

PUBLIC HEALTH

Water Supply Polluted

Health officials are urging city governments to eliminate dangerous frost-proof hydrants and toilets that can contaminate water supplies and spread disease.

➤ FROST-PROOF toilets and hydrants, although not a summer worry of owners of unheated structures, can pollute an otherwise safe water supply any time of year, a U.S. Public Health Service official points out in Public Health Reports, 79:603, 1964.

Now is the time to get rid of this widespread health menace.

Roger O. Olmsted, formerly with the technology branch of USPHS at Fredericksburg, Va., where a public education campaign eliminated these fixtures, said that their installation is now prohibited in many cities. However, few cities have followed the example of Fredericksburg.

The frost-proof toilet has no water in its bowl. It has the trap and control valve for its water supply below the frost line. The stop-and-waste valve of the frost-proof hydrant is similar to that of the toilet.

Although the vertical supply riser is drained by a small tube leading to some gravel or crushed stone, it is entirely possible for groundwater, worms and filth to get into the riser through the open drain tube when the pressure is shut off.

"Such an installation would be especially dangerous if the water from it were used for drinking purposes," Mr. Olmsted warned.

In Marion County, Ind., he said, an out-

break of 30 cases of typhoid fever was attributed to an interconnection between a frost-proof water closet and the well-water distribution system, which permitted backflow of sewage into the water system.

In Newton, Kans., some years ago, an explosive outbreak of bacillary dysentery resulted in 2,500 cases and two deaths. Investigation showed that a water main was out of service periodically for three days. Sewage from a clogged frost-proof toilet flowed into a frost-proof hydrant, and back-siphonage then introduced the sewage into the water main.

Even in late 1954 and early 1955, in a small area of Washington, D.C., contamination of the water supply occurred through outdoor plumbing that included frost-proof toilets and hydrants. It was suspected of causing the spread of infectious hepatitis, diarrhea and typhoid fever.

Mr. Olmsted, who is now working on mosquito control in Jacksonville, Fla., said that frost-proof toilets and hydrants can be abolished in a relatively short time if health departments make appropriate surveys, if the information is publicized and if appropriate legislation is adopted and enforced.

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PUBLIC HEALTH

Anti-Smoking Scare Ads Deplored by British

➤ GENTLE PERSUASION and not scare advertising will be the approach of health educators on the smoking problem, if advice given the Royal Society of Medicine is followed.

Assaulting people with fear psychology about the terrible consequences of smoking is less effective than a lower level of appeal, John Wakefield of the Manchester Committee on Cancer argued in a discussion of the problem. He feels nonsmoking public figures and sportsmen should not be overplayed. When such persons advise against smoking, the majority of smokers look upon them either as eccentric or as having gone over "from us to them."

All doctors should give up cigarettes. This is the advice of Sir Robert Platt, chairman of the Royal College of Physicians' Committee on Smoking and Health, London, and former president of the Royal College of Physicians.

Sir Robert noted in particular the recent evidence that British doctors are now showing a decline in death rate from lung cancer while the mortality of the general population is rising. A large proportion of physicians has given up smoking cigarettes in the last ten years.

Sir Robert believes smoking is an addic-

tion. The U.S. Surgeon General's Smoking and Health report prefers the word "habituation." Much more research is needed, Sir Robert said, on the difficult problem of persuading "addicts" to discontinue their habit.

Kenneth Robinson, "Shadow Minister of Health" in the Labor Party, insisted that health educators should ignore the question of taxation revenue. He advised wide use of television programs based on research into smokers' attitudes toward their habit.

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DENTISTRY

Tooth Decay—Blame Ancestors, Not Sweets

➤ SWEETS and starches in the diet probably contribute to tooth decay, but scientists at the Tufts University School of Dental Medicine, Boston, disagree with dentists who put the blame mainly on diet. The hereditary factor plays an important role, Tufts research shows.

Neither diet nor brushing affected the teeth of a group of subnormal persons. Heredity is believed at least partly responsible for bad teeth, following a study of mongoloids, congenital idiots having 47 instead of the normal 46 chromosomes. Chromosomes contain the genes and are responsible for a child's inheritance.

Drs. M. Michael Cohen and Richard A. Winer found that 94% of 136 mongoloids between the ages of three and 30 had no dental decay in spite of gross neglect of mouth hygiene. Most mongoloids lose their teeth by the time they are 30, but this is due to gum disease, not decay.

The saliva of the 136 mongoloids was analyzed in comparison with saliva of other patients showing "normal" decay. Sodium, calcium and bicarbonate levels are significantly higher in the saliva of mongoloids, a condition believed due to "biochemical alteration of metabolism."

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DENTISTRY

Man Bites Five Women For Crime Studies

➤ A MAN BIT FIVE WOMEN in the interest of science and crime detection.

The man sank his teeth into the shoulder blade, the forearm and the left deltoid muscle of the shoulder of each of the five women in the Japanese test. The experiment was part of a study of the legal value of dentistry in criminal investigations.

The bite marks were photographed and measured at regular intervals. In addition, discoloration and swelling of the skin around the bite areas were also studied.

The biting was done under the direction of a team of research dentists at the Tokyo Dental College, Japan, and has come to the attention of the American Dental Association, Chicago.

By observing the healing process of the bite injury and color change of bleeding under the skin, the scientists were able to estimate approximately when the biting occurred.

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Esso Research & Engineering

BONDING GLASS TO RUBBER—
The results of a new method for chemically bonding glass fiber with rubber for reinforcement are shown by Robert E. Clayton (left) and Byron M. Vanderbilt. The technique developed by scientists at the Esso Research and Engineering Company, Linden, N. J., bonds rubber to individual fibers of glass which can be combined into tires, conveyor belts, hose and other items.