

**This is X-RAC**

# 'Life' Features Story On Prof's Invention

It takes 40 rows of vacuum tubes and ten miles of wire, but X-RAC, the new mechanical brain which has been developed by Ray Pepinsky, research professor in physics at the University, can come up with the exact atomic composition of an unknown compound and flash the answer on a screen in a matter of seconds.

## Luck, Draft Influence Grads' Jobs

Fortune and the draft will influence the jobs obtained by 1954 college graduates, according to a Newsweek Magazine article on job opportunities for college graduates.

More than 300,000 students will graduate next month, and of this number, 281,000 will receive bachelors' degrees, the others, masters and doctors degrees. The ratio of men to women will be about six to five.

Although there are not as many jobs offered to graduates this year, there are still numerous job opportunities. Salaries are expected to be up about 5 per cent over last year. The richest pickings are for engineering students. Of the 19,000 engineers graduating in June, 7,000 will be taken by the armed forces. The remaining 12,000 have over 40,000 jobs to choose from.

Students graduating in the business field have numerous jobs to choose from this year. Banking and finance are rated good, and merchandising very good. Prospects are good for students in the field of science and elementary education. There is a shortage of secondary-school teachers.

The college man or woman graduating in a liberal arts curriculum also will be offered a large number of jobs with good pay.

### Mackenzie Presides At Bus Ad Reception

Ossian R. MacKenzie, Dean of the College of Business Administration, and Mrs. MacKenzie presided at the annual reception for seniors in the Business Administration college Thursday.

Seniors presented with awards for outstanding achievement were Donald Cox, Mark H. Loeuner, Louis Legory, Edward Mishell, Karl Segner, Nancy Woolrich, Joetta Hall, William Sharpless, Martin Leonard, Blair Gingrich, Kent Clouser, Dee Bragonier, Edward Shields, Robert Garbrick, and Richard Shively.

### IE Prof to Lecture in Denmark Next Year

J. William Caldwell, associate professor of industrial engineering, has been chosen by the Board of Foreign Scholarships to spend next year at the Technical University of Denmark, Copenhagen, as a lecturer in industrial engineering.

The award, part of the International Exchange Program under the Fulbright Act, was announced by the Department of State.

### Co-Edits

#### Pi Kappa Phi

Pi Kappa Phi recently elected Donald Fischer archon for next semester. Other officers are Theodore Garrett, secretary; William Exley, warden and pledgemaster; Roy Williams, historian; Theodore Leibert, tribunal chairman; Hugh Browne, financial committee chairman.

#### Alpha Chi Omega

Alpha Chi Omega recently elected Ruth Knochenwetter president and Martha Heim, intramurals chairman.

Eleanor Frank was ribboned May 21.

#### Phi Kappa

Newly elected officers of Phi Kappa are Lewis Hazlewood, president; Joseph Mijares, vice president; John Kunda, secretary; Samuel Sweet, treasurer; and Leo Tarkett, Interfraternity Council representative.

The story of X-RAC's development appears in the current issue of "Life" magazine.

**Is Naval Project**  
X-RAC, the shortened name of the X-Ray Analogue Computer, has been financed at the University by the Office of Naval Research. It will be invaluable, "Life" reports, for determining atomic makeup of unknown compounds, especially a new, insufficiently-understood explosive compound, for which it was specifically developed.

The invention combines the forces of X-ray studies, television, and a huge electronic brain to arrive at the mathematical conclusions of complicated formulas of atomic analysis.

In order for the machine to function, the material to be analyzed must be submitted to preliminary activities. A special analyzer equipped with needle, magnifying eyepiece, and X-ray beam provide the information which is required of X-RAC.

**Placed on Needle**  
A single crystal of the compound to be analyzed is placed on a needle. The needle is aligned with the aid of a magnifying eyepiece, then is rotated so that an X-ray beam which is directed at the crystal reflects from it.

The ray is deflected from the planes of the crystal. These deflections are recorded on a film, the light ray leaving dots on the film. The intensity of dots and the distance between them recorded on the film provide the necessary information for finding the figures which are used in setting the X-ray's switches.

