

Scientists study toxicity

Arsenic may be essential

Arsenic is everywhere in our environment, even algae and other marine organisms, that will one day become sources of human food, absorb arsenic.

Texas A&M University scientists say arsenic and its compounds have acquired a reputation of being extremely poisonous, cancer causing and generally detrimental to life.

Dr. Kurt Irgolic heads an interdisciplinary team of investigators which is attempting to clarify the chemical conversions undergone by arsenic compounds in living organisms.

"There is no doubt that some arsenic compounds at certain concentrations are toxic," said Dr. Irgolic. "However, their toxicity seems to be overrated, not only by the public, but also in scientific circles."

"History has shown that some elements, which have been considered to have only toxic properties, have recently been found to be essential for life," he said.

So far, most investigations concern

ed with arsenic in natural systems have made no distinction between inorganic and organic arsenic compounds (this conversion is important to effects on life). Also, very little work has been directed toward the isolation and characterization of arsenic compounds occurring in living organisms, in the water or the soil.

"We are growing algae in a sea water medium containing sodium arsenate," said Dr. Eleanor Cox of the department of biology. "The algae incorporate arsenic and convert the inorganic arsenic into what we believe to be an organic arsenic compound."

"We know that various molds and bacteria convert inorganic arsenic into organic arsenic compounds which are released as gases," said Dr. Ralph Zingaro of the department of chemistry. "A classic example occurred in the 1890's when a number of people, who either slept on a green couch or spent a considerable amount of time in a room with green wallpaper, became ill."

"Years later, investigators found that a copper-arsenic compound used in the green pigment was responsible for the maladies," he said. "The pigment did no harm until it got old and mildewed. Microorganisms then transformed the inorganic arsenic into gaseous methylarsines, which started making the people sick, tired and weak. As a result, they slept more and were further exposed to the gas, making them even sicker."

"So, we've known for a long time that molds and bacteria can produce products which are poisonous," he said. "It is also known that other organisms, such as algae, interact with arsenic but do not release arsenic containing gases."

"Nobody knows which arsenic compound is present inside an algal cell," added Dr. Nestor R. Bottino of the department of biochemistry and biophysics. "Since algae serve as food for many animals, these arsenic compounds can be passed along the food chain and accumulate in certain organisms."

"Our goal is the positive identification of arsenic compounds as they occur in algal cells," Dr. Irgolic said. "After we have solved this problem, we hope to identify arsenic compounds in higher organisms such as crayfish, fish and perhaps mammals. Preliminary studies have shown that arsenic is associated with the fat of the algae."

Arsenic compounds have also been added to the environment via insecticides and herbicides. Chemical companies are also looking for places to dump arsenic containing manufacturing residues. Researchers feel that it is necessary to know how arsenic reacts with and is transformed by biological systems.

The project is funded by the Department of Health, Education and Welfare's National Institute of Environmental Health Sciences.

Other members of the team include: Dr. Shigeru Maeda, post-doctoral research associate from Japan; R. Stockton, R. Pyles and R. Newman, graduate assistants, and Mrs. P. Tomme, technician.

Aggie game donations support student loans

When a college student with no credit rating runs short of funds, what does he do? At Texas A&M one alternative is the Campus Chest.

The Chest is a fund designed to help Aggies in need. It is supported entirely through donations, most of which are received at Kyle Field after home football games.

Loans from the Campus Chest must be repaid within 180 days and are interest free. However, if a loan is not paid by the due date, an interest rate of 1 1/2% per month (18% per annum) is charged on the unpaid balance.

If a student defaults on a loan, the Campus Chest cannot withhold grades or transcripts, the usual procedure used with a student who owes the university money. Student Government Vice-President for Finance Scott Gregson said Tuesday that Campus Chest can file suit against the delinquent student, but never does so. "The Campus Chest

is not a collection agency," Gregson said. He added that Campus Chest is trying to obtain the right to withhold grades and transcripts.

Gregson acknowledged that the Chest has had a problem with default. From Sept. 1, 1975 until Aug. 31, 1976, Campus Chest made 78 loans. Of these, 64 were for less than \$100, of which 14 were defaulted. Fourteen loans were for more than \$100, of which 7 were defaulted. The largest loan was for \$250; it has not been repaid. The Campus Chest currently has \$2,891 in loans outstanding.

New rules have been created in an attempt to tighten up, Gregson said. Rules specify that no applicant may be on conduct or scholastic probation; no applicant may have a loan already outstanding with the Campus Chest; funds should be given only if the applicant cannot obtain aid from any other source; and all allocations be limited to a maximum of \$100 unless approved

by the Campus Chest Chairman and three Executive Committee members of the Student Government. One of the member must be either the Vice-President for Finance or the Student Body President.

Concerning the rule stating that funds should be given only if the student cannot obtain them elsewhere, Gregson explained that many students cannot borrow from banks, not because of bad credit rating, but because of no credit rating.

A new rule stating that no member of the Executive Committee or the Campus Chest Chairman may apply for a loan has also been included. Gregson said there have been problems with Executive Committee members approving their own loans and defaulting.

Yale lock invented in 1848
DES MOINES (AP) — The Yale lock was invented by Linus Yale in 1848.

University regulates campus concessions

By MICHAEL GIBSON

Any solicitation on campus must have the approval of the University Concessions Committee, according to the Texas A&M University Concessions Committee.

