

opment, "the proposal is being treated as urgent because the company's development program requires port facilities by the end of 1970." Another reason for haste mentioned by Fairbairn is that population and buildings are growing at such a rate that shortly the region will no longer enjoy the luxury of large unoccupied spaces.

**This summer** a nuclear test will be conducted in this country to make sure the design for the explosive is correct so that it produces the right yield and functions properly for blasting the harbor. The feeling of the AEC is that the tight schedule—a deadline of December 1969 or January 1970 at the latest—can be met. The port should then be in operation by 1971, the date deemed necessary by Sentinel.

The cost of the nuclear explosives is estimated at \$5 million. When completed, the harbor's total cost should run from \$12 million to \$14 million.

The project comes under the AEC Plowshare Program, which seeks to use nuclear explosives for peaceful purposes. The information gained from an Australian nuclear excavation project would be valuable for the upcoming proposed nuclear blasting of a new Panama Canal.

The Cape Keraudren project would set a precedent for the procedures in handling other nuclear excavations outside the United States. Another precedent could be set in the area of international relations, depending on the feasibility results.

The Limited Test Ban Treaty signed by the United States and the Soviet Union in 1963 prohibits nuclear testing in the atmosphere. If the feasibility study shows the possibility of radioactive venting, the U.S. Government would argue that the blast, strictly for peaceful purposes, is not a violation of the treaty spirit. Barring agreement by the signatories, a second possibility is an amendment to the treaty.

**On the other** hand, the proposed Nuclear Non-Proliferation Treaty, which is still awaiting Senate approval, urges international cooperation in harnessing the atom for peace, including the furnishing of atomic assistance to nuclear have-nots.

According to a U.S. State Department's official view, there is no need as yet for the U.S. to address itself to the potential problem with the Soviets until the feasibility study is completed and its results analyzed.

Representative Craig Hosmer (R-Calif.) disagrees. In view of the conflict between the Test Ban Treaty and the Non-Proliferation Treaty, he says, "I suggest that it is time to discuss with the U.S.S.R. and other appropriate countries the proposition of clarifying, formally or informally, the non-appli-

cability of the Limited Test Ban Treaty's restraints."

For Australia, the project could signal the start of many domestic improvement programs involving nuclear excavation, such as the creation of underground caverns for water storage in case of drought, shaping a new inland sea and dam construction. One Australian company is already looking at Cape Preston, 100 miles to the southwest, as a follow-up to Cape Keraudren.

## NUTRITION

### Documenting the hungry



U.S. Public Health Service

*Mute testimony to hunger in America.*

Before he was elected to the United States Senate, George McGovern served as director of an agency called Food for Peace. Its purpose was to make available America's agricultural surpluses to the hungry overseas.

Now McGovern finds himself heading a select Senate Committee which is trying to find some way to feed the hungry at home, and it is one of the ironies of the present human condition that his first job was probably easier.

One of the reasons, undoubtedly, is the intrusion of domestic politics into the problem of domestic hunger. Senators and Congressmen are not eager to have the world know that some of their constituents are malnourished.

Southern legislators, in particular, resent it when Northern colleagues invade their home states and discover festering pockets of poverty. Last April, a Senate labor subcommittee headed by the then Sen. Joseph Clark of Pennsylvania, and including the late Robert F. Kennedy, discovered widespread malnutrition in the Mississippi Delta.

Their findings only underscored an earlier report by a committee of doctors who went to the same area on a foundation grant and came back with the same conclusions.

Both these efforts dealt only with a

relatively small region, while the McGovern committee has taken on the problem in national terms, but opposition in the Senate leaves his committee fiscally undernourished. Last year McGovern asked for \$170,000 and got \$25,000. This year the committee, which bears the impressive title "The Senate Select Committee on Nutrition and Human Needs," would like \$250,000 to carry on its work. As committee appropriations go, this is a modest request. Its expectations, however, are not high.

**There are** 54 Senators lined up in favor of the committee, but how many of them will deliver the requisite ferocity in the coming floor fight over its budget request is highly conjectural.

With a shrunken budget, and with prospects so highly tentative for getting much more money this year, McGovern's committee has done about the only thing it could do: it has brought nutrition experts to Washington, listened to their testimony, and hoped that an outraged public would exert pressure on Congress to grapple with the problem. Being a select, rather than a standing legislative committee, it has little leverage beyond that hope.

**Among the things** the committee has learned, and will report to the Senate on June 30 and Dec. 31:

- One-sixth of the United States is ill-fed, according to Dr. Arnold E. Schaefer, a Public Health Service expert on nutrition, who drew his conclusions from a survey of 12,000 poor people in Texas, Louisiana, Kentucky and New York.

- One in every three children under the age of six in the survey was found to be anemic; and 3.5 percent were physically stunted and often mentally retarded as well.

- Goiter, long thought to be a disease of the past, was found in 5 percent of those surveyed.

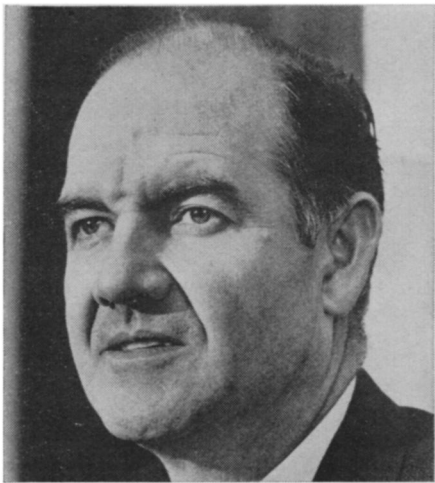
- Nearly one-third of the children under six years of age suffer from night blindness, a retinal malfunction caused by lack of vitamin A.

