

TECH



NEWS

SCHOOL OF TECHNOLOGY

VOL. V NO. 5

THURSDAY, DECEMBER 6, 1956

BY STUDENT FEES

TIIC FEATURES CULTURAL TALK



MR. IRANI, PHILOSOPHY DEPARTMENT

Next week the student body will be treated to a TIIC (Tech Interfraternity Intersociety Council) sponsored discussion by Mr. Irani of the Philosophy Department. The topic will be "The Intellectual Responsibilities of an Educated Man in Modern Society".

(cont. on page 6)

JOB ORIENTATION TO BEGIN

GRADUATES GET BRIEFING

Mr. Brenner of the Placement Office will conduct an orientation program for June graduates on Thursday, Jan. 3. This meeting, to be held in the Townsend Harris Auditorium from 12 to 2 will be the only one of its kind for June graduates. The purpose of the program is to acquaint seniors with employment and scholarship opportunities. Mr. Brenner will also discuss proper behavior and dress and other pertinent information connected with the interview procedure.

At the meeting graduate permanent record forms will be filled out. Job and company directories will be distributed as well as a list of the companies and the dates of their visits.

Mr. Brenner will, in addition to the above points, speak on the criteria a student should use in judging his prospective employers and how the senior can get the most out of the company campus interviews.

SUMMER EMPLOYMENT PICTURED

On December 17, between 4:30 and 6:30 P.M., in Townsend Harris Hall, Mr. Saul Brenner (Placement Office) will conduct an orientation program for summer job applicants. Seniors and Juniors are urged to attend. Freshmen also would find it to their advantage to attend since out-of-town summer civil service opportunities will be discussed which may prove pertinent to them. Qualifications for eligibility will also be discussed at the meeting.

The most expedient and practical course an undergraduate can pursue, in reference to his future vocation, is to become familiar with the various branches of his particular field of engineering. By so doing, the student will avoid uncertainty and mental selections later.

It is of the utmost importance that the student, in planning a career, read ahead and find out as much as he can about various companies which will inevitably help to serve as a background for job interviews.

In making a wise selection, several methods are useful which may save uncertainty later:

1. Visit the college library and read company brochures.
2. Talk to your teachers and others who have been in industry about their type of work.
3. Visit engineering plants with the various engineering societies or on your own.
4. Get first hand information by inquiring about summer employment. This can be done through the Placement Office.

TECHMEN MOBILIZE FOR GIANT E-DAY

Since E-Day is held in the spring of each year, some students may wonder why there is any talk of it now. However, a new approach is being taken to this year's event.

For the first time, the chairman has been chosen a term before E-Day. Another first is the establishment of an administrative committee, as listed below.

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PUBLICITY.. Arthur Zissman
COORDINATOR.. Robert Weinberg

C.E. .. Saul Shenkman
Ch.E. .. Dave Stahl
Jerome Karp
E.E. .. Marvin Zeichner
M.E. .. Burton Zisk

A brief explanation of E-Day is appropriate. Engineers' Day is the day that the School of Technology displays some of the many things it has to be proud of. Prominent figures in industry, education and public life, along with students and instruc-

(cont. on page 6)

Tech News

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THE NEGLECTED PROFESSION

The field of engineering education is one abounding with opportunities for the interested graduate. According to the U.S. Office of Education, 243,000 engineering students were enrolled in the fall term of 1955. It is predicted that the enrollment will double by 1967. There must obviously be a proportional rise in the number of teachers. Since there are now approximately 8500 engineering teachers in the U.S. (according to the American Society for Engineering Education), and allowing for retirement, it is safe to assume that about 10,000 engineering teachers will be needed within the next 10 years. In fact, the ASEE reports that 1300 new teachers are needed for the present academic year, 1956-1957. Obviously the opportunities are not lacking.

In the October issue of Industrial Science and Engineering, Dr. Harold Wessman, Dean of the University of Washington College of Engineering, urges graduates to consider the field of educa-

tion. He fears that because of the competition from industry for the graduate, opportunities for careers in education are being overlooked.

