

PUBLIC HEALTH

Chicago's Rivers Polluted

► CHICAGO'S RIVERS and canals are "significantly" polluted with sewage wastes, a U.S. Public Health Service microbiologist told SCIENCE SERVICE. Fifteen species of Salmonella organism were found as well as polio, Cocksackie and Echo viruses.

If these polluted waters are allowed to be diverted back to Lake Michigan instead of into the Illinois River, the present safety of Chicago's swimming beaches will be threatened and the drinking water supply could be endangered.

The Supreme Court has not yet handed down its verdict on completed hearings in the much-publicized suit against Chicago and Illinois by six Great Lakes states concerned with water power and other uses dependent on water levels of Lake Michigan.

LeRoy E. Scarce, chief microbiologist, Great Lakes-Illinois River Basins Project, Chicago, said the first phase of a seven-year study that will include all the Great Lakes has been finished for Lake Michigan and the streams in and near Chicago.

The Public Health Service eventually will study not only all the Great Lakes but the principal river basins of the country. The urgency of the recent project study was to provide the U.S. Department of Justice with facts necessary to its judgment on the diversion of waters from Lake Michigan.

"The fact that Chicago has so far been allowed to divert her sewage away from the Lake," Mr. Scarce said, "has given her, of all the Great Lakes cities, free use of all her beaches. Other large cities on the Great

Lakes have from time to time closed their beaches because of polluted waters. Milwaukee, for example, has had to close some of her beaches for several years."

Eighty-five miles of the interconnected canal and river system in Chicago and the suburban areas were included in Mr. Scarce's study. Chicago's Metropolitan Sanitary District has three sewage treatment plants serving a population of five million people.

The combined daily output of these three plants is estimated to be about 1.2 billion gallons. Chlorination would reduce the dangerous microorganisms in the sewage, but would entail additional expense.

With the swimming season about to begin, the delicate balance of safety depends on continual study of the organisms and industrial wastes that could endanger swimmers' safety.

Local communities are responsible for keeping the swimming pools chlorinated and the beaches free of dangerous germs, Mr. Scarce said. Many towns dump inadequately treated sewage into their streams. The Public Health Service informs and advises the communities on the current status of their water quality.

Mr. Scarce, who reported the results of Great Lakes-Illinois River Basins to the meeting of the American Society for Microbiology in Washington, D. C., said his team's findings demonstrate the dangers of using our streams as dumping grounds.

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PUBLIC HEALTH

Hypnosis Helps Hay Fever

► HYPNOSIS HELPS hay fever and asthma sufferers both physically and psychologically, skin tests show.

Prick tests on the arms of hypnotized persons who previously had shown positive reactions to injected extracts of pollen or house dust were compared with those not hypnotized. The resulting red spot, or weal, was significantly smaller in the hypnotized patients.

The mere act of hypnosis without any specific suggestion that the skin reaction would be less was as effective as hypnosis used with three groups and accompanied by these words:

"When you come back and are tested again, you will not respond as you did previously, with swelling, redness, burning and itching; there will be no reaction at all, no redness, no swelling, no itching or burning."

Drs. Lionel Fry, A. A. Mason and R. S. Bruce Pearson of King's College Hospital, London, who reported the tests in the British Medical Journal, May 2, 1964, explained the results this way:

"The patients in this group would certainly have been aware before treatment that the effect of hypnosis was to be meas-

ured by changes in the size of skin reactions and may have inferred that there was some therapeutic significance."

Three tests were given at two-week periods on 47 patients divided into groups. Suggestions that the results of injections in one arm would be different in the other had no effect. Both arms showed the same decrease in redness from the skin pricks.

Dr. Mason, an experienced hypnotist, carried out the hypnosis, spending approximately ten minutes on each person. He used a simple technique of progressive relaxation with suggestions of sleepiness, tiredness and eye-closure.

Conclusions were that hypnosis carried out on three occasions in a group of patients selected only for the presence of skin sensitivity and willingness to cooperate is capable of bringing about an appreciable reduction in skin reaction.

Some differences in individuals in their response to hypnotic suggestions were noted, but the results were obtained with moderate injections. No dramatic reduction in the size of weals was seen when higher strengths of allergen were injected.

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MEDICINE

Anti-Leukemia Vaccine Reported Hope of Future

► AN ANTI-LEUKEMIA vaccine to prevent cancer of the blood-forming organs was reported as a possibility if, as experiments indicate, virus-like particles are proved to cause malignancy.

The development of such a vaccine is not foreseeable in the immediate future, Dr. W. H. Murphy of the University of Michigan, Ann Arbor, said, but there is basis for "cautious optimism, rather than the stark pessimism which has been the feeling to date."

A leukemia-like disease has been produced in mice by virus-like particles taken from children with leukemia. The ability to isolate these particles in tissue culture studies has provided an important tool to learning more about leukemia, he said.

A "surprising finding," which he reported to the American Society for Microbiology meeting in Washington, D. C., was that 80% of children suffering from stem cell leukemia, the most common type of the disease, had antibodies to the virus-like particles isolated from children with the same disease.

An antibody is a substance produced in the blood of a person as a reaction of immunity against a specific virus or germ. In Dr. Murphy's experiments, he found that normal people, even adults with leukemia, did not have the antibodies that the leukemic children did.

The Michigan scientist reported tests on the bone marrow in patients with and without leukemia to find out if the virus-like agents were present. The particles were present in approximately 55% of the leukemia patients, and similar particles were found in a smaller percent of patients who had non-leukemic disease of the blood-forming tissues.

These results, he believes, suggest that a "family of virus-like agents may exist" that cause related tumor diseases including leukemia and other malignant growths called sarcomas.

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PSYCHOLOGY

Negroes' Outlook Found Same in North and South

► NEGRO COLLEGE STUDENTS in the North show no more bias for or against their race than a similar group of students in the South, a Columbia University psychologist reported.

Bruce L. Maliver told a meeting of the Eastern Psychological Association in Philadelphia, that his tests on students also showed that Negroes who respect their fathers and are self-confident, take an active part in civil rights movements.

But students who hold a negative view of their fathers and lack self-confidence, tend to reject their own race and to avoid anti-segregation activities, added Mr. Maliver, who is with Columbia's College of Physicians and Surgeons, N. Y.

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