

# Atomic Reactor Aids Research

By KAY MILLS  
A variation of "the ol' swimmin' hole" and modern nuclear engineering have been united in the nuclear reactor here to provide facilities for University research.

The reactor, located east of Pollock and South Halls, is patterned after the first swimming pool reactor at the Oak Ridge National Laboratory.

It is a source of neutrons and gamma rays for use in research programs of University and industrial personnel, Gordon Robinson, staff member, said.

The neutrons are given off from the fission of uranium 235 atoms, a reaction resulting in an excess of several neutrons which can in turn make certain other materials radioactive, Robinson said.

Gamma rays are emitted as excess energy by the reaction, he added.

The College of Chemistry and Physics is the largest user of the reactor, which went into operation in 1955. The first experimenters to make use of it were from the College of Agriculture.

The reactor can be used in a number of ways, Robinson said:

- A scientist may want to study a certain process, as in a recent study on fat distribution in swine to meet consumer demands for leaner pork.

- In this case, chlorine, to be used as a tracer in the fat, could

be placed in an aluminum cylinder, lowered into the pool next to the reactor core and bombarded with neutrons.

(The reactor core is submerged in 25 feet of water in the "swimming pool." A bluish aura surrounds the narrow aluminum-clad uranium fuel elements. Neutrons from an outside source can penetrate the aluminum and start the reaction. From that point, Robinson said, the reaction is "self-sustaining" during operation.)

Solid materials for bombardment are placed in polyethylene tubes and submerged.

- When the radiochlorine was removed, the scientist could then study it at the reactor or, if properly licensed, take the material to his own lab for study, Robinson said. The chlorine served as a tracer in the swine's fat.

- The object of this particular experiment was to enable the swine producer to control fat production more accurately, yielding a leaner, more uniform product to meet market demands.

- Should there be any radioactive waste after the experiment is completed, Robinson added, it is encased in concrete and buried either here or sent to Oak Ridge, Tenn., for disposal.

The "swimming pool" concept provides water to protect against harmful radioactivity, to cool the reactor, and to slow the neutrons in their path both within and out from the reactor, he said. The water is a deep blue color because it is so

pure, Robinson said. The water is demineralized because any impurities could become radioactive.

Materials brought out of the pool are tested by an ionization chamber which registers levels of radioactivity. If material is too radioactive to be surfaced, Robinson said, it can either be left underwater until its radioactivity decays or transferred, still underwater to a lead container and then raised to the surface.

Robinson added that the reactor staff also conducts a lab course for nuclear engineering graduate students. Foreign students are trained here in reactor operation.

The staff has also done work with HRB-Singer, the Bell Telephone Laboratories, other industrial concerns and the U.S. Army Signal Corps, he said.

## Walker Discusses Recess With Fry

President Eric A. Walker told Robert Fry, president of the Town Independent Men's Council, yesterday that he was not the power who decided on the Thanksgiving recess.

Fry said that Walker told him that the University Senate would have the final decision on the vacation.

Walker said that the three extra days in the fall term calendar were not a mistake but were added for a period of transition in the new term system.

Walker spoke to Fry in connection with the letter written to his office by TIM council concerning the recess. The council had requested that Walker and the University Senate approve the extension of the vacation to include Nov. 24 and 25.

## Calm Celebrations Requested by Juba

The State College Police Department said yesterday that students should keep all after-game celebrations "reasonable."

Because of the large crowd expected for the Homecoming football game today, John R. Juba, chief of police, asked students to help by keeping celebrations orderly.

The Police Department appreciated the behavior and cooperation of students after the Syracuse game last week," Juba said.

Police have "no objections to orderly parties," he said. Last week complaints about noisy parties were "not enough to say it was any problem," he added.