Dr. Wessman points out the many factors which make teaching such a stimulating and satisfying experience. Frequently there is the satisfaction of working with young men and watching their minds develop. Also, the stimulation which comes from a thorough understanding of the limitations of existing knowledge and the acceptance of the challenge to discover new facts through research. Those individuals in a university environment have unusual opportunities to explore the area of the unknown, to discover new and better ways to solve problems. Another element which makes college teaching so attractive is the association with people in many diverse fields. It is difficult to find another career with the same inspiring environment. Moreover, the opportunity for a fine family social life in a university community is another good reason why many people find happiness and satisfaction in teaching careers.

In general, salaries are not as high as those in industrial positions. However, they are on the upgrade, as more and more importance is being attached to engineering education. In addition, extra income may be earned through summer employment or on research contracts. These engagements are now the rule rather than the exception. Also, as one acquires a reputation in his field, his services are sought on a consulting basis.

Although some sacrifice in salary is involved in a teaching career, many will find this sacrifice offset by the numerous compensating factors, of which some are noted above. Happiness and satisfaction are quite as important as monetary returns.

Thus recommends Dean Wessman: "Do not overlook the fine opportunities open to you in engineering education. Go to your department head or dean and learn how stimulating it is to be an engineering teacher, to work with young men and to help them get the knowledge needed by a professional engineer."

COMING EVENTS

This afternoon the Personal Development Program will feature Prof. Branman (Speech) in a discussion on "Group Dynamics" which will be held in Room 211 Finley at 5:00 P.M. The role of the individual in the group will be discussed and clarified.

Today's interesting lecture, commencing at 12:30, includes AICHE: Mr. G. S. Kachajian of Dow Corning Corp. will discuss "Silicones" in Room H103. A film will be shown.

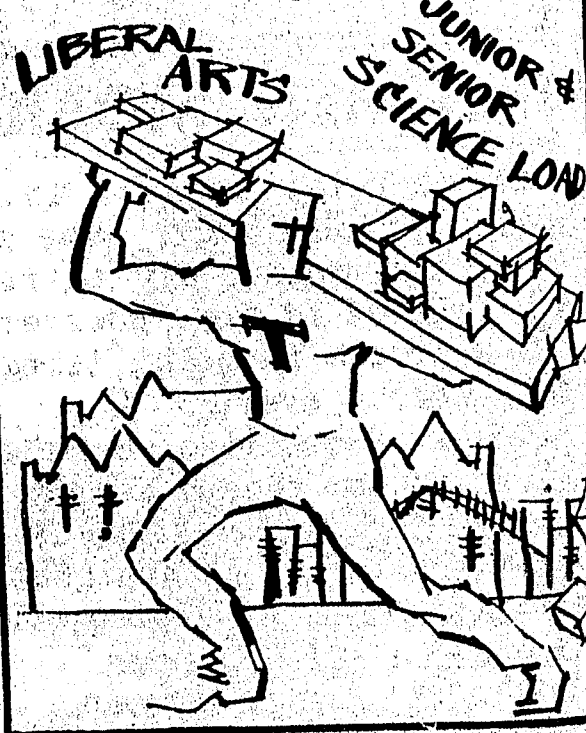
PHYSICS SOCIETY - "New Particles" in nuclear physics will be the topic of a lecture by Professor Semat of the Physics Dept. in Room S105.

ASCE - A talk on "Sewage Treatment and Disposal" will be presented by Mr. Kass in Room G107. AIEE-IRE - An engineer from IBM will deliver a lecture on the elementary aspects of servo mechanisms. The lecture will be given in Room S306.

U R G E N T !

ATTENTION JAN. & JUNE GRAD
Today is your last chance to make a deposit on Microcosm. Take yourself and your money to F-223, Senior Office. Also student activities must be submitted at this time to insure inclusion in the book.

