

## PUBLIC HEALTH

# How Gland Fever Spreads

**Kissing found means of spreading glandular fever, or infectious mononucleosis, which chiefly attacks college students and others of ages 17 to 25.**

► INTIMATE KISSING is the answer to a hitherto unsolved medical riddle, in the opinion of Col. Robert J. Hoagland, chief of the medical service at the U.S. Army Hospital, Heidelberg, Germany.

The riddle is how infectious mononucleosis spreads. This disease, discovered in 1889, was formerly called glandular fever.

Sore throat, fever, swollen glands especially in the neck, and enlarged spleen are the chief symptoms of the disease. Its cause is unknown but believed to be a virus. It is called mononucleosis because the blood contains an abnormally large number of white cells with only one nucleus.

College students and others of ages 17 to 25 are those chiefly attacked by this ailment. This, Col. Hoagland said, should long ago have given a clue to how the disease spreads.

Almost without exception, acute contagious diseases that are not venereal are most frequent in children, gradually decreasing with increasing age.

Col. Hoagland has seen over 200 cases of mononucleosis since 1946, but rarely in a person over 30 and never in a child under 14, even with cooperation of alert pediatricians.

Attacks in children and epidemics of the disease have been reported in the past. In Col. Hoagland's opinion and that of some other scientists, however, these were probably another disease with similar symptoms. In these cases, with rare exceptions, the diagnosis was not confirmed by a blood test, developed in 1932 and called the sheep cell, or heterophile, test.

During six years when stationed at the U.S. Military Academy, West Point, N.Y., Col. Hoagland saw all cases of infectious mononucleosis. A puzzling feature, noted also by doctors at colleges, was that roommates, who easily caught colds, 'flu and the like from each other, never got infectious mononucleosis.

Medical students and young nurses are frequently attacked, but the disease does not run through a ward as would a cold from such sources.

At West Point Col. Hoagland was able to rule out transmission by food, water, insects and sexual relations.

As college and university doctors had, he noticed that cases developed a month or so after vacation.

The break that gave him the riddle's solution came with a patient who got sick one day early in February. The man said that the previous Dec. 23 he spent about 12 hours on a train in the company of a female medical student whom he had not seen before or since. They kissed frequently and, Col. Hoagland reported, "more important,

in a way to allow mingling of saliva. They also carelessly drank from the mouth of a bottle passed around in a circle of train acquaintances."

Col. Hoagland's patient learned by letter that his female companion had gone to the hospital with infectious mononucleosis a few days before he did. Either both got the disease by drinking from the same bottle or, Col. Hoagland surmised, the woman got it in mouth contact with someone else on the train and passed it to his patient.

Since that case, in February, 1951, Col. Hoagland has obtained a history of mouth contact 32 to 49 days before onset of symptoms from all but one of 50 patients with mononucleosis. The one exception was a chaplain's assistant who said he frequently drank soft drinks from bottles passed to him by friends.

The theory of spread by intimate kissing explains, Col. Hoagland said, why mononucleosis is rarely seen in married persons. Unmarried persons are much more likely to kiss promiscuously, he said.

His new theory is reported in the *American Journal of Medical Sciences* (March).

Science News Letter, July 30, 1955

## ARCHAEOLOGY

# Find Tools of Ape-Man

► FOR THE first time, the bones of an African ape-man, a human-like creature believed by some scientists to be man's ancestor, have been found associated with hand-made stone tools that may be 600,000 to 1,000,000 years old.

The discovery was announced in *Nature* (July 23) by Dr. Raymond A. Dart of the Medical School of the University of the Witwatersrand, Africa. Dr. Dart is famous as discoverer of the skull of a child-like infant ape, the first of the African ape-man finds.

Presence of the australopithecine teeth in the bed of pebble tools indicates, Dr. Dart reported, the ape-man was living at the time these earliest tools were in use and may have manufactured them.

The new find of ape-man bone fragments consists of a badly damaged and mutilated piece of an upper jaw bone, with parts of two molar teeth in place. The size of the teeth and a characteristic groove along the tongue side of one prong of the triple root make them clearly identifiable as belonging to the primitive ape-man known to scientists as Australopithecus, Dr. Dart reported.

The roots of the teeth, he explained,

## ENTOMOLOGY

# Insecticides Control Water-Bred Mosquitoes

► CONTROLLING OF mosquitoes that breed in irrigation water appears close at hand through use of water-soluble insecticides, the U. S. Department of Agriculture reported.

After testing 141 insecticides, scientists found five that are effective against mosquito larvae when greatly diluted with water, as an insecticide would have to be in an irrigation system.

These five were Bayer L 13/59, Shell OS 2046, para-oxon, parathion and methyl parathion.

Shell OS 2046 and Bayer L 13/59 hold the most promise of the five, the USDA scientists found. One gallon of OS 2046 or four gallons of L 13/59 will make a million gallons of flowing irrigation water deadly to mosquito larvae. Both are water soluble.

Because they will resist washing off vegetation, insecticides not water soluble are normally preferred for agricultural pest control. But when these insecticides are added to irrigation water in an attempt to control mosquitoes, they become suspended and eventually settle to the bottom, where they have little effect on the larvae.

Field experiments on water-soluble insecticides are being carried out this summer in irrigated rice fields in Arkansas and in irrigated pastures in California, under the direction of entomologist J. B. Gahan of the USDA's Agricultural Research Service.

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are distinctly longer and more robust than those of Australopithecus prometheus, whose remains were found earlier at the same limestone cave site but in a layer some 25 feet lower down. They are, however, within the normal size range for the ape-man.

It is the first time that bones of such a primitive human type, or pre-human type, have been found associated with tools.

Science News Letter, July 30, 1955

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