When X-RAC's switches are set according to the figures which have been arrived at by the analyzer, the machine itself starts its computations. The machine automatically assembles the figures of the formulas until the problems have been solved. The answer is then flashed on a screen.

The operation is completed in a number of seconds. It would take scientists years to solve the same problems—were it not for this new development.

#### Phi Kappa Phi Keys

Keys and initiation pins are available for members of Phi Kappa Phi, national scholastic honorary, from 2 to 5 p.m. Monday and Friday, and from 1 to 4 p.m. Tuesday and Thursday at 105 Temporary.

## Turkish Life Primitive - Brandow

By MARY BOLICH

"The daily routine of the Turkish people who live in the small farm villages reminds one of the time of Christ." This was the general impression George Brandow, professor of agricultural economy who recently returned from Turkey, got of the average Turkish farmers.

Brandow, who spent a year in Turkey with the Turkish Agricultural Advisory Commissions, said 80 per cent of the Turkish people live in agricultural villages. Most of these people, he said, are very primitive, backward, and semi-literate.

The bulk of the farmers, he said, has very little machinery for their farms. Wooden plows are the most common piece of machinery on a Turkish farm. A small steel walking plow is also very common, he said. On the larger farms, American made tractors and combines are used occasionally.

#### Lack Resources

Brandow attributed the primitiveness of the Turkish people to their lack of industrial resources. The country produces mainly wheat and other small grain products, he said, but does not have great mineral resources. Cotton and tobacco bring in a large amount of money to the country, he added.

Although the country is very primitive, Brandow felt the Turk-

## Women Face Fashion Problem In Springtime

Coeds have a problem. Spring clothes and spring weather don't always coordinate.

If coeds spend hours ironing cotton dresses, the next day will be cold, forcing out winter skirts and sweaters. If coeds get to wear a freshly ironed cotton, naturally it rains.

Take for example the long planned-for day at Whipples. Early in the week coeds swelter through classes and watch while a select few sunbath in the dormitory courtyards and balconies. Whipples-day arrives a bit overcast, but warmish. In bathing suit the coed heads for Centre County's garden spot.

Upon arrival a cold blast comes down from the north, and coeds must rush back to campus for a ski suit. No, you just can't win.

This "spring" weather mixes up double dates too. One coed doesn't know the other. She comes down all "summered-up," only to find the other anxious coed "wintered-down" . . . furs and all. That's the end of a could-have-been enjoyable double date.

What's the solution? Coeds might try carrying an assortment of winter woollens and raincoats around in a suitcase or staying in bed, or perhaps transferring to the University of Miami.

## Piper Is Head Of Glee Club

Robert Piper, sixth semester industrial engineering major, was elected president of the Men's Glee Club at a banquet and a meeting held recently at the Hotel State College.

Other officers elected were William Edgeworth, fourth semester arts and letters major, secretary; Harry Nichol, sixth semester agronomy major, treasurer; Robert Lewis, sixth semester arts and letters major, general manager; David Huber, fourth semester journalism major, publicity manager.

The Hi-Los, a twelve-man group from the Glee Club, recently took part in a University-sponsored television broadcast over Harrisburg station WTPA.

### IAS to Hold Picnic At Black Moshannon

The Institute of Aeronautical Sciences will hold a picnic at 4 p.m. today at Black Moshannon.

Newly elected officers of the organization are Ralph Straley, chairman; George Walker, vice chairman; and Allen Weber, secretary-treasurer.

### McDowell Elected SDX President

Richard McDowell, sixth semester journalism major, has been elected president of Sigma Delta Chi, men's national professional journalistic fraternity.

Other officers elected were Diehl McKalip, vice president; George Bairey, secretary; and Philip Austin, treasurer.

New initiates are Roger Beidler, Myron Feinsilber, Donald Shoemaker, and Herman Weiskopf.

### Phi Epsilon Pi

Martin D. Stein was recently awarded the Phi Epsilon Pi senior architecture prize which is given annually to the outstanding graduating senior.