The committee, chaired by 34-year-old Ron Blatchley, associate director of student affairs, is responsible for the regulation of sales, donations, collections and taking orders on campus. Students at A&M, recognized University organizations and businesses supplying a distinct service to the students are eligible for concession permits.

Much of the committee's business is with individual students.

"There's everything from bake sales to the sale of mums," Blatchley said Monday. "Anything to make a dime."

The committee itself is made up of both University staff and students. Staff members are appointed to the committee by Dr. John Koldus, vice-president of student affairs. Student members are recommended by the student body president and are subject to Koldus' approval.

Open weekly meetings are held on Wednesdays at 2 p.m. in the YMCA Building 103. Applications for permits are reviewed at these meetings. Although requests usually must be submitted by 5 p.m. Tuesday, emergency requests between regular meetings may occasionally be approved.

Full information on application for permits is available at the Office of the Director of Student Affairs, Room 103, YMCA Building.

Briscoe gives priority to dam, not wildlife

Associated Press

AUSTIN — Drop the wildlife habitat issue and get on with issuing a permit for the Limestone Reservoir, Gov. Dolph Briscoe has urged the U.S. Army Corps of Engineers.

The reservoir project is on the upper Navasota River, approximately 25 miles north of College Station.

The Texas Parks and Wildlife Department and the U.S. Fish and Wildlife Service have recommended that the Corps withhold a permit until arrangements have been made to buy more than 15,000 acres of land to compensate for wildlife habitat the lake would flood.

In a letter to the Corps' district engineer in Fort Worth, Col. Joe Sheard, the governor said it was the state's position that the project be completed at the earliest possible time. He said the Corps should issue the permit "immediately without any delay for further mitigation discussions and/or evaluations."

"This important water resource development project has the full approval of the state of Texas. It is urgently needed as an element of the Brazos River Authority's basin-wide system of water conservation and water supply lakes."

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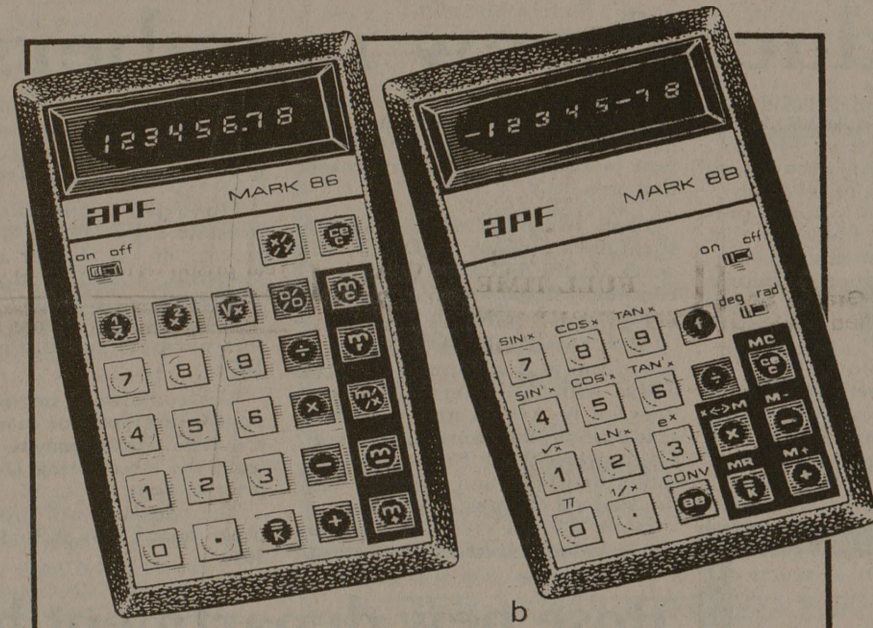
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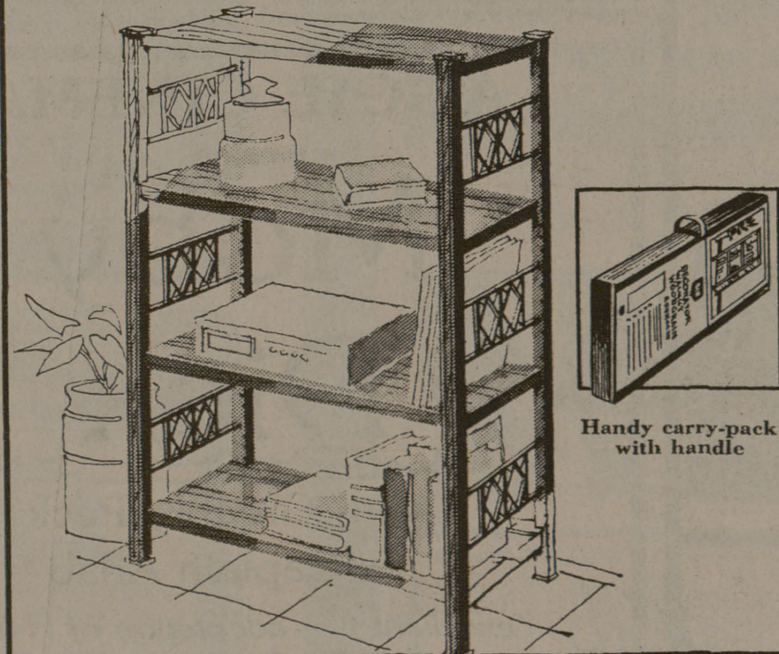
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