

Gaines Selected

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large, chairman of the Millrace committee.

The senate passed a motion by ASUO vice-president Hollis Ransom to enlarge the athletic card committee. Sam Vahey, senator at large, was named chairman of the committee. Committee members are Don Smith, Gary West and Tom Arata, senators at large, and Russ Cowell, junior class representative.

Pictures Reported Successful

The committee will continue the study started last winter term of adopting some better means of identification for athletic cards. Vahey reported that questionnaires returned from the University of Washington, University of Southern California, Washington State College and Oregon State college all indicated success with picture cards.

Len Calvert, vice-president of the senior class, and Marcia Cook, sophomore representative, were appointed to contact other schools during the summer to determine what controls are used over exchange assemblies.

A senate committee was appointed to assist Kenneth S. Ghent, faculty adviser to foreign students, in orienting foreign students to the campus.

Doug Johnson, president of the Oregon Insurance society, spoke to the senate briefly on the ASUO group insurance plan. Johnson expressed confidence that the number of policies sold will increase next year.

\$6000 Paid in Claims

He said that he had discussed the group insurance plan with Oregon State's chairman, and that \$6000 in claims were paid to OSC

students during the past year.

Kitty Fraser, a member of the housing committee during the past year, explained the work already done in establishing a permanent housing committee for campus visitors. She told the senate that the question needs more study.

Bud Hinkson, junior class president, was appointed chairman of the housing committee. Committee members are Harriet Hornbeck, sophomore class representative, and Light.

Summers opened the meeting by outlining the general duties of the senate.

"There are two major areas in which we should accomplish a lot," Summers said. He requested that the senate take the lead in promoting school spirit and in stimulating respect for the ASUO and its functions.

DICK TRACY, HERE WE COME

UO Does Transistor Work

by Joe Gardner
Emerald News Editor

Dick Tracy's wrist radio is not entirely fantasy. In fact, it may become a reality as the result of research currently being conducted on the University of Oregon campus.

This research is in the field of semi-conductors, a whole class of substances which fall halfway between those like copper which conduct electricity very well and those like rubber which don't conduct it at all. It has been found that certain of these semi-conductors in minute sizes can be used as transistors to replace the vacuum tubes in your radio or TV set.

Lighter Equipment Seen

Electronic equipment of the future may be smaller and lighter if the Oregon project and others

like it across the nation are successful. In addition to being small, transistors are important because they would eliminate filaments, which get hot and burn out easily. Transistors would also last years, whereas many vacuum tubes last only months.

The Oregon project in the field of semi-conductors is operated under a grant awarded last month by the U. S. Army Signal Corps. R. T. Ellickson, head of the physics department, is in charge of the project. Working with him are P. A. Goldberg, assistant professor of physics, and three graduate students—James T. Nelson, Jeremy P. Taylor and Herbert Mathews.

Has Worked A Year

Ellickson actually has been working on the project here for about a year. Previous to the awarding of the army contract, he worked with a grant from the University's graduate school. In 1952 he was on leave for six months working at the University of Chicago on a closely related problem.

There are only two pure elements that seem to behave well as semi-conductors, Ellickson explained. These are silicon and germanium. However, certain compounds of other elements also act as semi-conductors. Much of the research is with such compounds.

Oregon Works on Compounds

The specific area of the Oregon project is with compounds of tin and magnesium. Both are good conductors of electricity, but when formed into compounds they lose their metallic properties and become semi-conductors.

Researchers at other colleges and universities across the nation are working on different compounds. When the work at Oregon on tin and magnesium is completed, the researchers will next tackle compounds of magnesium and silicon.

No Dingy Hideouts

Gone forever, apparently, are the days of the alchemists when scientists worked in dingy, secret rooms. Work on the Oregon project is carried on in a large and well-lighted room in the basement of the Science building. A cluttered hodge-podge of equipment, which somehow makes sense to the physicist, fills the room.

Work revolves around an induction furnace, but don't think of the furnace as a huge brick oven, glowing with white hot coals. An induction furnace is actually a

copper coil protruding from a rather complicated piece of machinery. It was built by graduate students for considerably less than \$3500, the commercial price for such a piece of equipment.

Heated and Cooled

A carefully weighed amount of tin and magnesium is placed in a graphite rod, which is then inserted in the coil for heating to temperatures of up to 1400 degrees fahrenheit. After the compound is removed from the furnace, it is allowed to cool. The researchers then must make a series of measurements to see if the product possesses the desired properties.

Preparation of the compound is by no means haphazard, nor do the researchers proceed on guesswork. Much paper work must be done before each experiment. There is a very substantial amount of theoretical knowledge on the subject, according to Ellickson. Although results can be predicted in the office, they must be proved in the lab, he added.

Work in General Field

Actually the Oregon project does not deal with transistors, but rather with the general field of semi-conductors. These pinhead-sized replacements for vacuum tubes are being produced at such commercial laboratories as General Electric, Radio Corporation of America and the Bell Telephone company. Much of the early work in this field was done by Bell, which continues to lead in the field.

A prediction for the future? Indications are that the electronic industry is just getting underway with the development of the transistor, Ellickson said. Hearing aids, radios and television sets of the future may be revolutionized as the result of their use.

But for now, Ellickson and his associates are just trying to learn as much as possible about semi-conductors.

Campus YWCA to Join Centennial Celebration

The campus YWCA, in conjunction with the national organization, will be celebrating the YW centennial during the 1954-55 school year.

The year-long celebration will have three goals. They are: 1) Rededication to the purpose of the YW; 2) Strengthening and increasing membership; and 3) raising a \$5,000,000 centennial fund. The University YW has pledged \$1500 toward the fund.

A special YW centennial board, composed of students and advis-

ory members, has been sent up to work toward these goals. Advisory members are Mrs. Carl Wicklund, Mrs. R. Grant Mortenson, and Mrs. Hubert F. Willoughby.

Student members of the YW centennial board are: Ann Erickson, chairman; Sally Cummins, publicity; and Barbara Bailey, Karen Dahlberg, Mary Rae Bergeron, Mary Sweeney, Margaret Tyler and Ann Stearns.

The campus YW will be working with the Central Lane YWCA on the centennial program.

Fulbright Competition For 1955-56, Open

Fulbright competition for graduate study abroad for 1955-56 is now open, the Institute of International Education, N.Y., has announced.

Fulbright awards are authorized by the State Department under the Fulbright act and are made entirely in the currency of the country in which the winner studies. They are financed by the sale of war surplus property abroad.

Pay for One Year

Awards cover transportation, tuition, books and living expenses for one school year.

To be eligible for a Fulbright award, a graduate student must be a citizen of the United States, have an accredited college degree, know a foreign language and be in good physical condition. Final selection of grantees is made by a board of foreign scholarships appointed by President Eisenhower.

Fulbright adviser at the University is K. S. Ghent, associate professor of mathematics. Folders describing overseas study awards may be secured from him.

Competition for the 1955-56 school year ends Nov. 1 of this year. Oct. 15 is the closing date for application to study in New Zealand.

Under the Fulbright program, 3500 U.S. students have studied abroad since 1947 when the program was established.

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