-Faculty Tea last semester is that no one knows the correct way to pour tea. SWE has generously offered to teach all those interested in learning this skill. The lessons will take place this Thursday at 12:30 in the Park Gym during the rest periods of SWE's basketball practice session. Explaining this emergency basketball practice session SWE's president Sue Alexion said: "I am afraid that the bookish boys of Tau Beta Pi just will not respond to the curves that my girls throw. It seems that with all the studying that they do they don't know much about girls. I don't expect them to foul out like the rest or be distracted by my bench."

I wish to express my gratitude to all the members of TIIC for their cooperation in supplying the various objects for the time capsule in the cornerstone of the new tech building.

On March 24th TIIC will sponsor the first of its semestery Friday night dances in Finley Student Center. The dance will be open to the entire college. Admission by I.D. card. This will be your golden opportunity to meet the coeds of the School of Education.

The noble students of the south have been using the SIT-IN as a weapon against social injustice. Here at CCNY we

have seen the use of the SIT-OUT against ABC-Paramount. The latest move by student government is the consideration of and EAT-IN against the Cafeteria and Snack Bar if the administration does not meet their demands.

On March 2nd, the ASCE will present two films entitled "Design for Arc Welded Structures" and "From Mountains to Microns" in Cohen 301.

On March 9th, the ASCE will present Mr. B. Sinowitz who will speak on "Opportunities in the Fields of Public Health Engineering." The meeting will take place in Harris 106.

**PROMETHEAN WORKSHOP**  
Fridays — 3 P.M.  
428F

## Computers And Creeps

On Feb. 9, Mr. Anderson (ME Department) spoke at the first meeting of ASME. His topic was the "Trends in Engineering," and he specified three areas which he thought exemplified these trends: namely, 1) the increased tendency to be more "mathematical," 2) the demand for engineers to be more "perceptive" and 3) the increased use of computers. The first two aspects are actually a direct outcome of the third.

Many differential equations which are found in engineering work today are not integrable by any known means. A computer, however, can solve these equations, thus the engineer is relieved of the drudgery and "dog-work" of long and tedious computations.

Mr. Anderson cited an example of the widespread use of computers in industry today whereby the Grumman Aircraft Co., as an aid to solving problems, rents the IBM 704 for approximately \$40,000 a month for a single eight hour shift.

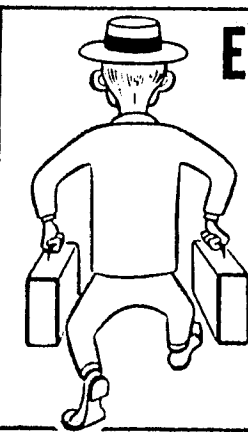
On Feb. 16, ASME was host to one of its (ME) alumni, Mr. Zaslowsky, who presently works at the Lawrence Radiation Labs in California.

Mr. Zaslowsky displayed the various means of presenting "creep" data. Tests, performed at high-temperature, and high-strain rate conditions were also described.

Also mentioned was the increased interest in "dislocation theory" which deals with the grain irregularities of materials. This type of study, he said, was of utmost importance since it allows us to investigate material behavior on a microscopic rather than a macroscopic level.

**ASCE Smoker**  
March 3rd  
8:00 P.M.

at the  
**DELTA ALPHA HOUSE**  
467 W. 143 St.



