

For several seasons they have carried on investigations of the effect of both filtered air and air-conditioning on asthma.

Filtering out the offending pollens helps the asthma sufferers materially, they found. Keeping the humidity low and the temperature relatively constant helps even more, they have reported to the American Gas Association. But even patients who were free of symptoms developed attacks of asthma while in the air-conditioned ward shortly after a severe thunderstorm. Patients in the air-conditioned ward, however, suffered less severe attacks after the thunderstorm and recovered more quickly than patients who had been in a room with filtered but not conditioned air.

The effects of barometric changes and ionization in relation to thunderstorm-induced attacks have not yet been studied, the investigators state.

*Science News Letter, February 2, 1935*

MEDICINE

## News !! Afternoon Tea Denounced in Britain

**A**FTERNOON tea, dear to the heart of every true Britisher, has been denounced by two British physicians who find it "difficult to imagine why tea should be such a popular meal."

The two who dare to utter such seeming heresy are Drs. W. C. D. Maile and K. J. L. Scott, honorary physicians to the Woking Victoria Hospital. (*Lancet*, Jan. 5.) They base their un-British opinion on scientific studies of the length of time food consumed at various meals remains in the stomach.

An ordinary meal remains in the stomach from 3½ to 4½ hours, they found by X-ray observations.

"With breakfast at 8:30 A. M., the stomach is likely to be empty at 12:30 P. M., so that lunch at 1 P. M. is reasonable enough," they state.

"But after lunch at 1:30 to 2 P. M. the stomach cannot possibly be empty till 5:30 to 6 P. M., so that tea at 4:30 can only be justified on the grounds of a pleasing interlude. Actually on the grounds of suitable feeding, it would be better to leave out tea and take dinner at 6 or 6:30 P. M. The stomach would then have a little rest before both lunch and dinner, and would be ready to deal with the evening meal, which in the ordinary way would be disposed of by 10:30 to 11 P. M."

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MEDICINE

# Alum Treatment Makes Mice Resistant to Encephalitis

## Study Suggests New Way to Protect Against This and Similar Diseases

**A** NEW WAY of getting protection against infantile paralysis, encephalitis and similar diseases which invade the body through the lining membranes of the nose may result from studies just reported by Dr. Charles Armstrong of the U. S. Public Health Service's National Institute of Health, Washington, D. C.

It was in the course of these studies that Dr. Armstrong himself recently suffered an attack of encephalitis as a result of working with the infective virus for many months.

A three per cent. solution of sodium alum dropped once a week into the nostrils of white mice enabled these animals to resist nasal infection with the virus of encephalitis from the epidemic in St. Louis in 1933, Dr. Armstrong found. This was because sodium alum of just that strength provided the right degree of irritation to make the nasal mucous membrane resistant to the encephalitis virus. Other strengths of sodium alum and other solutions, such as salt and sugar, were not as satisfactory, he found.

### Had Unexpected Effect

In the beginning of his investigation, Dr. Armstrong gave the mice weekly doses of the alum solution for several weeks before giving an infective dose of encephalitis virus. He thought that perhaps "such astringent or mildly irritating treatment, if applied in the face of an epidemic or in the presence of the virus, might enhance susceptibility to infection."

Further investigation, however, showed that dropping the solution into the animals' nostrils just before or soon after the infective dose did not increase their susceptibility to infection but might even lessen it. This point may be of significance in developing the method to give protection during epidemics.

Dr. Armstrong's work has not yet been given practical application, but reading between the lines of his conservative, scientific conclusions, it ap-

pears that he believes it may pave the way for this in the future.

"The experimental work here recorded," he stated, "therefore suggests lines of study which may possibly lead to the development of procedures of practical value in preventing infections contracted by way of the nasal mucous membranes."

Since not only encephalitis but the much-dreaded infantile paralysis is among the diseases that enter the body through the nasal membranes, Dr. Armstrong's research, if it develops practical value, will be of tremendous importance in man's fight against disease.

Dr. Armstrong's latest research started from observations by himself and a number of other medical scientists, that different substances could modify the local reaction to invading disease "germs" and viruses. That the effect is purely a local one was shown by the fact that mice that had had the nasal alum treatment were not able to resist the infective virus when it was injected into the brain instead of being introduced via the nostrils.

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BIOLOGY

## Eat Less, Live Longer, Experiments Indicate

**S**UPPORT for the old adage, "We dig our graves with our teeth," has been found in experiments by Lester Ingles, graduate student at Brown University. Working under the direction of Prof. A. M. Banta, Mr. Ingles found that jars of the little aquatic animal *Daphnia* given short supplies of food lived on the average 50 per cent. longer than did similar colonies kept well fed. Dr. Banta's explanation was that these animals, thus forced into abstemiousness, burned their life-fires lower, produced and used less energy, and consequently did not "wear out" so soon.

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