A LESSON IN PHYSICS BALANCE.....?



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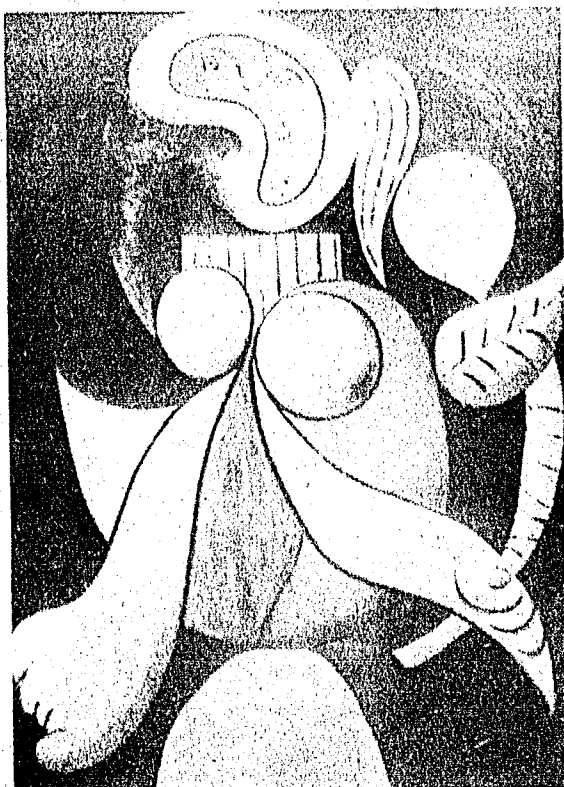


BY ARTHUR APPEL, ME'59

The artist sees nature in different ways. In the historical development of modern art he reached the real essence of his subject by viewing an object from all its sides, by painting several views simultaneously. Actually, the Cubist destroyed nature in order to re-arrange her planes and colors in a more revealing order. The stimulus was given by Cezanne, followed up by Picasso and more finely developed by Braque and Gris. The name, however, is merely a label originated by a professional critic who first saw in these new-style paintings a collection of "cubes."

Because the cubistic style is less dependent on visual reality than decoration or intellectual reality, the viewer must be willing to think and imagine as he looks at a cubistic painting. Cezanne had a tremendous influence on the Cubist movement though he was an Impressionist. To enjoy Cezanne's paintings the viewer must train himself to feel the connotations of depth associated with different colors; for example warm colors such as yellow, orange and red come forward while cool colors such as blue and green recede. By feeling the relative warmth and nearness of colors, one can actually feel out the depths and shape of the forms Cezanne painted. He also simplified nature into the basic shapes: the sphere, the square, the cone and the cylinder. He stripped trees of unnecessary foliage and painted strong solid cylinders. The Cubists used the art of color to mold nature into more interesting shapes than those they saw. They molded nature on canvas to make the picture as interesting as possible. The Cubist simplified nature completely. Strong paintings resulted wherein planes and surfaces would move through space.

The Cubists also refuse to look at an object from only one direction. If we would look at a cylinder from the side we see only a rectangle, yet it is not



FEMME ASSISE BY PICASSO

a rectangle, nor is it a circle. In our drafting sequence we became aware of how the viewpoint affected the appearance of an object. The Cubists rationalize that the object has many appearances at one time and he will draw the cylinder as two circles connected by two tangent lines. To his eyes a box need not rest on one surface. It can totter on an edge, stand solid, or rotate. We can create our own cubistic pictures when we draw many revolved views on one piece of paper.

