

## PUBLIC HEALTH

**Sea Salts Not Necessary In Diet, AMA Decides**

► THE AVERAGE AMERICAN mixed diet, except for iodine and iron deficiency in certain areas, needs no bolstering with mineral sea salts, according to the American Medical Association.

Nutritional claims made for such commercially prepared salts are typical of the claims made by food faddists.

Dr. Ogden C. Johnson of the AMA Council on foods and nutrition reports in the *Journal of the American Medical Association*, 175:265, 1961, such claims are invariably made by food faddists and quacks whose "prime interest is in making money."

Physicians reading the *Journal* also will get some advice on lead poisoning connected with industries from Dr. Perk Lee Davis, Paoli, Pa. (p. 257) and Dr. Frederick E. Zimmer of Danville, Pa.

Dr. Davis's patient was a 43-year-old gas-station owner who washed the upper part of his body with gasoline at the end of a day's work, but always bathed with soap and water later at home. Although his complaints were severe, three daily intravenous injections of edathamil calcium-disodium in five percent glucose in water and an intramuscular injection on the fourth day of dimercaprol (BAL) produced complete recovery.

Dr. Zimmer reported that seven scrap metal workers suffered lead poisoning while using torches to cut heavily painted steel bridge girders. Poisoning resulted from the high concentration of lead found in the fumes created by the work.

Samples of air taken where the men were working contained up to 20 times the maximum allowable concentration, he said, adding that paint chipped from the girders contained 21.6% lead.

• *Science News Letter*, 79:72 February 4, 1961

## GEOGRAPHY

**Volunteer Map-Makers Produce Two Atlases**

► TWO LARGE GROUPS of volunteers have put finishing touches on two atlases that would have cost millions of dollars to compile if the work had been done by professional geographers.

One of the new atlases, made by English geography teachers and students, records how all land in England and Wales is being used. It is the first national land use survey made in more than 30 years.

Recorded in the new atlas, which has 848 sheets in all, are 14 categories of industry, houses, gardens, open spaces, grassland, every varied use of arable land, every kind of truck garden, orchards, woodlands, heath, scrub, marsh and water. For the first time, all derelict land in the two countries has been mapped, as well as caravan sites and disused railroad tracks.

The project was sponsored by the Isle of Thanet Geographical Association, whose

chairman, Miss Alice Coleman, a geographer of King's College, London, led the volunteer map-makers.

The other "do-it-yourself" mapping job was carried out by more than 2,000 observers and is a complete "plant atlas" of Britain. It is now being printed in Cambridge, England, and will be published in February, 1962.

This volume, which will have more than 500 pages, will record on separate "plant maps" the distribution of some 1,700 specimens. It was prepared by the Botanical Society of the British Isles under the direction of Dr. Franklyn H. Perring of the Cambridge University Botanic Garden.

One finding of the survey is that the sundew, which catches small insects by trapping them in its sticky leaves and is one of only three carnivorous plants in Britain, is dying out. This is attributed to the increased drainage of the wet, marshy places that are the sundew's natural habitat.

• *Science News Letter*, 79:72 February 4, 1961

## MEDICINE

**Hormones Prolong Life After Heart Attacks**

► PROLONGATION OF LIFE for male heart patients through use of female hormones is claimed by a woman physician and four male colleagues at the University of Southern California and the USC School of Medicine.

Premarin, a preparation of conjugated equine estrogens, improved the survival of 62 men who had had one or more heart attacks, Dr. Jessie Marmorston told the western section of the American Federation of Clinical Research meeting in Carmel, Calif.

During a period of three to 18 months of uninterrupted treatment, she said, only three of the 62 died, compared with 123 untreated men among whom there were 17 deaths.

There was no effect on survival time of men treated with two other types of female hormones, or estrogens, Anvene and Lynoral, given to 73 and 96 patients respectively, Dr. Marmorston said.

Blood fats were lowered (cholesterol phospholipid ratio) among the heart patients who took Lynoral and Anvene, which, unlike Premarin, had no effect on the survival time.

Dr. Marmorston said these results show it is possible to improve the survival time without lowering the blood fats, and that lowering the blood fats, contrary to the opinion of some scientists, does not necessarily lengthen life. (See SNL, 78:212, 1960.)

