

PUBLIC SAFETY

Nuclear Cities Coming

► CITIES ABLE to withstand a nuclear attack and function afterwards can and will be built, Dr. F. W. Edmondson of Cornell University predicted.

One such "fantastic" city he described as follows:

"Call this one NEUS. It's actually the executive center for northeastern United States. NEUS is a great governmental core city surrounded by its commercial, industrial and residential centers such as New York, Boston, Buffalo.

"It serves the region—Atlantic Coast to Alleghenies—Canada to Blue Ridge. Population of 150,000 persons staff NEUS and they represent all strata of government in the region.

"Within the city are all of the management techniques and scientific tools for effective administration. It is a compact city. There is no reason to scar the Hudson Valley.

"It covers only a few hundred acres, ousting one good size dairy farm, but it is massive, completely enclosed, a controlled environment. It has a high specific gravity since one-third of the city is underground.

"This city is nearly autonomous. Power source is nuclear—self contained. Communication is by microwave via the grandson of Echo I. Transportation is VTOL airborne mass transit.

"Man spends only a few hours daily in NEUS, but these are effective ones. Executive decisions are easily made by the help of 'information technology' equipment and staff.

"Light and air are perfectly controlled,

even to balanced ionization. Solid wastes are chemically disposed and liquids are purified and recirculated.

"Expendable items, food, etc., are stocked at 25-year intervals. The underground portions are protective in design, insulated from transmitted shock, hardened against overpressures and screened against all nuclear, chemical and bacterial assault.

"Only a gleam in the eye of a visionary professor? Not quite, since this is the published intent of a group of hardheaded businessmen for a chosen site in the Hudson Valley."

Cities such as this will be built, Dr. Edmondson told the Building Research Institute's conference on design for the nuclear age in Washington. The abilities to build them are available, he said, and only the natural time lag between developed sciences and evolved city exists.

Dr. Edmondson charged that old cities have been "on the firing line too long. Born by geography but grown by the technology of Eli Whitney, they are reacting weakly to the surgical concept of renewal.

"The prognosis is poor. The old arteries are collapsed, the organs of social and mechanical functions are diseased and intravenous feeding of Federal, State, and private finance simply extends disability payments for a few more years. . . .

"Research, science, technology, this intermixture of effort that I will call science, together with management techniques, will breed these new cities," Dr. Edmondson predicted.

• Science News Letter, 80:412 December 23, 1961

BIOCHEMISTRY

Irradiated Wax Models

► YELLOW WAX models of human heads and other body parts that change color dramatically to red when exposed to radiation are helping doctors in Boston determine the radiation dose patients receive in treatment.

The chemically treated paraffin wax offers some "completely new possibilities" in radiation detection and measurement, Drs. Majic S. Potsaid of Harvard Medical School and Goro Irie of Massachusetts General Hospital say. Common chloroform is one of the chemicals used with the paraffin wax to make the models or to coat film. The dye used is dimethylaminoazobenzene, methyl yellow.

A bright yellow model changes immediately to red in the irradiated parts of the dosimeter, the physicians report in the *New England Journal of Medicine*, 265:1135, 1961. No further technical steps, such as developing or fixing, are required.

The chemically treated wax closely simulates the reactions of living tissues, and can be formed into any desired shape. The

models so formed then show dramatic color changes indicating the exact path of the radiation to which they are exposed.

If the color changes are recorded on movie film, they can be even more effectively studied, the doctors found. The solid organic chemical detector has uses in radiation therapy, radiobiology, radiochemistry and radiology research in general, as well as in diagnosis by radiation.

By illustrating how chemicals can modify the effects of radiation, using the models holds promise for the possibility that such chemicals might aid in treating humans.

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MEDICINE

Emotional Disturbances May Mask Physical Ills

► SERIOUS ORGANIC diseases may hide behind a mask of emotional disorder, Dr. William B. Abrams, clinical director of pharmacology, Beth Israel Hospital, New-

ark, N.J., told the sixth Hahnemann symposium on psychosomatic medicine in Philadelphia.

The internist has a responsibility to make a thorough diagnosis of possible organic disorders before a patient is sent to a psychiatrist, Dr. Abrams said. Certain hormone disorders, for example, may masquerade as emotional disturbances, along with tumors, infections, circulation changes and other ailments.

If properly treated, the physical disorders along with the emotional manifestations may clear up without psychiatric help, he pointed out. Insomnia, tremors and depression are some symptoms that can hide physical illness.

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