It was held by many that these ingenious canvases produced an aesthetic quality that captured the emotions inherent in nature. Others believed that the whole movement was introduced as an unconscious psychological device to create a mass of protection around those who could not face the demands of society. Some claimed that the abstract art could express infinities by eliciting the most pure of reactions, the spontaneous one which embodied the essence of beauty and truth. Many of the critics of the day blatantly condemned many of the artists and their followers as "aesthetic shams." The critics felt that the value of art was in its identification with human experiences and processes of reason-

(cont. on page 4)

VACUUM TUBE
FLAWS AIRED

The problems involved in vacuum tube construction was the subject of a lecture given by Mr. Robert C. Fortin of the RCA Entertainment Tube Division at a AIEE-IRE meeting. Mr. Fortin discussed the various elements and components which make up a typical vacuum tube. A series of slides showing the component parts of various triodes and pentodes, along with their dimensions and construction features, provided pictorial background for the more quantitative portion of the talk.

Many problems such as the placement of the electrodes are encountered in the construction of vacuum tubes. One method of analyzing interelement spacings is to use resistance type paper to simulate the structure of the tube and thereby determine the best possible placement of the element before actually building the tube.

One of the most undesirable characteristics in tube performance is microphonics--unwanted noise or sound in the output caused by vibration of the tube



EE'S HEAR VACUUM TUBE TALK elements. This effect has been considerably reduced by rigidly supporting the electrodes to minimize their relative motion with respect to each other.

Other stumbling blocks in the tube's composition are: crystalline growth of the filament due to on-off cycles, gassy tubes as a result of ion flow within the glass base and the loosening of the vacuum seal.

Seymour Hirsch, EE'58

TECHTRAIT

All students have at one time or another been the beneficiaries of one of the many events initiated and supervised by Michael Rizzo, CE'57. The scope of activity, service and honors attributed to Mike personifies his dynamic character. As a member of the Student Government and in the capacity of Director of Special Events, he has initiated such events as the Winter Festival, the Student-Faculty Tea, and the Student-Leadership Program.

Mike was the recipient of the coveted Murray Waldman Unity Award last spring for his active participation in the World Uni-

versity Service and for promoting interracial and interreligious unity on campus. As president of the Senior Class he is supervising such events as the Senior Prom and is now actively engaged in organizing formal exercises for the semi-annual fall graduates.

MICHAEL RIZZO, CE'57



\$150,000 FOR THE ASKING

by Michael Rizzo, CE'57

Each year over \$150,000 is received from the semi-annual registration fee. Many registrants may not be cognizant of what happens to the huge sum - where, by whom, and for what purpose it is allocated. Generally speaking, the ten dollar registration stipend is broken down into a three dollar student center fee for the upkeep of the Finley Student Center and two dollars is directed towards the financing of student activities. Of the remaining five dollars, four dollars is for a library fee and one dollar is set aside for the athletic fee.

The Student Government, through its agencies, controls the disbursement of this money. The S.G. Fee Commission, composed entirely of students, is directly responsible for the distribution of the two dollar activity fee.

Funds are disbursed to the various organizations on the basis of membership and the use which it will serve. A list of grants is compiled by the S.G. Fee Commission and submitted to the Student-Faculty Committee for approval. S.G.F.C. is composed of representatives from the faculty, TIIC, Interclass

Council, House Plan, the publications and the treasurer of S.G. After approval is granted or allocations are revised and is accepted by Dean Brophy (Student Life), the money is deposited in the treasury of the organization.

The agencies of Student Government employs most of the funds allocated to S.G. for the direct benefit of the individual student. The Social Functions Agency, with an annual budget of over \$4,000, conducts such functions as the All College Prom at the Waldorf, Winter Festival, the Friday Night Dances held in the Ballroom of the Finley Center, the Ticket Bureau, film program and the Student-Faculty teas.

Catering also to the needs of the student is the Finley Board of Managers which controls the day-to-day operation of the student center in cooperation with the center's director, Dean Peace. To a degree the Board determines how the three dollar fee is to be used. One of their projects near completion is the establishment of a television lounge in Finley Center.

There is \$150,000 worth of activities available for the asking; take advantage of it - your fellow student is.

NEW YORK SEEN AS TECH CAPITAL

A contract has been awarded for preliminary architectural studies for a new engineering center in Mid-Manhattan intended to make New York the engineering capital of the world.