- Vitamin C levels were found to be below even minimal nutrition standards in from 12 to 16 percent of all age groups.

- Nearly 4 percent of the children under the age of six showed a vitamin D deficiency.

- Four to 5 percent of the people in Dr. Schaefer's survey exhibited either winged scapula or potbelly, or both. These are diseases associated with protein and calorie malnutrition.

- A direct connection was drawn between poverty and high infant mortality, mental retardation in infancy, and irreversible failure of brain growth due to malnutrition in early childhood. Similar findings were emphasized by



McGovern: "It's a moral outrage."

such experts as Dr. D. M. Hegsted of the Harvard School of Public Health, Dr. Charles U. Lowe of the American Academy of Pediatrics, and Dr. Walter Unglaub of Tulane Medical School.

Was this enough to trigger some sense of outrage? It was for McGovern. And committee staff members report that there has been considerable reaction from many quarters. But to be constructive, the outrage, in their view, must be converted into Congressional funds for further hearings, and eventually into legislation, which McGovern will probably introduce in any event.

Having listened to the experts, the committee is now planning to go into the field and hold hearings in selected states.

New Jersey is the first to have the dubious honor, and this time the expert witnesses will be the world's undisputed champions—hungry people themselves. This is not likely to win McGovern friends from among New Jerseyites.

The committee will also listen to administrators of food relief programs tell their stories, and it is expected that these will deal with the often appalling infighting among political factions while the hungry get hungrier.

The committee would like to hold another round of hearings before the Senate in Washington, but that is the last item on the priority list right now.

It would also like to hear from the new Secretary of Agriculture, Dean Clifford M. Hardin, formerly of the University of Nebraska, but so far the Agriculture Department has not been in touch with the committee.

These are the things the committee would like to do, but if its appropriations are cut off or drastically reduced, and either is highly possible, it will then find its cause sinking inexorably beneath the waves of Congressional indifference.

Yet even if this should happen, some

of its champions will remain convinced that the committee has accomplished something worthwhile. "We documented the case that hunger exists in this country," a staff member said, "and nobody on the Hill ever did that before."

## SEALAB AND TEKTITE

### The second is first

The bizarre subsea habitat called Sealab 3, plagued by mechanical problems and a major mishap, is languishing on California's San Clemente Island. It looks like a misplaced railroad tank car, but is stranded like a fish out of water.

Originally to have been placed 620 feet down on the continental shelf off San Clemente last Oct. 15, Sealab has been held up by repeated equipment problems until at least late February.

One of its early difficulties appears to have been leaks of helium, the inert gas used instead of nitrogen in the habitat's breathing mixture to prevent intoxication at the extreme pressure. Helium's tiny molecules can, and did, find almost invisible openings to leak through, even when nitrogen would not leak at all.

A second problem was with Sealab's two 12-ton Personnel Transfer Capsules, large canisters intended to carry aquanauts up and down between the habitat and the surface. The capsules were each designed to have 1,000 pounds of positive buoyancy, or tendency to float, so that they would bob to the surface in an emergency and put less strain on the lowering gear. Instead, they turned out to be 2,250 pounds negative, meaning a total for both capsules of more than three tons of excess weight.

To make the capsules float, engineers replaced five spare bottles of helium and helium-oxygen mixture with buoyancy tanks. So now they're buoyant—



Navy

Sealab 3 still awaits its chance.

but by only half the originally intended amount.

The major mishap occurred when one of the capsules was being lowered in a routine unmanned dive last Dec. 2. The descent was intended simply to straighten out the cable on a deck reel; the capsule had already made six successful dives with aquanauts aboard on the same day.

But when the capsule was pulled up, shocked engineers found it full of water, its sensitive instruments and communications gear severely damaged. The culprit, apparently, was an improperly sealed hatch.

Last week, with much of the equipment rebuilt or completely replaced, the engineers were preparing the capsule for a full certification dive to 620 feet, in hopes that they would be able to set a new date for Sealab to get underway. A flawless test, Navy officials said, might let it begin less than two weeks later, although the complex capsule may need more work.

Meanwhile, though Sealab will ultimately make it look like small pickings on almost all counts—depth, manpower, budget and publicity—another ocean floor dwelling called Tektite is about to take the play away. Tektite 1 will be the scene of the longest continuous periods that man has ever lived and worked beneath the sea.

By contrast to Sealab, Tektite 1 has been going without a hitch. The General Electric Co., in Philadelphia, which is providing the habitat for research by the Interior Department, the Navy and the National Aeronautics and Space Administration, began its final design only last February. But it finished the habitat early in November. The residents were to take up occupancy Feb. 15, and that target date hasn't moved a day.

Unlike the deep, dark, cold ambience facing Sealab 3, Tektite 1 will be immersed in only 47 feet of clear, 78-degree water off St. Thomas in the Virgin Islands. There, two oceanographers joined by a geologist and a fishery biologist will spend 60 days together, five times as long as the 12-day stints planned for each of the five Sealab aquanaut teams.

A major goal of the experiment, in fact, is to see how a small group of men fares when confined for an extended period, with no respite from one another's company, in a demanding situation. The space agency is interested in the psychological effects as they might be found on long-term space flights such as extended earth-orbiting missions. To prevent any refreshing contact with the outside world, NASA has forbidden visiting divers around the habitat, even to take pictures.

The habitat itself resembles two big