

MechEng Prof Discusses Causes of Air Pollution

By KAY MILLS

While black diesel engine smoke and its powerful fumes may be a nuisance, they may contribute less to air pollution than the exhaust from vehicles using gasoline engines, Wolfgang E. Meyer, professor of mechanical engineering, said recently.

"The diesel engine is not a big offender because it does not seem to give off as many elements which cause air pollution as does the gasoline engine," Meyer said.

The escape of diesel engine gases into the atmosphere, known as "blowby," is being studied here as one aspect of the complex and serious problem of air pollution, he said.

Meyer added that exhaust and fumes of the gasoline engine have already been studied and that he has been given a \$5,489 grant by the U.S. Public Health Service to analyze diesel blowby.

"Even though diesels are noisier and heavier than gasoline engines, they are used in trucks, buses and now some taxis and small delivery trucks because they consume less fuel," Meyer said.

Three components of exhaust and fumes contribute to air pollution, Meyer said. One component, such as carbon monoxide and oxides of nitrogen is dangerous in itself, he said. Another, unburned particles in exhaust, reacts with elements of the environment and then becomes harmful, he added.

"In California," Meyer said, "unburned hydro-carbons from exhaust react under the warm sun with elements in the atmosphere to form smog. This smog can irritate the eyes and is dangerous to plants. Its effects on respiratory systems are not yet fully understood."

Los Angeles suffers more from smog than other areas because of its climate and location in a "bowl," Meyer said. The area's high temperature speeds reactions between the undesirable parts of exhaust and elements in the atmosphere, he said, adding that little wind circulates in the bowl to clear the smog.

"Effects of air pollution in the East come more directly from the exhaust components than their reaction with the atmosphere," Meyer said.

Discussing the third element in air pollution, Meyer said, "Some partially burned hydro-carbons may also be harmful to the eyes. Others have caused cancer in rats

in laboratory experiments. Yet how long can these particles be dangerous in the open atmosphere? The amount of harmful fumes coming directly from an exhaust pipe naturally contrasts greatly with those in open air."

Attempts to eliminate these unburned or partially burned particles from exhaust have led to development of an afterburner to complete their reaction, Meyer said.

"A recirculation device in gasoline engines can also cut down the escape of some harmful fumes. The gases are not allowed to escape from the engine but are piped back through the system until they are completely burned."

Use of afterburners is a costly process, Meyer said; their initial cost is from \$150 to \$200.

"If required by law in order to cut down pollution, afterburners might raise the cost of automobiles so much that use of diesel engines might spread. Before this happens, we must know how much diesels contribute to air pollution."

In studying the components of diesel blowby and how they may contribute to air pollution, Meyer will measure the amounts of various gases from a representative truck diesel engine and will determine their noxiousness.

The investigations will not only concern engines in optimum conditions, he said, but they will also deal with the effects of wear, poor maintenance and improper adjustment on blowby.

Events of the Week

Today

DEMONSTRATION on the Art of the Woodcut, Ansei Uchima, 2:30 and 7 p.m., HUB ballroom

LIBERAL ARTS LECTURE SERIES, Dr. Bernard Oldsey, speaking on "Aspects of Literature," 7:30 p.m. HUB assembly

PEACE CORPS TALK, Mrs. Maris Rose, Peace Corps representative, Washington D.C., speaking on the present and future of the Peace Corps, 7 p.m., 10 Sparks

PHYSICS COLLOQUIUM, Dr. J. H. Vandermerwe, visiting professor of physics, University of Virginia, on "Stresses in Overgrown Films on Crystalline Substrates," 4:15 p.m. 105 Walker

SOCCER, Pitt, 2:30 p.m., varsity soccer field next to ice skating rink

Tomorrow

PSYCHOLOGY LUNCHEON COLLOQUIUM, Jerome Singer, assistant professor of psychology will speak on "Cognitive, Social and Physiology, Determinants of Emotion," 12:30-2 p.m., HUB dining room A, open to the public

TIM MOVIE, "Hemo the Great," Bell Science Series, 1 p.m., 6 p.m., HUB assembly

Thursday

CHAPEL SERVICE, "The Answer," by Swann, 11 a.m., Eisenhower Chapel

STUDENT MOVIE, "Ballad of a Soldier," Russian film, 3, 7, and 9 p.m. HUB assembly

WEST HALLS RECORD HOP, 8-12 p.m.

Hill Opposes Elex Representation

The proposed system of representation by living areas for Student Government Association elections was opposed last night by Ervin Hill, president of Inter-College Council Board.

"Since the beginning of the present school year, the student body has been awaiting some positive, workable student government constitution," Hill said. "The waiting is still going on. No matter what the outcome, the main stumbling block will be a feasible, fair representation system."

Hill said that he questions the sincerity and ability of the people who are now gathering petitions.

"Certainly, among these people are those that deserve SGA positions," Hill said, "but for they themselves, as well as their fellow students to find out their abilities, they can express their

willingness by putting in an effective apprenticeship in the college councils."

After serving this apprenticeship, students who have gained the confidence of their fellow members could run for council presidency, Hill said.

"The people elected to the presidency of designated organizations, such as college councils, residence councils, IFC and TIM and others, would automatically fill a voting position, that is to say, an Assembly seat," Hill said.

"In my position as president of ICCB," Hill said, "I have met among the members of the board, people who are, in my opinion, the most capable and enthusiastic leaders on campus."