United Engineering Trustees Inc., which announced the contract, is the joint corporate agency of four major national engineering societies - the American Society of Civil Engineers, The American Institute of Mining, Metallurgical and Petroleum Engineers, and the American Institute of Electrical Engineers.

The architects will analyze the present Engineering Societies Building at 29 West Thirty-ninth Street to see whether this site is capable of development as the center the societies want. The analysis will compare the possibilities of the present site with those of others in the area between Thirty-fourth and Fifty-seventh Streets.

CUBISM...

(cont. from page 3)

ing; that this attempt at establishing an absolute standard by separating meaning from technique was the work of little minds refusing to accept their limitations.

When dealing with the Cubist school of painting, one must of necessity, relate part of the life of the illustrious Pablo Picasso. He was born in the late nineteenth century and went to live in Paris among the Bohemians at the age of 19. There he came in contact with the work of Cezanne and it is said that this had perhaps the most profound influence upon his paintings.

Picasso bypassed Cezanne's realism and concerned himself mainly with technique and pattern. In this manner the Cubists were born and of course, as was true with all the innovations in art, their work was highly criticized. However, it established a foothold for new Modernist styles which included Futurism, Orphism and Sur-Realism. Other well known proponents of the Cubist forms were Braque, Gris, Leger and Duchamp.

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BY DICK O'MALLEY, EVE. SESSION

The utility industry offers some of the best opportunities available to young engineers, as well as challenging, and in some cases, down right frustrating engineering problems.

These opportunities are of a four-fold common nature for all the different branches of engineering and particular opportunities are reserved for each branch. The common opportunities will be mentioned prior to the particular opportunities open to the Electrical, Mechanical, Civil and Chemical engineers.

1) **ADVANCEMENT TO MANAGEMENT** - at least 40% of the top management of America's Investor-owned public-utilities are engineers.

2) **STABLE, SECURE JOBS** - during the depression, few if any power companies laid off engineers. Most utilities function on a solid peace-time basis and are not dependent upon government contracts to continue operations.

3) **LIBERAL EDUCATIONAL BENEFITS** - The industry has a liberal education policy which encourages engineers to seek further education as preparation for advancement.

4) **HIGH SALARY SCALE** - The industry offers a competitive starting salary which is dependent upon the individual qualification of the engineer. Average starting salary was between \$401 and \$426 per month.

The particular opportunities open to each of the major branches are so many and varied that only a few will be presented.

ELECTRICAL ENGINEERS: The higher voltages that are being used to transmit bulk power have brought with them such problems as: Radio Interference, T.V. interference, increased incidence of lightning strokes on transmission lines, development of loss-formulae, and development of circuit breakers capable of

interrupting the fantastic fault currents available at such voltages as 138 kv, 230 kv and 345 kv.

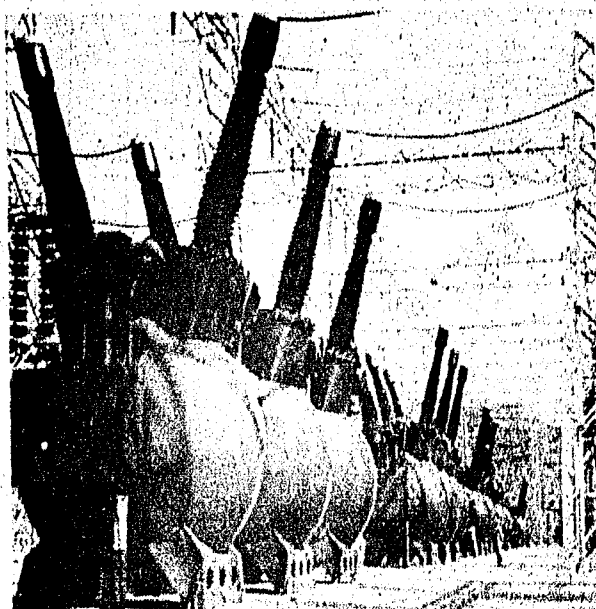
These problems are in addition to the usual ones which include:

1. Preparation of problems for analysis and calculation by analogue or digital computers; economic studies to determine which method is the most feasible for a given problem.

