

# Oceanographers studying waves below surface in Gulf

Dozens of meters below the surface of the Gulf of Mexico another set of waves roll in and break against the continental shelf of Texas. These waves were recently observed by Texas A&M University scientists from the research submarine "Diaphus."

While the existence of the waves is interesting, the real significance is how they affect dumping waste and drilling practices in the Gulf.

Drs. Thomas Bright and Richard Rezak of Texas A&M's Department of Oceanography lead a team that is starting the third year of this research a reconnaissance of offshore topographical features.

"We want to know what is living out there, the nature of the bottom and the processes active on the bottom," Dr. Rezak explained. "In this year's program we will map eight more fishing banks of the Texas-Louisiana Continental Shelf."

Beginning Sept. 7 operations using the university's submersible

will be carried out for 24 days and include direct observations on all eight banks.

"Some of these banks are living coral reefs while others are dead coral mounds," he went on. "Both kinds of banks support large fish populations that are important commercial and sports fisheries. Any damage to the banks would result in damage to the fishing industry."

The team will also do an intensive study of a cloudy layer, near the bottom, which they discovered in 1975.

"Last year, Dr. David McGrail devised dye marker experiments that were conducted from the submersible in which it was found there

is a complex of internal waves caused by differences in water density and other currents that is responsible for the "cloudy layer," noted Rezak. "Internal waves are propagated through the water and break on the continental shelf similar to surface waves breaking on the shore. This will have implications on the disposal of drilling effluents."

"Currently, in sensitive areas close to these living reefs, government agencies have required drilling companies to shunt wastes to a point 10 meters from the bottom," he pointed out. "If this happens to be within the cloudy mixed layer, the drilling material will be trapped in the layer and will not be diffused throughout the water column. Determining how long the pollutants will remain in the cloudy layer is the subject of current and future research."

The project has now been funded for a total of about \$2 million. The project will furnish information to the Bureau of Land Management and the U. S. Geological Survey on bottom conditions and life so the agencies can make policy decisions on drilling restriction such as the closeness of drilling to banks and the disposal of drilling materials.

From the standpoint of industrial contamination, the northwestern Gulf of Mexico is unique in that it receives runoff from rivers draining over one-third of the Continental U. S. It has been the site of the most intense development of offshore oil and gas resources along our coasts and it contains the two most used ocean dumping sites for chemical industrial wastes in U. S. waters.

Seemingly, if untoward environmental impacts are to result from the general polluting processes, there is a high probability that it will be manifest first in the northwestern Gulf. Conversely, if management procedures are used to protect ocean resources that are successful, then they should be equally successful elsewhere.

# Miller says board wants stronger Corps

Responsibilities of Corps of Cadets leadership for Texas A&M's 1977-78 school year were detailed last week at the start of Commanders' Conference.

President Jarvis Miller, Vice President John Koldus, Gen. Ormond Simpson, assistant vice president for student services, and military officials addressed Corps seniors and juniors.

"You and I have some major responsibilities," said the Texas A&M president. The best education possible comes first, followed by using efficiently all possible resources to achieve other goals, Miller said.

He suggested character building be structured to develop the total person.

"The Board of Regents intends that we maintain and strengthen the Corps of Cadets," President Miller informed the cadet leaders.

Cadet officers were sworn in for 1977-78 by Army Col. James R. Woodall, new commandant who arrived

in July. He also introduced Air Force Col. Kenneth Durham, recently arrived professor of aerodynamics, and Col. Jack Ivins, professor of naval studies. They presented new detachment personnel.

Dr. Koldus pointed out that Corps commandant under Cadet Col. Mike Gentry will be called to many decisions. He recommended that all possible puts be considered in making them.

"Second guessing is easy," Koldus said. "The making is tough."

"You are on the threshold of what can be one of the greatest years for the Corps in many years," Gen. Simpson said. "All the ingredients are present."

"In my opinion, you are the best potential the Corps has had in my time here," Gen. Simpson said.

