

## PUBLIC HEALTH

**Doctors Advise Iodine To Make Water Safe**

**P**ERSONS living in or traveling to flood areas where the water supply may be polluted temporarily can assure themselves of a safe drink of water by adding a drop of iodine to each glass of water. The ordinary tincture of iodine for first aid treatment of cuts does the trick of destroying typhoid fever or other harmful germs. A drop will make as much as a quart of water safe for drinking. Persons traveling can carry with them the little ampules made for first aid use.

The value of iodine for this purpose was discovered by Maj. A. P. Hitchens of the U. S. Army Medical School.

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## PUBLIC HEALTH

**"Nor Any Drop To Drink" But Clean-Up Job To Do**

**W**ATER, by world-old tradition the foe at once of thirst and fire and dirt, becomes paradoxically their ally when it goes on a rampage as in the present great flood. So we have been treated to the amazing spectacles of firemen unable to put out conflagrations because they were hampered by water, of the sanitary authorities of at least one great city forbidding all bathing, of public health officers begging people to abstain from the dangerous practice of drinking water.

The latter two situations have a common cause in the further paradox that of all organisms dangerous to mankind the most dangerous is man. In and about his body he carries the germs of his own undoing—particularly those that invade through the digestive tract, and through chance abrasions and wounds. Typhoid, the various dysenteries, blood-poisonings and infections—these are only a part of his constant suicidal equipment.

Normally man uses water copiously as his means of washing away from himself the overplus of his own uncleanness. His water sources are as well protected as possible by clean selection, by filtering, by chlorination. His drainage systems are designed for rapid clearance.

But water on anarchic rampage swirls up all his noxious refuse, dumps it into his clean-water reservoirs, leaves it in his houses and cellars, pollutes his milk depots with it. So after a flood man has a rather terrific cleaning-up job to do—and he must do it in a tearing hurry,

yet thoroughly too, because the penalty for neglect or slackness is so swift and severe. Quicklime for the cellars, chloride of lime for the rooms of the houses, drainage of reservoirs and renovation of their filter beds, clean-pumping of wells and their chlorination and re-emptying, these are among the many routine things that must be taken care of as soon as the waters recede. They will provide plenty of work for those who need employment, though of course for a great part of the work public funds will have to be provided. In the meantime, public

health officers plead and insist that no one in a flooded district shall drink unsterilized water.

Observance of these and other sanitary precautions enabled the country to get past the critical post-flood period in 1936 with a low disease incidence consonant with its position as a civilized nation, and it is hoped that as good a record may be maintained when the subsidence of the present deluge leaves us to confront the rising of the new danger.

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## METEOROLOGY

**Weather Bureau Plans For Better Flood Forecasting**

**E**VEN as the enormous resources of the Federal government, in money and personnel, pour into the stricken flood area government officials are planning ahead and studying ways to mitigate the harm on that future date when floods again return.

In particular a plan for a better river and flood service for the U. S. Weather Bureau—first set up in the fall of 1935 and already used in a small way—should come in for most careful consideration. It can be recommended, for example, to those Senators and Congressmen from the states along the Ohio River who are now banding together for adequate protection to their home territory.

One of the few presentations of the new flood forecasting plan of Dr. Willis Gregg, chief of the U. S. Weather Bureau in Washington, was given, almost unnoted, last fall by Montrose W. Hayes, then in charge of the River and Flood Division of the Bureau. Within a month after telling the American Society of Civil Engineers at their Pittsburgh meeting about the plan Mr. Hayes died in Washington. Before his death, however, Mr. Hayes personally sent Science Service a copy of his address from which the following material is edited.

Flood forecasting, said Mr. Hayes, falls into two categories: (1) forecasting by gage readings and discharge rates, and (2) forecasting from reports of rain fallen or expected to fall. Gage readings are the oldest method and attain good accuracy when used on a large river far from the headwaters. Forecasts of two or three days can be made in upper valleys and forecasts of three or

four weeks on the lower Mississippi River with the method.

In regions where numerous small streams flow the channels are too numerous to make gage measurements possible and rainfall measurements must be resorted to. In particular, pointed out Mr. Hayes, flood forecasts east of the Appalachian Mountains are of little value unless made by rainfall measurements.

"The standard of refinement of flood forecasts," declared Mr. Hayes, "is set by those who use the forecasts. This statement may cause some surprise, but its truth can be shown with ease. If the interests along a river can be protected by two-day forecasts verified in stage with an accuracy of about 2 feet it would be useless to spend the money necessary to provide three-day forecasts with an order of accuracy of less than half a foot. Upon the other hand if the latter and more accurate forecasts were needed, an effort would be made to find the money with which to make them possible. Owing to the unprecedented heights of the floods of March, 1936, when, in inundated cities, each 6 inches of rise meant an additional loss of enormous extent, the Weather Bureau now finds itself facing unprecedentedly widespread demands for river stage and flood forecasts of longer range, and of greater refinement as to stage verification, and in providing them many obstacles will have to be overcome.

"Changes in the present plan of operation will be necessary, and some outstanding deficiencies must be met. Some are simple and need not be mentioned. Others that are rather complex or difficult of attainment, but are essential to a river forecasting service of