

## PUBLIC HEALTH

# Discount Waste Danger

One expert has discounted the possibility that radioactive wastes, discarded in coastal waters, might present either a public health problem or a danger to marine life.

THE POSSIBILITY that radioactive wastes, dumped in coastal waters, might harm human beings or fish is almost non-existent, according to an Atomic Energy Commission biologist.

He said scientific evidence gathered by the AEC supports the contention that it is "practically ridiculous" to expect genetic damage to result from radiations emitted by materials in the steel and concrete disposal drums.

At a Joint Congressional Committee on Atomic Energy hearing (July 29), the question of harmful biological effects arose and set off a brief display of polemics. Sen. John O. Pastore (D-R.I.) demanded to know if the radioactivity contained in one drum is dangerous.

The question brought a negative response from Dr. Joseph A. Lieberman, AEC's chief of environmental and sanitary engineering, who qualified his answer with the information that he had not done the biological studies involved and therefore was not qualified to give the committee scientific backing for his opinion.

Studies on the problem have been completed or are now in progress at laboratories of the U. S. Fish and Wildlife Service, the University of Washington, the Woods Hole Oceanographic Institution, and elsewhere, Science Service learned from Dr. I. E. Wallen, AEC Division of Biology and Medicine.

The results, Dr. Wallen said, were negative for amounts of radioactivity equivalent to those contained in disposal drums. The first detectible genetic damage was found after fish were irradiated with 25 roentgens of hard X-rays.

AEC has estimated that the drums, when first sunk, emit anywhere from one-hundredth to one roentgen an hour. The radioactivity lessens, however, gradually for some isotopes and rapidly for others, becoming less likely to produce damage.

Much of the waste consists of tritium, Dr. Wallen said, and its beta radiations are so weak they cannot penetrate human skin.

He said that an extremely important reason why he believes the danger can be minimized is in the nature of the disposed wastes. Much of it consists of iron piping, broken glass, filter paper, and discarded coveralls. Should a drum break open, he said, you could hardly expect a fish to make a meal of broken glass and coveralls.

In addition, the quantities of radioactive materials are so small that even if a fish somehow got into a waste drum it would have to stay in the confines for quite a long time before it would be exposed to the slightest statistical probability of genetic damage, Dr. Wallen said.

A more remote probability, he pointed out, is that highly contaminated fish would be caught by fishermen.

Dr. Wallen believes that the only reason genetic damage resulting from radioactive waste disposal is discussed is that one should never entirely rule out the improbable.

Dr. Wallen's opinion is based on what is known as a threshold value for genetic damage. This is the theory that no damage will occur if exposure to radiation is below a certain amount. Other scientists, however, believe that any amount of radiation is capable of producing genetic mutation possibly harmful to man.

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## PSYCHIATRY

## Bed Rest Best to Unwind Stammering Child

BED REST is good therapy for the child that stammers.

Usually, the child who stammers is so nervous rest will be very beneficial, especially if it is fortified with a sedative given under medical direction, Dr. C. S. Bluemel

explains in *Mental Hygiene* (July) published by the National Association for Mental Health.

Meanwhile, whatever is causing the nervousness in the child should be discovered and eliminated, if possible. There may be too much competition at the family table, and no one may be listening when the little fellow is trying to talk. Still worse, an older brother or sister may snatch speech away from him, and thus put him at a constant disadvantage.

There is an old belief that children stammer because they think faster than they can talk. This is very nearly correct. Actually, a child does much of his thinking in eagerness and excitement, and he has many feelings and frustrations that could never be put into words, the retired psychiatrist, who lives in Englewood, Colo., explains.

Even if the child could calm his feelings and try to think his way into speech, he would often lack the vocabulary to express himself, and thus encounter a speech block.

The thinly organized speech of a child is easily broken by such common stresses as the excitement of a party or picnic. The sustained excitement of Christmas festivities can disrupt a child's speech patterns more easily. Less conspicuous influences also break a child's speech. Family discord, the daily fear of a harsh teacher, or the neighborhood bully can cause anxieties and frustrations.

In primary stammering, the thinking process is confused. This leads to secondary stammering where the stammerer tries to force words out during the silence. Thereupon begins an unnatural phase of effort and struggle, and sometimes contortion. The child may even use his fists and his larger body muscles in a futile attempt to speak.

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## Arthritis Cripples Farmers Oftener Than Urbanites

FARMERS are almost twice as apt to get arthritis as city dwellers.

One million of the estimated 11,000,000 arthritis sufferers in the United States are farmers or farm laborers, the Arthritis and Rheumatism Foundation, New York, reports. This figure, it said, is far out of proportion to the size of the farm population.

Why farmers are more prone to this crippling disease is not yet known, but several possible reasons have been suggested as possibilities.

One of these might be the greater amount of time the farmer spends out of doors than the urbanite. A recent National Health Education Committee study revealed that, during winter months, there are two arthritis cases among outdoor workers for every one case among indoor workers.

Another reason may be the hard physical labor performed by farmers. Also, physical strain and injury, more apt to occur to a farmer, might "trigger" an attack of arthritis.

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**TREE-ROOS**—These tree climbing Kangaroos (*Lumholtzi dendrolagus*) use their long tails as "gravitational balancers" when climbing or jumping. They are facing a perilous future because of timber destruction in the North Queensland rain forest in Australia, their natural habitat.