The study was supported by grants from the Albert and Mary Lasker Foundation and the National Heart Institute.

Also participating in the research were Dr. Frederick J. Moore and Dr. Oliver T. Kuzma of the University of Southern California, Dr. Oscar Magidson of the University of Southern California Medical School, and John Weiner of the University of California at Los Angeles School of Public Health.

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**IN SCIEN**

## DENTISTRY

**Tooth Decay Healed By Rehardening Enamel**

► A METHOD for preventing and curing tooth decay has been found. No drilling and filling, only chemical solutions that reharden the tooth enamel in the spots beginning to decay are used.

Drs. Theodore Koulourides, Heriberto Cueto and Ward Pigman, biochemists at the University of Alabama Medical Center, in Birmingham, Ala., were successful in rehardening tooth enamel in test tubes containing solutions of calcium and phosphorus.

More than 300 teeth were softened in an acetate buffer solution and then exposed to the rehardening agents. Teeth placed in a chemical solution of secondary calcium phosphate dihydrate returned to their original hardness in eight days. Those in synthetic hydroxyapatite solutions containing one part per million of fluoride rehardened in four hours. Hydroxyapatite is a natural inorganic component of teeth.

Teeth softened beyond a certain point in the hardness scale, however, could not be rehardened appreciably. This point, the researchers believe, represents the boundary between sound and decaying enamel, and attempts to reharder such soft teeth probably would be futile.

Those teeth that did reharden resisted softening solutions more vigorously than they had previously, the biochemists reported in *Nature*, 189:226, 1961.

They conclude that the beginning stages of decay probably can be healed or prevented by modification of the oral fluid.

• *Science News Letter*, 79:72 February 4, 1961

## MEDICINE

**Milk Allergy Suspected In Ulcerative Colitis**

► ALLERGIC REACTION to milk is now strongly suspected as a cause of ulcerative colitis.

Dr. S. C. Truelove of the University of Oxford, England, reported that a number of his patients with ulcerative colitis seemed to improve when milk was removed from their diets. Five of the patients agreed to drink milk again to see if the symptoms recurred. Within a few days or weeks, all five patients had another attack of colitis, characterized by discharge of blood and mucus from the lower digestive tract.

Cheese caused the same reaction in all five, as did eggs for two of the patients.

The odds that the relapses occurred by chance are about 1,000 to one, Dr. Truelove reported in the *British Medical Journal*, Jan. 21, 1961.

• *Science News Letter*, 79:72 February 4, 1961

# CE FIELDS

## ENTOMOLOGY

### Black Widow Spiders Plague Parts of Hawaii

► BLACK WIDOW SPIDERS are heavily infesting parts of Hawaii, the Agricultural Research Service reported in Washington, D. C.

The black widows were found in large numbers under the galvanized-iron termite shields of buildings at Leeward Estates, a fairly new subdivision at Ewa, Oahu. About 50 acres of land being developed by Oahu Sugar Company on the coral shelf of Waipio Peninsula had one large black widow female per square foot.

Such large numbers of black widows have not been seen in Hawaii since 1944. At that time, an insect, *Eurytoma latrodecti*, that parasitizes the eggs of the black widow appeared on the island.

Field investigators reported that the sites plagued by black widows are also overrun with mice.

At present there seems to be no need for a spider scare. The black widow, a poisonous spider, avoids human contact. There has been no noticeable increase in the number of bites, and the egg parasite is now destroying about 90% of the black widow's egg masses.

• Science News Letter, 79:73 February 4, 1961

## PUBLIC HEALTH

### Recommendations Made For Polio Control

► FOURTEEN RECOMMENDATIONS for the control of poliomyelitis were submitted to the Surgeon General of the Public Health Service by his advisory committee at the conclusion of its two-day meeting at the Service's Communicable Disease Center, Atlanta.

Eight of the recommendations concern more intensive use of the Salk, or formalin-inactivated vaccine now available to prevent polio during 1961. Six deal with programs for the future after oral vaccine becomes available.

The advisory committee included representatives of the public health and medical profession and the general public.

A "Babies' and Breadwinners' Campaign," referring to the need for vaccination of young children under six years of age and to the plan for local community drives to reach the lower socio-economic levels, was endorsed.

Among the immediate steps to be taken are intensification of the vaccination program with available Salk vaccine. First priority is to be given to attaining complete and early coverage of the infant and preschool group under six years of age.