Corps organization for the Monday, Aug. 29, fall classes will be conducted Saturday and Sunday

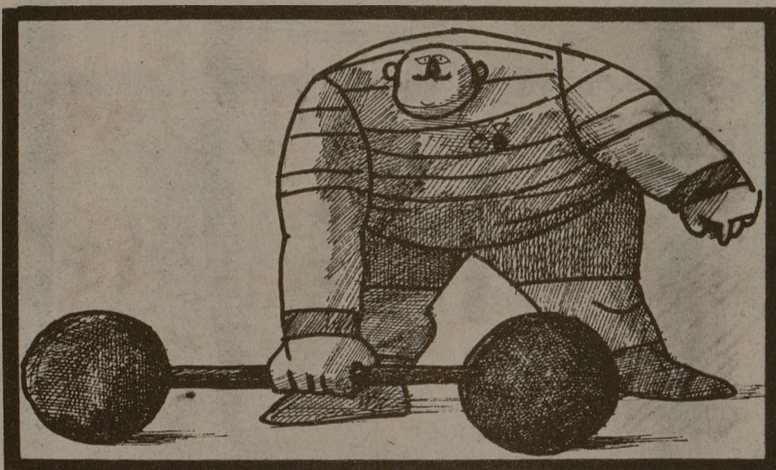
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## Women working harder, but men getting more pay

NEW YORK — Caution: Reading the following may be harmful to the male ego.

Women work longer and harder on the job than men do, according to a time use study by University of Michigan social scientists.

But the men in the study earned more than comparably qualified women. And investigators at the University's Institute for Social Research say the wage gap was even greater when one considered the study results showing that women worked longer.

Greg Duncan, study director, said the time and use study showed:

✓ The average employed man spends 52 minutes, — or 11 per cent of each working day, — not working. He kills time through

scheduled coffee breaks, unscheduled break times relaxing and conversing, and lunches beyond the normal hour.

✓ The average working woman spends just 35 minutes, or 8 percent of the day, in such times out.

Duncan and Frank Stafford, a University of Michigan Professor of Economics, said on the average the working man earns \$7 an hour and the working woman, \$4.34.

To determine that women worked harder than men, the investigators applied a work effort scale to the analysis of performance by their subjects — 208 men and 168 women.

They found:

✓ The effort women give the job is 112 per cent of that given by men.

work experience and total yearly work hours are taken into account, this goes up to 115 per cent.

✓ Craftsmen, operatives, males, young people and individuals with high monthly incomes spend the most time in either formal or informal work breaks.

✓ Professionals, union members and part-time employees working less than 30 hours a week, and unmarried women expend the greatest effort per hour at work.

✓ Unmarried women received the least amount of break time and scored highest on the work effort scale.

✓ Married men scored slightly higher than did unmarried men on the work effort index, but they also took more total break time.

chandise manufactured with thought to the consumer.

"I'm sure no reputable manufacturer wants to abdicate his responsibility for making quality products. But you have to have some protection from liberal decisions in courts," he said.

"If we make a mistake, we're to pay for it. But we don't think should be called to defend our or intentional misuse of our products by the consumers."

Horror stories about damage settlements are plentiful, Schierholz said. Someone using his lawnmower as a hedge trimmer or six-figure judgment, he said, cause there was no sign of a mower saying it shouldn't be that way.

Emerson Electric Co. had ball players try to bend a valve on a water heater out of and it wouldn't budge, Schierholz said. But if someone stomps on it will bend, so \$2.80 had to be added to the \$10 price to cover the price — a price hike of 28 per cent.