## EUROPE-NEAR EAST-\$395

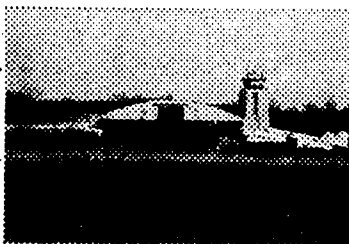
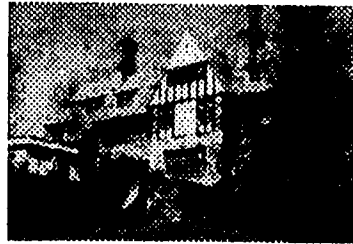
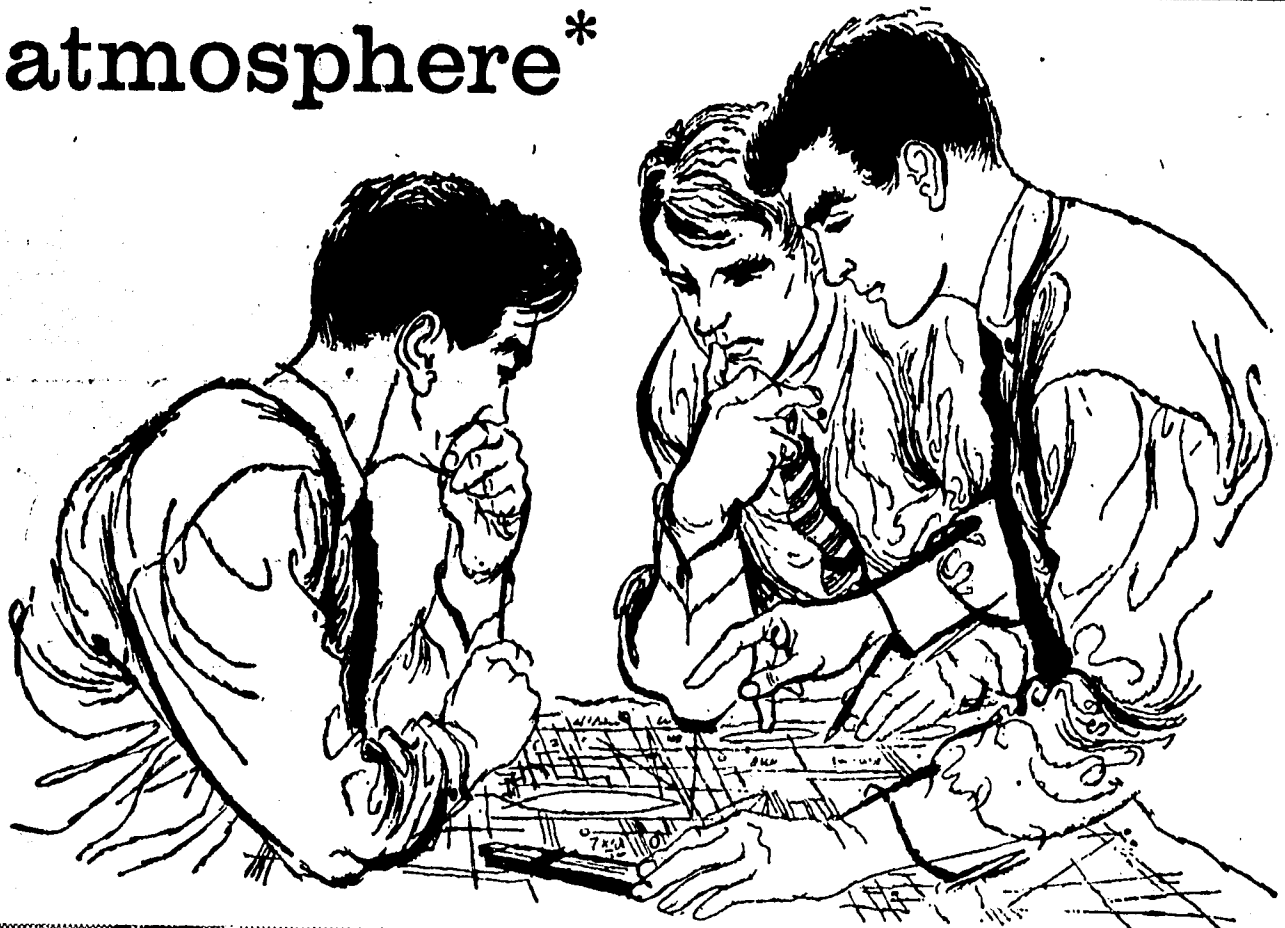
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## atmosphere\*



### \*a surrounding or pervading influence

There are several prevailing atmospheres at GPL. The working atmosphere is thoroughly professional. Management is by engineers who understand the engineer's goals, ambitions and working preferences. GPL engineers work in small groups, which encourage original contributions from every individual.

The other atmosphere at GPL involves the physical—the modern buildings and equipment, the excellent research and development facilities. These include an Environmental Test Lab, a Flight Test Section equipped with jet and conventional aircraft, and model shops for both formal prototype and informal experimental work. There is also a modern library of more than 2500 volumes. GPL is situated on 69 estate-like acres less than an hour from New York City, in residential Pleasantville in Westchester County.

At GPL you will have full opportunity to select the work of greatest interest to you, and you may choose to accept a direct assignment in that area, or participate in GPL's training program to broaden your engineering understanding.

These are some of the projects on which you might eventually work:

**Air Traffic Control.** GPL has a prominent role in the development of digital computer systems and devices for safe, efficient air navigation and traffic control.

**Advanced Radar.** GPL is the leading designer and builder of Doppler navigation systems, and is actively involved with terrain-clearance, missile guidance, and other radar system applications, both military and commercial.

**Research.** Advanced studies are underway at GPL on such projects as infrared techniques, Maser amplifiers, nuclear magnetic resonance, and other classified devices.

**Industrial TV.** GPL is an outstanding developer and producer of broadcast and closed-circuit TV devices and systems, for military and commercial applications.

There are excellent career openings for EEs, MEs, Mathematics and Physics majors.

GPL's representative will visit C.C.N.Y. — THURSDAY, MARCH 9

GPL DIVISION



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GENERAL PRECISION LABORATORY, 63 Bedford Road, Pleasantville, New York

# Letter...

Editor-in-Chief  
Tech News  
The City College  
Dear Sir:

With the good news that the College is preparing to offer a degree in architecture, a fresh look should be cast in the direction of that monolithic structure now solidifying on the northern verge of our campus. Due to its particular pallor and exterior appearance, this building has already been termed "The Bathroom" by some disgruntled observers.