Each state and local health department should accept responsibility for seeing that

there is effective organization of medical, public health, educational and citizens' resources within its jurisdiction, the recommendations state.

Further research is recommended in the field of inactivated as well as live virus vaccines. It is planned to have reserves of polio vaccine for epidemic use and to give assistance to other countries for the control of polio.

Efforts are to be made to provide more potent inactivated vaccine that will require fewer doses.

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## TECHNOLOGY

### Use Radioactive Wastes For Water Conversion

► RADIOACTIVE WASTE products from atomic plants may soon be a source of energy for converting salt water to fresh water. This use could help solve the problem of disposing of highly radioactive material, and also help combat the growing water shortage in the United States.

Dr. A. L. Miller, director, office of saline water of the Interior Department, Washington, D. C., reported that the energy from the waste products could provide the heat source for a salt water distillation plant. One batch of radioactive material, in powder form, could give off heat for 15 years, he estimated. Cost for this heat source in the United States would be competitive with oil and other forms of energy, Dr. Miller said.

The powder is left as a residue when highly radioactive liquid waste material is heated at high temperatures, driving off all the gases. The powder remaining is easier to transport and safer to handle than the bulky liquids.

Dr. Miller said that a distillation plant utilizing this heat source will be built in the near future in cooperation with the Atomic Energy Commission.

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## VETERINARY MEDICINE

### X-Rays Valuable for Animal Pregnancies

► ANALYZING PREGNANCIES in pets is one of the most valuable uses for X-rays among animals.

X-rays can be used for almost as many conditions in animals as in humans, Dr. W. C. Banks, professor of veterinary radiology at Texas Agricultural and Mechanical College, reported.

Dr. Banks told the Wisconsin Veterinary Medical Association in Milwaukee, Wis., that the use of radiology for pregnancy analysis includes determining if pregnancy exists and whether the female has given birth to all the babies in her litter.

Pneumonia can be diagnosed by X-ray, he said, by showing lung congestion, if any, and malignant tumors can be studied. The use of film in preference to the fluoroscope was suggested by Dr. Banks, because a film can be studied more thoroughly than a screen.

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## MEDICINE

### New Technique Repairs Encrusted Heart Valves

► HOPE IS OFFERED to patients with a heart condition known as acquired aortic stenosis through a new technique for repairing calcium-encrusted heart valves.

Drs. Donald Mulder, Albert Kattus and William Longmire of the University of California, Los Angeles, Medical School reported their experience with 13 patients on whom the new surgical procedure was performed.

In acquired aortic stenosis, a calcium compound encrusts the valve that controls flow of blood through the large artery (aorta) emerging from the heart. As a result blood flow is obstructed, and heart pain, fainting spells or failure of the heart may result.

In the new surgical procedure, the calcium deposits are removed from the valve, and the obstruction is thus relieved. Any damage caused by the deposits is repaired so that the valve function is restored.

All 13 of the patients on whom the procedure was performed have had relief from symptoms and continue to show improvement. Some have been followed for as long as two years, the doctors reported in the *Journal of Thoracic and Cardiovascular Surgery*.

They said it was too early to predict whether or not the calcium deposits will recur.

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## METEOROLOGY

### Ancient Inscriptions Used to Study Sun

► ANCIENT INSCRIPTIONS of Egyptians and Chinese are being studied by modern day scientists to learn more about the ways of the sun. Together with modern scientific methods, scientists are trying to determine the sun's activities during the last 1,700 years.

Sunspot and "northern lights" observations in Asia, North Africa and Europe as far back as 220 B. C. have been used, D. Justin Schove of St. David's College, Kent, England, told the combined New York Academy of Sciences and American Meteorological Society meeting in New York. These observations are depicted, for example, on dated wall paintings by the medieval Chinese.

From this material, periods of strong and weak solar activity have been determined, and changes in the length of the well known 11-year solar cycle have been found, Mr. Schove said. The great famines and droughts recorded by the Islamic people in Asia reflect the effect of the solar cycle on the climate.

Modern scientific methods will supplement the studies of ancient records, the scientist said. Radiocarbon dating of tree rings and clay varves on lake bottoms will permit scientists to determine solar cycles even before 220 B. C.

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