"Their constituencies are actually better represented than any one represented by an Assemblyman has ever been."

TIM ICE SKATING PARTY

SATURDAY, NOV. 25

7:00-11:00

FIRST 100 UNESCORTED GIRLS FREE



Hat Society Program

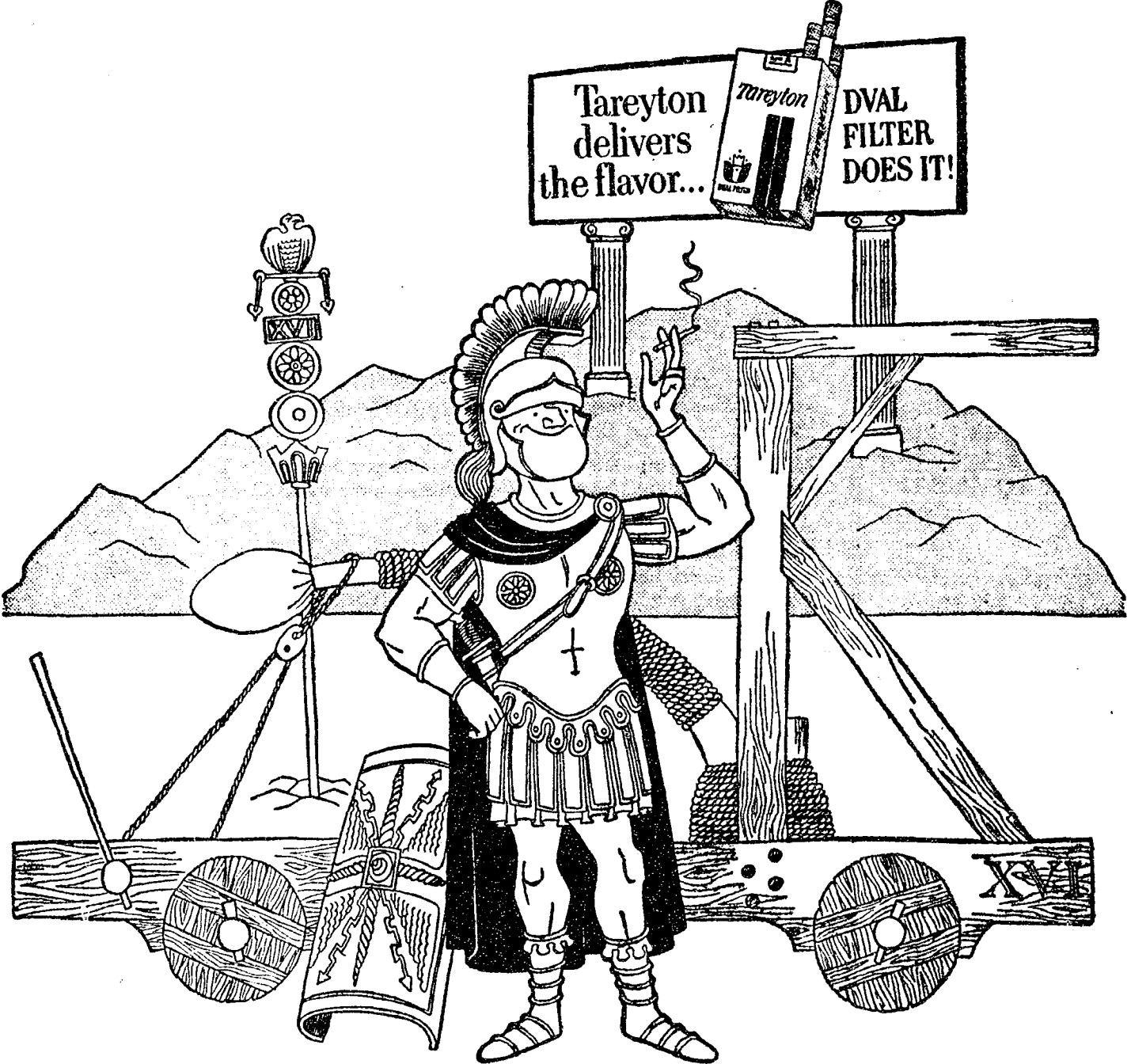
Scrolls, senior women's hat society, will sponsor a program to introduce students, especially senior women, to the University Placement Service at 8 tonight in 111 Boucke.



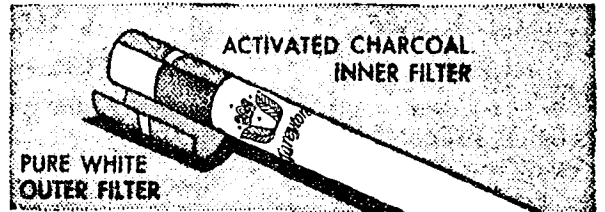
Lt. John Kennedy's desperate swim for survival

Read the authentic story of how President Kennedy—shipwrecked in the South Pacific—swam thirty hours through enemy waters. The story is in this week's Post.

The Saturday Evening POST



"Tareyton's Dual Filter in duas partes divisa est!" says Lucius (Dead-eye) Claudius, crack marksman of the XVI Cohort catapult team. "People come from Nero and far for Tareyton," says Dead-eye. "Vero, Tareyton's one filter cigarette that really delivers de gustibus. Try a pack and see why the whole gang in the cohort is forum."



DUAL FILTER Tareyton

Product of The American Tobacco Company - Tobacco is our middle name