2. Calculation of short circuit currents at a specific point from a system standpoint.

3. Analysis of transient current, switching surges, bus stresses and line losses.

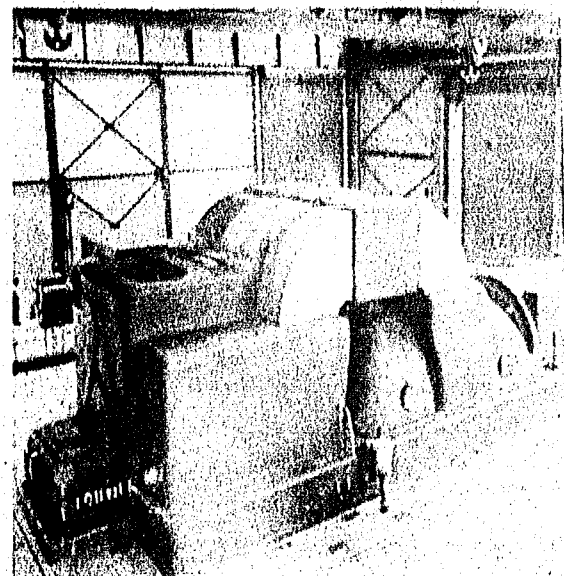
4. Economic studies of conversion of system voltages to determine which voltage will provide the most reliable service to a given area at the cheapest possible cost.



FIVE 345 KV OIL CIRCUIT BREAKERS

5. Evaluation of new designs of switches, circuit breakers, lightning arresters, capacitors, generators, and synchronous condensers by theoretical analysis as well as empirical methods.

6. Relay and control engineering to assure ultra-fast circuit trip and reclosing in the event of trouble. Each and every station, plant and customer must be protected from unnecessary outages. Relay engineers work out the protection schemes for each station and in many cases are called upon to adequately protect the equipment belonging to industrial customers. This requires extensive knowledge of all types of control equipment - all types of motors and chemical processes.



A 225 KW STEAM TURBINE

MECHANICAL ENGINEERS: Some of the problems facing the mechanical engineer are:

1. To design more efficient turbines which will raise the thermal efficiency of the generating plant.

2. Analysis of new developments to determine if they will materially increase the flexibility of the plants.

3. Design and layout of new power plants, after checking every conceivable design, to determine which offers the most economical scheme.


4. Analysis of troubles which occur on installed equipment to facilitate the permanent repair of damaged equipment. In many cases this analysis leads to the development of newer and more efficient equipment.

5. Determination of the most efficient method of protecting equipment from fire hazards.

CIVIL ENGINEERS - Every investor-owned utility in this country is expanding and will expand until new and cheaper type of energy displaces electricity. As utility expands, it must replace existing low voltage lines with higher voltage lines. This means the construction of buildings, stations and transmission towers. Many of these towers are over 150 ft. high and the wire

(cont. on page 7)

LORENZO MAY WATCHMAKER
AND JEWELER
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4 Barbers - No Waiting
1616 AMSTERDAM AVENUE
OPPOSITE CITY COLLEGE



SENIOR PROM NEAR

The Senior Prom, a formal dress affair, will be held at the Hotel St. Moritz on Saturday, December 15. Included in the price of the ticket is a complete dinner for two, continuous dancing to the music of Jack Adato and Orchestra, a floor show and souvenirs. Tickets are \$14 a couple with class card, \$15 a couple without class card. Remember, there is only one Senior Prom for both January and June grads. There are only a few tables left so make your reservation now at the Senior Office, Room 223 Finley.

