

## DENTISTRY

# Fluoridated Salt Next

Alternative to fluoridation of water seen in use of salt containing readily soluble fluorides, giving each individual a choice as to its use.

► FLUORINE-CONTAINING SALT may be developed as an alternative to fluoridation of water for the prevention of dental caries.

This possibility has been raised in research at the University of California Medical Center by Dr. Gunnar Santesson, of the Serafimer Hospital, Stockholm.

During the past year Dr. Santesson, a visiting scientist, has studied 16 groups of hamsters which have been fed on a diet with an excessively high sugar content. Some of the groups received ordinary salt in their diets, while others received salt containing readily soluble fluorides.

The groups receiving ordinary salt developed cavities as well as superficial enamel changes similar to the early stages of human dental caries. The groups receiving salt to which fluorides had been added remained free of cavities except for two minor cavities.

Dr. Santesson emphasized that his studies are preliminary, and that further studies must be made in hamsters before experiments can be made in human subjects. The scientist said that if further research demonstrates that fluorine can be effectively administered through salt certain advantages will be gained.

He expressed the opinion that the biggest advantage would be in giving the individual a free choice in the use of fluorine. A second advantage involves minority groups who drink excessive quantities of water. These people include persons with diabetes insipidus; those afflicted with psychogenic polydipsia, a compulsion to drink water; and individuals who work in hot, dry environments such as steel mills and other factories.

Dr. Santesson said that there are no known ill-effects from properly fluoridated water. However, there is not yet conclusive evidence on the effects of long-term consumption of added fluoride in excessive water drinkers.

He pointed out that it is known that the kidney of the normal adult can handle 5 milligrams of fluorine a day. In some states of disease, an individual may drink 10 liters of water a day, and if the water were fluoridated he would consume 10 milligrams of fluorine. The fluorine in excess of 5 milligrams might be stored in the body, and it is not known what effect this possible storage would have.

If fluoridated salt proves effective, it might be possible to control the fluoride intake of all individuals, including excessive water drinkers.

Fluoridated salt would also make the tooth-protecting chemical available to the rural population, constituting 35% of the population, which does not have access to community water supplies.

Science News Letter, April 26, 1952

## PSYCHOLOGY

## Muriel, Talking Monkey, Has 50-Word Vocabulary

► MURIEL, a little douroucoul monkey, can talk, Ernest P. Walker, assistant director of the National Zoological Park, told the meeting of the American Society of Mammalogists in Charleston, S. C.

In the three years that Muriel has lived in Mr. Walker's home as a member of his family, Mr. Walker has studied the sounds made by the little animal. He has made recordings of them and had them translated into light patterns on film.

This study has convinced him that certain sounds have definite significance as words. In fact he has written a douroucoul-English dictionary.



**FLYING BOXCAR IMPROVED—**  
*The new ventral fin that has been added to the U. S. Navy's R-4Q is shown in the close-up photograph. The plane is designed as a tactical and strategic military cargo aircraft for use under combat conditions.*

"Wuk" means danger. A trilling sound made by blowing the lips means good. This is used of food or of people that Muriel likes. "Uh-huh?" with a rising inflection is a question. Another sound means hello, and so on.

Altogether, Muriel has a vocabulary of about 50 words, Mr. Walker said.

Science News Letter, April 26, 1952

## BIOPHYSICS

## Atomic Bombardment Changes Hemp's Sex Ratio

► YOU CAN'T argue about human sex and the atomic age from what happens to a marijuana plant, but—

The Argonne National Laboratory in Chicago has discovered that if atom-smashing particles, slow neutrons, are used to treat hemp seeds, the females are more plentiful than the males.

With uninterfered-with hemp seed, as in many other living things, humans included, the number of males is about equal to the females.

But when the *Cannabis sativa* seeds were put in Argonne's nuclear reactor for four minutes' exposure to neutrons, a research team consisting of Norbert J. Scully, George Kostal, William Chorney and Ronald Watanabe found that the sex ratio was changed to 1.75 females to each male plant. Seeds that were to produce female plants were tougher under this kind of treatment.

Male ego can be salvaged by the findings that after the next generation of intercrossed breeding, the sex ratio of hemp returns close to normal.

There are no suggested applications to marijuana (made from hemp leaves and flowers), either production or control.

Science News Letter, April 26, 1952

## MEDICINE

## Cigarette Smoking and Stomach Ulcers Linked

► A POSSIBLE relation between tobacco smoking and stomach ulcers appeared in a report by Drs. Kwang Soo Lee and Charles M. Gruber, Jr., of Jefferson Medical College, Philadelphia, at the meeting of the Federation of American Societies for Experimental Biology and Medicine in New York.

When dogs were given daily doses of histamine for five days, 20% of them developed ulcers. When they were given injections of nicotine in addition to the histamine, all of the dogs got ulcers. The amount of nicotine injected was equivalent to that absorbed in smoking three to five cigarettes daily.

The scientists "ventured no conclusions" as to whether smoking by humans would encourage ulcer formation.

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