

calcium phosphate, drastically reduce tooth decay in rats, and by 1962 dental researchers will know whether it works just as well on humans. At that time, the first three-year period in their study of phosphate-fed children in North and South Dakota will begin to yield some results. If the technique works, bakers and cake-mix manufacturers will be urged to include more of the phosphates in their products.

Despite the fact that tooth decay afflicts 95% of the United States population, tooth decay is not the major cause of tooth loss among adults.

Periodontal disease, also known as gum disease, gingivitis or pyorrhea, causes more tooth loss in adults than all other causes combined.

It is an insidious disease that gets its start when the gums become inflamed and swell away from teeth. Small open pockets form between tooth and gum; bacteria collect in these pockets and produce toxins that eat away the fine filaments that connect the tooth to gum and bone. The tooth foundation is weakened and eventually the tooth is lost.

Bacteria may also enter the blood stream through this route.

For the most part periodontal disease is painless, and this is the biggest reason 22,000,000 Americans are toothless. The disease goes unnoticed and untreated.

Dentists now know that 50% of persons aged 50 have periodontal disease, and by age 65, the involvement is nearly 100%.

For many years, the tartar that forms on teeth has been suspected of causing lesions that give periodontal disease its start. And it was thought that bacteria were necessary for tartar formation.

But this is not true. Tartar can and does form in the mouths of germfree rats. Chemically and microscopically it is just like tartar from normal rats except that it has no bacteria trapped in it.

Many different methods of dissolving tartar from the teeth have been tried but anything that dissolves tartar also dissolves tooth enamel. At present, dentists treat and try to prevent periodontal disease by scraping the tartar off, teaching their patients how to brush their teeth properly and to keep their mouths reasonably clean. In cases of advanced disease, gum surgery is needed.

Dentistry has come a long way from the days when the suggested remedy for toothache, in the first century B.C., was to eat a whole mouse twice a month.

But in spite of anesthetics and high-speed drills, Americans, like people the world over, are still notorious cowards about facing the dentist.

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ected in patients with tuberculosis and cirrhosis, a liver ailment.

LDH acts as a catalyst in the chemical processes of the body as all enzymes do, the researcher reports in the Journal of the American Medical Association, 176:794, 1961.

Also reported in the JAMA is an analysis of the dangers of influenza epidemics for those over 65 years of age, for pregnant women and for persons with certain chronic diseases connected with aging. Vaccines are believed 60% to 65% effective in preventing flu. Drs. Theodore C. Eickhoff and Robert E. Serffing, with Ida L. Sherman, all of the U. S. Public Health Service's Communicable Disease Center, Atlanta, Ga. (p. 776)

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TECHNOLOGY

Electron Accelerator For Overseas Research

See Front Cover

► AN ELECTRON accelerator will soon be shipped to irradiation service centers in Tokyo and Paris for scientific research. It will also be used for sterilization of sutures and other pharmaceutical products, such as scalpel blades, drugs and bandages and to pasteurize foods.

A close-up view of the accelerator rings of the Dynamitron, produced by Radiation Dynamics, Inc., Westbury, N. Y., is seen on the cover of this week's SCIENCE NEWS LETTER. The rings feed the power into the vacuum tubes. Electrons are "sprayed" at very high speeds into the materials to be tested or processed.

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CHEMISTRY

Demand for Chemists Exceeds the Supply

► THE NUMBER of jobs open for chemists in this country continues to greatly exceed the number of chemists looking for jobs. Dr. B. R. Stanerson, deputy executive secretary of the American Chemical Society, reported to the American Institute of Chemists.

The ratio of "column inches" of positions open to "column inches" of positions wanted in Chemical and Engineering News reflects the changes in the chemical manpower status. The average number of interviews per job applicant at the Employment Clearing House at the national meetings of the American Chemical Society provides another barometer of the ratio of supply to demand.

The "column inch" ratio was approximately one to eight in May of 1931. This past May this ratio was approximately five to one, which ratio has been rather constant for the past 20 years.

Dr. Stanerson predicted that the average demand-supply picture would continue to be "good" to "very good." The most wanted chemists will continue to be highly educated and imaginative people.

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ZOOLOGY

Rare Lizard Caught Alive

► THE CAPTURE of an earless monitor lizard in West Borneo has given scientists their first opportunity to study the behavior of this elusive amphibious reptile, so rare that less than ten museum specimens are known to exist throughout the world.

The lizard lived about three months, during which time staff members of Sarawak Museum, Kuching, Borneo, made detailed round-the-clock observations and photographic records. It was found near the Great Caves of Niah, a center of intensive reptile collecting by museum field teams.

The lizard showed a marked capacity for relaxation, and "could literally collapse along the whole length of the body" when resting, Tom Harrison and N. S. Haile of the Sarawak Museum report in Nature, 190:1213, 1961.

"A very good swimmer, it could relax on the bottom of a tank for up to half an hour."

This specimen of *Lanthonotus borneensis* Steindachner measured 13 inches, believed average size.

When first caught, it "played dead" and refused to eat. It later responded to raw turtle eggs, consuming the yolks. When the diet was changed to chicken eggs two months later, the lizard died.

Mr. Harrison and Mr. Haile believe the lizard can stay in a comatose state underground for long periods with no food and little air. It apparently uses its strong snout and head, rather than its weak front legs, to burrow into the ground. Earth

sticking to its skin helps make it difficult to notice when it is moving.

The observers said it seemed to enjoy being handled and became tame, showing "no inclination to bite either the handler or anything else," food included. They doubt if the lizard is poisonous.

This was the first specimen to be collected in recent times. Others are being sought at Niah. The Borneo lizard and two American lizards form the family Helodermatidae.

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MEDICINE

Simple New Cancer Test Based on Enzyme Action

► A SIMPLE new laboratory test for detecting cancer has been reported following clinical tests.

Based on earlier studies showing that the activity of the enzyme lactic dehydrogenase (LDH) was associated with the presence of cancer, the research was done by a University of California School of Medicine student in San Francisco. Russell J. Erickson of the Cancer Research Institute received his M.D. degree this June.

The test could help physicians treat patients who have a symptom called effusion (in which there is an abnormal, unexplained escape of fluid into various parts and tissues of the body), a possible sign of cancer.

The scientist said the study indicates that difficult-to-diagnose cancer also can be de-