DRAMSOC PRESENTS

Dramsoc is now selling tickets for its latest production "Bell, Book, and Candle". The play will be presented on December 7 and 8 (Friday and Saturday evening) at 8:30 P.M. in Townsend Harris. Tickets may be purchased in the John H. Finley ticket office or any afternoon in the Townsend Harris Auditorium.

CASUALTY REPORTS

Joel Engel, former TECH NEWS managing editor, took the final leap. The victim is Marian Myers, a CCNY Science Major.

Fred Edelstein, ChE June '57 and Tech Life Editor, has recently been engaging in other extra-curricular activities; this has resulted in his recent engagement to Arlene Cohen, Business Major in Brooklyn College.

ME'S CAVORT

On Saturday, December 22, 1956, the ME's will hold their semi-annual dance sponsored by ASME, SAE and ASTE. The dance, which will be held in the Vanderbilt Hotel, will be highlighted by skits put on by students and faculty.

E-DAY...

(cont. from page 1)

tors of other schools are invited to witness the student demonstrations in all of the engineering laboratories. E-Day is sponsored by the Technology Intersociety Interfraternity Council.

Although E-Day is a one day affair, the preparation for that day will take month. The organizers have been chosen and now the workers are being sought. Contacts must be made with industry, faculty, high schools and other colleges. Newspaper and radio coverage is also planned. Volunteers are needed for these and other publicity items. Demonstrators will be sought next semester. However, any ideas or suggestions for demonstrations are welcome and the respective department chairmen should be contacted. The TECH NEWS bulletin board, on the first floor of Compton Hall near the Dynamo Laboratory, can be used for any correspondence.

Arthur Zussman, EE'57

IRANI...

(cont. from page 1)

The theme for discussion will be that the educated man's responsibility is not limited to professional competence. He must concern himself with political, civic and religious problems. He must be able to make an intelligent appraisal of international problems.

Mr. Irani feels that an educated man "cannot refuse to think about the above problems." He must concern himself with them. It is the job of the educational institutions to prepare the educated man to be well qualified to face these problems.

The talk, which will be given in Townsend Harris Auditorium at 12:30 P.M., will give particular emphasis to the role of the engineer in modern society and whether the City College engineer is adequately prepared to cope with nontechnical situations.



LOOKING FOR A GIFT

May We Suggest:

FOR THE MAN:

Schick 25 Electric Razor	15.95
Ronson Electric Razor	10.98
Cigarette Lighters - Ronson-Zippo-etc.	1.50 & up
Natural Briar Pipes	1.15 each
Kay Woodie White Briar Pipes	4.60 each

FOR THE LADY:

6 Footer 100% All Wool Scarf	4.75
Lavender & Black, Ideal for Cold Weather	.88 & up
Large Selection Costume Jewelry	1.59 & up
French Imported Perfume	

FOR JUNIOR:

Juvenile T Shirt with Seal	.98
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Sizes 4 - 6 - 8 - 10 - 12 - 14	

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STAR GAZERS TAKE PRIZE

For their delightful as well as informative displays, the Astronomy Society was awarded a gold cup as first prize by the Activities Fair which was held in the Finley Student Center on Nov. 15. Richard Gross, the society's president, did an excellent job in organizing the exhibit which attracted student-wide interest. The displays ranged from a portable unitron refractor telescope to the making of reflector mirrors.



ASTRONOMY CLUB DEMONSTRATOR
ALUMINIZING A MIRROR

Situated along the table were many interesting instruments such as a Heliostat, a 250 year old sextant used by early navigators, and a Solar Transient used for calculations of time measurements. The members of the society showed their diversified talents by displaying a group of homemade lenses which they ground themselves and by giving a sparkling experiment on the coating of reflector mirrors with aluminum.

Chi Epsilon, the Civil Engineering Honor Society, also presented a well planned and informative exhibit. Highlighting their attraction was a scale model of a water supply system which is capable of supplying water to a small town.



OPPORTUNITIES...

(cont. from page 5)

stringing presents many of the problems commonly faced by bridge builders.