### BEAT CALIFORNIA

## Executives Will Hear Carzo Speak in Mexico

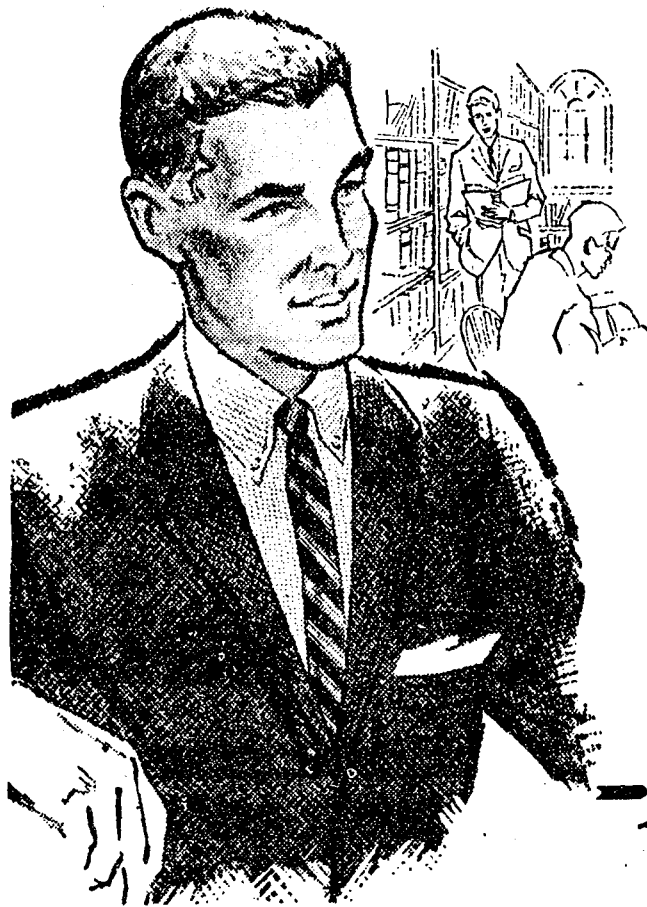
Rocco Carzo, Jr., associate professor of management, will address top management executives of the Centre de Productividad de Monterrey in Monterrey, Mexico, Nov. 2 and 3.

He will discuss modern advances made in organization theory and research and will illustrate how these concepts may be applied in actual practicing organizations.

## IFC Sing--

(Continued from page one)  
general effects, musical blend, diction, interpretation and phrasing.

Miss Virginia Minsch, State College music teacher; Mrs. Louis Maraffie, assistant director of the University Symphony Orchestra; Frank Morris, member of the Thespian Board of Control; and William B. Merrel, associate professor of music at Juniata College, judged group competition.



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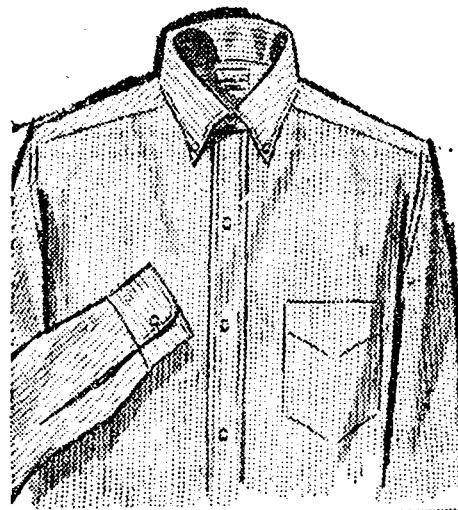
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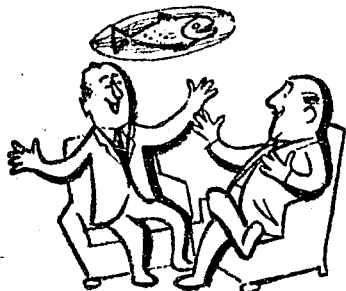
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## PHI MU DELTA

Welcomes Back ALUMS



## ALPHA EPSILON PI

Krazy Hat Party

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Open at 11:00 To all Fraternity Men and their Dates



## KAPPA KAPPA GAMMA

Welcomes

ALUMNI and FRIENDS to a HOMECOMING TEA following the game



## DELTA GAMMA

Welcomes its Alums

with a Breakfast at 10:00

Sunday morning



## ALPHA DELTA PI

Welcomes Home The Alumni

with a Cider Pour following the game