### Religion

## Inter-Church Group Will Sponsor Picnic

The Inter-Church Student Fellowship, composed of the student church groups, will hold a picnic tomorrow at Camp Kanestata. Church groups will leave from their respective centers.

The United Student Fellowship of the Faith Evangelical and Reformed Church will hold its last service of the year, a service of Holy Communion, at 6:30 p.m. tomorrow in the sanctuary.

The Canterbury Club of St. Andrew's Episcopal Church will meet at 5:30 p.m. tomorrow at the Parish House of the church, 300 S. Frazier street. This will be the last meeting of the academic year. A buffet dinner will be held at the home of William Shaffer, faculty adviser of the group.

A picnic will be held outside the Baptist Church by the Roger Williams Fellowship at 5:30 p.m. tomorrow. Election of 1954-55 officers will be held.

A senior dinner will be held by the Evangelical United Brethren Fellowship at 5 p.m. tomorrow at the St. John's Evangelical United Brethren Church. The guest speaker will be Elizabeth McCain, program associate of the Penn State Christian Association. A discussion on "The Manifestation of Sin" will follow the dinner.

The Westminster Foundation of the Presbyterian Church will hold a discussion on the "World Student Christian Federation" at 6:20 p.m. tomorrow at the church.

The Newman Club will hold a daily recitation of the Rosary throughout the rest of the month at 4:30 p.m. at Our Lady of Victory Church. Tuesday afternoon there will be Rosary and Benediction.

The Lutheran Student Association will hold a panel discussion on the Liturgy of the church at 6:30 p.m. tomorrow at the student center. The topic for the evening's meeting and discussion will be "The Church at Worship."

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## Grads to Send Welcome Letter

Members of a committee appointed by the Graduate Student Council to draft a letter of welcome to new graduate students next semester are William Shulhof, chairman; Moylan Mills, and Harold Shadle.

The letter will be sent with pamphlets explaining different phases of campus life, such as library facilities, housing accommodations, traffic regulations, and registration procedures.

The council also appointed a publications committee to supervise the Graduate Student Newsletter and other public relations of the council. Mills, Newsletter editor, will serve as chairman. Committee members are Agnes Doody, Robert Berger, and Shadle.

Dolores Van Norman has been appointed to serve as council representative on the Centennial committee.

Students and faculty of the graduate school will hold their convocation for the fall semester on September 29 in Schwab Auditorium. Nominations for officers to Graduate Student Council and a mixer will follow.

## Morse—

(Continued from page one)

tions like the one-man McCarthy hearings at Fort Monmouth and no more one-man interpretations of secret sessions. Morse's side comment that McCarthy's reputation for accurate reporting was somewhat wanting, brought a hearty laugh and applause from the audience.

Procedure rights should be applied to politics at the local level, he said. "Senators are not free because they have been handcuffed by rotten political procedure in their home states."

He told the audience they should "get it out of your heads that politics has to be crooked." He said he was particularly concerned that this "virus" had infected student thinking.

He admitted he had been harsh with the politicians but said it was the voters who should be criticized because they were failing to note that government is the most important business this country has.

He concluded: "We have the duty to rise above the party and say we ask for decisions to promote not party interests but public interests."

An hour and 15 minute question period followed the speech in which he answered, among other things, the reason for his resignation from the Republican party. His reasons included the party's endorsement of McCarthy, the Tideland's oil issue and the fact that he believed the Republicans were interested only in winning.

## Elections—

(Continued from page two)

should be dropped as polling places, but that polling places should be conducted in Old Main lounge, Waring Hall lounge, and in the Hetzel Union Building. He also recommended that voting machines be used if a sufficient number is available.

**More Active Control**  
Kohn's report called for having the elections committee keep a more active control over clique finances, either through assigning printers to the cliques or by handling all funds directly.

Anthony Tornetta, All-University food committee chairman, and Terry Stuver, National Student Association screening committee coordinator, gave progress reports for their groups. Helen Sidman, a member of the N.S.A. committee, explained the structure and purpose of N.S.A.

Brandow felt, however, the new