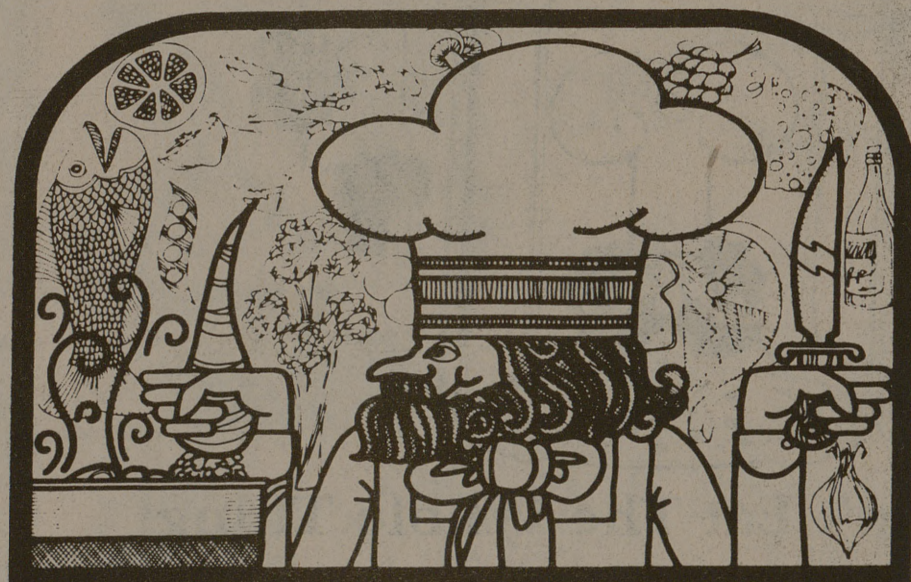
Businessmen are seeking year statute of limitations on manufacturers to close the books on products out of their control in a reasonable time. So-called "the art" legislation, preventing products from being judged by modern standards, also is sought, Schierholz said, costs will increase.

"We had a \$300,000 suit for \$600. You know that had a nuisance suit if they were willing to settle for that, but meanwhile we had a lot in legal fees."

What would help most, he said, would be some well publicized cases in which the plaintiffs lost and were forced to pay legal fees in their own sides.

But even without such cases, Schierholz wouldn't be surprised if the problem of product liability became a common one.

"Medical malpractice," he said, "is peanuts compared to this."



## BIG MEAL DEAL

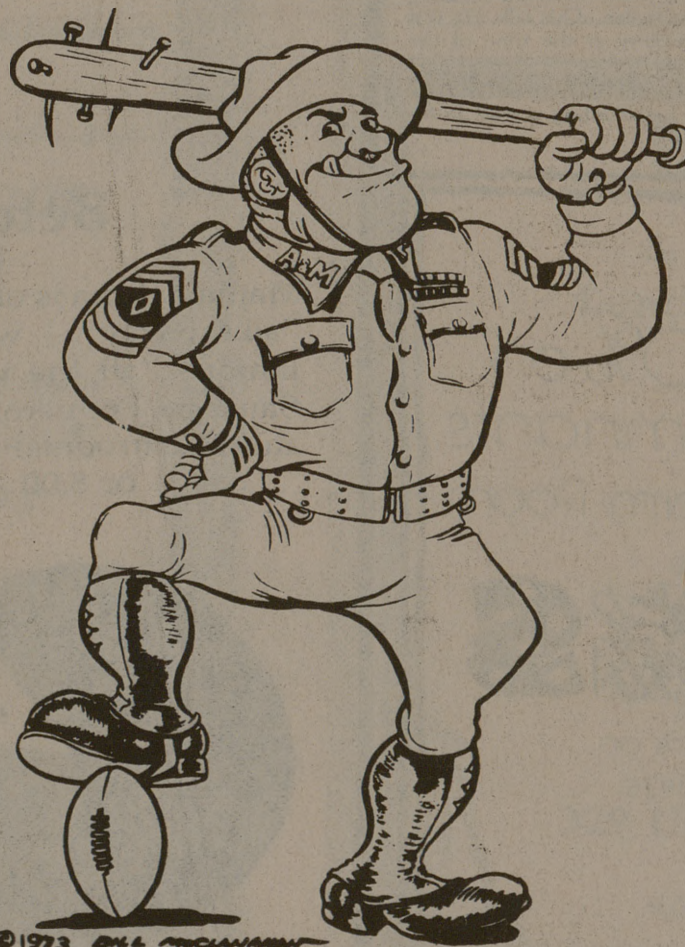
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