

## PSYCHOLOGY

**Thumb-Suckers Seen as Hungry Little Babies**

► LITTLE MONKEYS, like little babies, suck their thumbs when they are hungry. And the hungrier they get, the more they thumb-suck.

Three-month-old monkeys, research shows, start sucking their thumbs about half an hour after feeding and keep it up for more than seven hours. Older monkeys, more than six months old, barely suck their thumbs at all until at least two hours after feeding.

Like three-month-old babies, the little monkeys may have strong sucking needs. But by the time they get a bit older, they may be able to withstand hunger for longer periods of time before thumb-sucking.

Although thumb-sucking begins with hunger, investigators explained, it may be kept up for another reason. A series of experiments to get at these influencing factors is planned, Drs. Lorna S. Benjamin and William A. Mason of the University of Wisconsin reported in the *Journal of Abnormal and Social Psychology*, 66:526, 1963.

• *Science News Letter*, 84:40 July 20, 1963

## NUTRITION

**New Granular Flour Ready for Retail Market**

► FLOUR that has a granular texture and pours like salt or sugar has been developed and will be put on retail sale in August.

Although it cooks and tastes like any all-purpose flour, it handles quite differently. Because it is granular, the flour does not "pack down," requires no sifting and mixes easily with liquids. It is also easier to measure and is less likely to become lumpy than ordinary flour. The new flour, developed by General Mills, was reported in *Cereal Science*, 8:190, 1963.

• *Science News Letter*, 84:40 July 20, 1963

## PUBLIC HEALTH

**Exercise Important in Reducing Heart Disease**

► SWISS MOUNTAIN villagers and U.S. railway laborers have helped doctors determine the importance of exercise in reducing heart disease.

The inhabitants of a Swiss Alpine village were compared to people of the same cultural and social background living in Basel. The isolated villagers walked everywhere, climbed to the mountain pastures daily and carried loads varying from 60 to 100 pounds.

The amount of intense physical activity was high, and the amount of cholesterol in the blood very low. The cholesterol level of the Basel inhabitants was higher, similar to that of people in the United States.

The investigators ruled out environmental factors of climate and altitude as making the difference. The extreme amount of exercise reduced heart disease to a minimum.

Additional support for the importance of exercise in reducing heart disease has

been found in another study that showed the mortality rate from arteriosclerotic heart disease corresponded to the physical activity required of men in their jobs.

Three different groups of railway employees were studied: clerks who rarely exercised in their job, switchmen whose physical activity was average, and section hands whose jobs required extreme physical exercise.

The clerks in all age groups from 40 to 64 showed a higher rate of death from arteriosclerotic heart disease than did the other two groups. In the older age group, 60 to 64, the clerks had a death rate of 10.4 per 1,000 from heart disease, the switchmen, 6.7 and the section men, 4.2.

Both studies are reported in *Nutrition Reviews*, 21:178, 1963.

• *Science News Letter*, 84:40 July 20, 1963

## PUBLIC HEALTH

**TB Eradication Program Concentrates on Children**

► PARENTS, teachers and babysitters are dangerous to children—if they carry TB.

All persons living or working with children would be placed in "special risk groups" in order to protect youngsters from exposure to the disease, if plans for eliminating tuberculosis urged in *Public Health Reports*, 78:507, 1963, are adopted.

The majority of tuberculosis cases are the result of infections acquired in the past. Since the number of people already infected diminishes each year due to natural death, any eradication program should aim at protecting children from exposure.

Children would be tested upon entering school and repeatedly thereafter.

The family of any child who reacted to the tuberculin test would also receive periodic X-rays and examinations. Another aspect of the proposed program is to test and examine all persons whose occupations put them in close contact with young children, such as teachers, babysitters and employees of day-care centers.

The report states that if no further infection takes place after 1960, nearly eight million persons already infected would be alive in the year 2000. However, since 50,000 new TB cases are reported annually, more than eight million infected persons will be alive in the year 2000.

• *Science News Letter*, 84:40 July 20, 1963

## FORESTRY

**Pruned Trees Sprout Less If Coated With Motor Oil**

► BY PAINTING the trunks of recently pruned white oak trees with motor oil, branch sprouts are greatly reduced and in some cases prevented.

Experiments by Stephen G. Boyce and David J. Neebe of the Central States Forest Experiment Station, Columbus, showed that by painting tree trunks with SAE 20-weight motor oil, sprouting can be kept very low for at least three years following the treatment.