As the trend toward atomic fuel becomes more pronounced civil engineers will be faced with some unorthodox problems such as:

1. Construction of high steel spheres hundreds of feet in diameter which must be capable of withstanding the force of an atomic explosion without allowing the gasses to escape.

2. Construction of concrete structures which may involve 3 or 4 feet thick walls, ceilings and floors which have only one purpose - radiation shielding.

CHEMICAL ENGINEERS - are needed to handle the following:

1. The demineralization of the water used in cooling the turbine-generators.

2. In many sections of the country chemical plants are poisoning the air with highly acidic or alkaline waste products. These products attack the facilities of the power companies serving these areas. Consequently, many utilities must rely upon chemical engineers to find ways of neutralizing or negating the harmful effects of these waste products.

3. When atomic fuel comes into the picture, chemical engineers will be called upon to eliminate the radioactive waste material. They will also be required to process the water used to generate the steam which drives the turbines so that it is absolutely pure. Impurities become radioactive as they passed through the reactor and thus contaminate the plant.

The power utility is a goldmine for any kind of engineer and the utilities know it. They think you know it too! Consequently, they won't bother trying to sell you on the advantages they have to offer. As yet few utilities have come up to interview the January graduates.

It is evident that, if you are interested in what the utility has to offer, you will have to approach them because they have shown little disposition to chase you.

SPORTRAIT



BEN TRASSEN, ME'57, AQUA STAR

Ben Trassen, ME'57, when ten years old, had the unfortunate experience of falling into a pool. Now, eleven years later, working three summers as a life guard and as a swimming instructor, it can justly be said that his early dunking was as unfortunate as finding a hundred dollar bill.

Ben, a graduate of Bronx High School of Science, was a member of the swimming team. Swimming in the 100 yd. freestyle event, his best time was 62 seconds. In this same event for the College, he has been able to reduce his time to 56 seconds. Ben attributes his improvement to the fine coaching of Jack Rider, City's fine swimming mentor.

Along with many other people, Ben feels that this year's swimming team will establish itself as the best team ever to represent City College.

In 1955, Ben was co-captain of the team and received the John D. Lasak award from the Varsity Club at its All Sports Dinner.

Another of Ben's talents is in the field of art. For the past three years he has designed the Stein Fund buttons and has found art a very interesting hobby.

A mechanical engineering student, Ben hopes to work on the design of kinematic linkages and controls after graduation.

BUY VECTOR...

ME'S WHIP EE'S;
CE'S TOP CH.E'S

In the fifth game of the season, ASME downed a hard fighting AIEE team, 40-33. The game was close most of the way as Shelly Horing and Charlie Hallas sparked AIEE to a half time lead of one point. However, the ME's, rallied by Manny Bornestein and Dick Matuseqicz, overtook the EE's and defeated them.

In the nitecap ASCE beat AICHE 35-31. This game followed much the same pattern as the first. Ron Rothenberg and Aaron Rosen put the ChE's ahead at half time, but a late second half CE drive, led by Ronnie Check and George Jensen, was sufficient to assure ASCE of their fourth straight win.

With four games left to play, ASME and ASCE are still tied for first place with identical records of four victories and one defeat.

GIVE BLOOD

JOURNAL DUE

Another great issue of the PHYSICS REVIEW will be out the week of Dec. 17. It will contain three articles and the first of a series of features on outstanding physicists and their contributions to science. The cover will have as its illustration a diagram of the subcritical reactor which CCNY will soon obtain. An accompanying explanation of reactor operation in general and a specific description of the new reactor will be featured.

The articles cover statistical mechanics, operational features of high-speed computers, and vector analysis. J.W. Gibbs, whose main contributions were in the fields of thermodynamics and complex algebra, is the first physicist to be expounded upon.

From the high powered mathematics used in statistical mechanics to the lucid explanation of high speed computer operation, there is enough to attract every science student at all levels.

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