Criticism of a building is premature before habitation. However, assuming that this building will satisfy the academic needs of student and instructor, it is obvious that its very form precludes the fulfillment of certain other essential needs.

The technology student, just as much as the liberal arts student "down south" — and even more so because of the nature of the course of study — can be helped by an open atmosphere. By this, for one thing, is meant green open space and trees, as well as an original architectural form which will stimulate and elate. What the technology student needs in his outer environment must be just what the liberal arts student receives from his experience with poetry, art, music and philosophy. Now aesthetically, this building com-

pares very unfavorably with the new Cooper Union building recently constructed, further downtown. The solid, block form of this new building will add little to our campus, and less to the life of the student. It seems that what our technology students is to receive, at least in terms of architectural planning and interest, is an inferior structure. Perhaps, as an initial task for the oncoming crop of City College architects, a new plan could be devised which would demonstrate a more organic understanding of the human needs of the student.

Sincerely yours,  
John Teitelbaum  
U. Sr. 1

## Arch...

(Continued from Page 1)

candidates by William Allen, Dean of the School of Technology; Lawrence W. Hem, Assistant Dean for Curricular Guidance in the school; and Professor Frank A. Rappolt, chairman of the Department of Architecture and Graphics.

## E-Day Artists Sought

In the spirit of promoting liberal culture in the community, Tau Beta Pi, the National Engineering honor society, this year as in the past is sponsoring an art contest on E-Day. All technology students are invited to take part in the contest. Those interested are to submit the art creations, whether paintings, sculptures or others to Tau Beta Pi. Prizes will be awarded to the three best entries: First prize consists of an engraved gold plaque; second prize, \$10 in cash; third prize, \$5 in cash.

All entries will be securely kept under lock and key; all responsibility for their safety will be assumed by the Tau Beta Pi Association.

The exhibit will be on display beginning April 10th. It will end on E-Day, April 15. Those interested can call Marc Mangot at WA 8-6047 or Richard Felder at RA 1-4326.

### HEY JOE!

Student Government and I.F.C. are sponsoring an All-Star Basketball Game and Dance this Friday, March 3. The


game will be held in Wing Gym at 6:30 P.M. followed by Joe College theme Dance 8:00 P.M. in Finley Grand Ballroom.

## SCIENTISTS & ENGINEERS

**CAMPUS INTERVIEWS ON March 28**

**We have many excellent, well-paying career opportunities for men with Master's or Doctor's degrees in electrical engineering, physics, mathematics, and mechanical engineering for research and design & development work in Electronics, Data Processing, Optics, Magnetics, Computation and Electro-Mechanical devices.**

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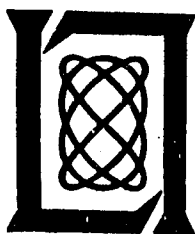
OUR REPRESENTATIVE WILL BE ON CAMPUS

**March 13, 1961**

CONTACT YOUR PLACEMENT OFFICE NOW

Research and Development

**LINCOLN LABORATORY**  
Massachusetts Institute of Technology



BOX 21 • LEXINGTON 73  
MASSACHUSETTS



## "GIVE A MAN A TOUGH JOB AND A CHANCE TO GO SOMEWHERE ...AND HE'LL BREAK HIS NECK TO DO IT"

In 1958 when Bill Ebben was only a few months away from his engineering degree at the University of Detroit, he was in touch with 15 prospective employers.

He chose the Michigan Bell Telephone Company because: "This company offered the kind of engineering management opportunity I wanted — and they weren't kidding."

One of Bill's first assignments was a survey of Michigan Bell's big Central District to find out how long available building space could accommodate the switching equipment required by rapid telephone growth. "I wasn't given any instruction," Bill says, "I was just told to do the job."

So Bill did it. His report became the guide for planning and budgeting future construction.

On his next move, Bill proved he could handle supervisory responsibility: He was sent to head up

a group of seven engineers to design a new long distance switching center for Saginaw, Michigan — a \$4,000,000 engineering project.

Today, Bill is on the staff of Michigan Bell's Program Engineer. He's working on a system for mechanized control of telephone construction costs.

How does Bill feel about his job? "Give a man a tough job and a chance to go somewhere — and he'll break his neck to do it. Of course, I don't think I'm going to be running the business next year — but I'm getting every opportunity to hit the top. You don't worry about opportunity here — you worry about whether you're as big as the job."

*If you're a man like Bill Ebben, a man who can size up a job, figure out what needs to be done, and then do it — then you should get in touch with one of the Bell Companies. 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**

VOL. XIV — 1

## Ve Wa

On March presented two College, special papers that

The first paper by Dave Tuttle, TECH NEWS graphical mathematician, vector equations, the assembly teachers a view which he had at his home. The rule was very though built that if industry used in the rule high accuracy easily obtain

The second Hoch who spent frequency Domain Compensate Pete having a project for a long qualified to work. After talking inherent in sate anything techniques h compensation formed in the main. The technique in compensating ser

## M.E. To

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