• *Science News Letter*, 84:40 July 20, 1963

**IN SCIEN**

## ASTRONOMY

**Starlight Amplifier Used by Observatory**

► A DEVICE that amplifies starlight up to 100,000 times is now being used by astronomers at Kitt Peak National Observatory, Tucson, Ariz.

Because of its extreme fragility, the image-intensifying tube was hand-carried from England to Arizona by an engineer. The heart of the device is a series of aluminum oxide membranes only a ten-millionth of an inch thick.

These membranes are arranged so that when a photon strikes the first one, it gives off electrons, releasing several for each light particle striking it. These electrons in turn strike successive membranes, and the process is repeated. This chain reaction results in the release of thousands of electrons for each photon originally entering the intensifier.

The tube can be used in conjunction with such devices as computers and spectrographs to determine the distances and temperatures of stars beyond the range of previously available equipment.

Since use of a light amplifier reduces the exposure time needed to make a photograph of any astronomical object, better pictures can be made and more accurate information obtained about stars and planets already familiar.

• *Science News Letter*, 84:40 July 20, 1963

## AGRICULTURE

**More Meat Produced For a Hungry World**

► THE WORLD'S meat production broke all records last year.

In 44 leading countries, raising the major portion of the world's meat supply, more than 108 billion pounds of cattle, hogs and sheep were produced.

This means that more people will have more meat to eat, U.S. Department of Agriculture experts reported in Washington, D. C. The rise in meat production since 1951 has more than equaled population growth, and per capita meat consumption has increased in most countries.

Among meat-growing countries, the United States led the production figure with 28 billion pounds. Russia was second with 15 billion pounds. West Germany, France and Argentina each produced more than five billion pounds. Other leading countries include Brazil, the United Kingdom, Australia, Poland and Italy.

China is most likely the world's third largest meat producer, according to USDA estimates. The largest proportion of their meat is pork. It is estimated that China has 120 million head of hog and a relatively high slaughter rate.

• *Science News Letter*, 84:40 July 20, 1963

# CE FIELDS

## ENTOMOLOGY

### Dreaded Fruit Fly Returns to Florida

► THE MEDITERRANEAN fruit fly, one of nature's most destructive enemies of citrus fruit, has recently been found in Florida, only 11 months after the last outbreak.

Five adult "medflies," as the pests are called, were caught in two plastic traps three-quarters of a mile apart, just east of the Miami International Airport.

This is the first time these fruit flies have been sighted in the Florida area since April, when the last fly was exterminated, Murray T. Pender of the U.S. Department of Agriculture's plant pest control unit said.

Agents of the USDA's Agricultural Research Service and of Florida immediately have started eradication measures by cutting, examining and destroying fruit from certain trees in the area where the insects were trapped.

The Mediterranean fruit fly attacks more than 200 vegetables and fruits, such as peaches and melons, Mr. Pender said. Entomologists class it as the most destructive enemy of citrus fruit.

The female fly punctures the fruit and deposits eggs just beneath the skin. One fly can lay as many as 200 to 600 eggs in its lifetime.

The hatched larvae mature in the fruit, feeding and spoiling the fruit until it drops to the ground.

Mediterranean fruit flies have been intercepted at quarantine ports in other parts of the United States, but have been a severe pest only in Florida. There have been three outbreaks, Mr. Pender said, one in 1929, one in 1956 that took three years to eradicate, and the third in 1962.

• Science News Letter, 84:41 July 20, 1963

## NUTRITION

### Cow's Milk Nourishing To Premature Infants

► PREMATURE INFANTS gain more weight from cow's milk than from human milk.

Cow's milk contains three and one-half times as much sodium, two and one-half times as much potassium and two and one-half times as much chloride as mother's milk, four scientists have found.

More than 100 premature infants with birth weights ranging from 2.2 to 4 pounds (1,000 to 1,800 grams) were given cow's milk and human milk with extra sodium, chloride, or potassium added. The cow's milk formula resulted in weight gains each day of 14.7 and 15.4 grams for each thousand grams of body weight, whereas the human milk formula only yielded 12.1 grams per day.

However, when the infants on human

milk were switched to the cow's milk formula, their weight gains jumped to 19 grams per day, exceeding the gain of those who had been on cow's milk from the start.

The increased weight gains from cow's milk formulas over human milk formulas are not due to the larger amounts of sodium, potassium and chloride, but to other, as yet undefined, differences, it was reported in Nutrition Reviews, 21:244, 1963.

• Science News Letter, 84:41 July 20, 1963

## ECONOMICS

### Majority of New Jobs Created by Governments

► AS A RESULT of increased automation, only a third of the new jobs to appear in the past decade were provided by the "classic private enterprise sector of our economy," according to a leading economist.

All other new jobs were created by non-profit organizations, governments or by industries living off government grants, said Dr. Eli Ginzberg, director of Columbia University's Conservation of Human Resources program.

"We call our system capitalism," Dr. Ginzberg said, "but the major type of capital we have to work with today is human capital."

Dr. Ginzberg presented his findings to a Senate subcommittee studying the effects of rapid technological development upon employment.

Chairman Joseph S. Clark (D-Pa.) called Dr. Ginzberg's statistic "the most significant given during a week of hearings."

• Science News Letter, 84:41 July 20, 1963

## TECHNOLOGY

### Sheet Lead Is Superior Soundproofing Material

► SILENCE, it seems, is leaden, not golden—sheet lead is among the best soundproofing materials available today, tests have shown.

By adding thin sheets of lead to various conventional building materials, sound insulation can be greatly increased.

A layer of lead one-sixteenth of an inch thick can reduce sound transmission by as much as 75%.

Lead sheeting is especially effective in reducing the sounds of human speech. These sounds, which lie mostly in the 250 to 4,000 cycles per second range, go through most soundproofing materials.

Panels consisting of lead sheeting laminated to some structural material such as steel or aluminum are expected to find wide use in the near future. These panels, which are structurally satisfactory and economically feasible, are ideal for such purposes as office partitions and walls between guest rooms in hotels and motels.

The tests of lead sheets for sound insulation, made by Drs. Paul B. Ostergaard, Richmond L. Cardinell and Lewis S. Goodfriend of Lewis S. Goodfriend and Associates, Little Falls, N. J., are described in the Journal of the Acoustical Society of America, 35:837, 1963.

• Science News Letter, 84:41 July 20, 1963

## AGRICULTURE

### African Crop Technique Offers Increased Output

► AN AGRICULTURAL trick of routing the irrigation water needed by thirsty plants promises to grow more crops. A technique used by cotton farmers in Northern Nigeria may well prove to be the answer to rainfall-conservation problems common throughout the tropics.

In many parts of the world, the annual rainfall pattern is highly irregular—a short season of heavy rain followed by a long dry season. This makes it difficult to conserve enough rainfall for good irrigation without causing the soil to become soggy and lose its aeration—an undesirable condition.

However, it is possible to beat the system by applying mulch in furrows and by building small embankments on every other row. Use of this method has enabled cotton growers to increase their yield substantially, and should prove valuable throughout the sizable portion of the world where the rainfall pattern is similar to that in Northern Nigeria, D. A. Lawes of Northern Nigeria's Institute for Agricultural Research reported in Nature, 198:1328, 1963.

• Science News Letter, 84:41 July 20, 1963

## ANTHROPOLOGY

### Siberian Stone Age Man Had Modern Appliances

► STONE AGE MAN in Siberia had some of the latest appliances of his civilization and ours—barbecue pits.

Excavations of settlements along the Angara River in northern Russia have revealed a number of huge deep pits. Until recently, the pits puzzled Russian archaeologists who could not figure out why the pits had limestone fireplaces built into the bottoms. The archaeologists have recently realized that the pits were actually barbecues, specialized structures used for cooking whole animals or parts of animals to be eaten. The pits could also be used for smoking meat, for drying nettles and other domestic purposes. Prof. V. E. Larichev of the Institute of Archaeology, Leningrad, reported on the Russian findings in Arctic Anthropology, 1:93, 1963.

• Science News Letter, 84:41 July 20, 1963

## EDUCATION

### Reading, Writing And Computing

► CHICAGO'S BOARD of Education has a reading problem. It has asked Recognition Equipment, Inc., Dallas, to send one of its Electronic Retina Character Readers to help out. The device, its makers say, in one second can transfer 2,000 characters made by any standard typewriter from the Board's great pile of documents to magnetic tape. The taped information will then be fed into the Board's computer system. The system should be operating next year.

• Science News Letter, 84:41 July 20, 1963