

PHARMACOLOGY

Weak-Action Antiseptics

Three mercurial compounds were found ineffective as germ-killers and also poor disinfectants. These tests were carried out on mice.

► THE usefulness of three mercurial antiseptics, used by many lay persons to prevent infections in cut fingers and the like, is challenged in a report issued by the *Journal of the American Medical Association*, (Jan. 3).

The compounds are mercurochrome, merthiolate and metaphen.

They are not effective as germicides (germ-killers) nor as antiseptics and they have many shortcomings as disinfectants, report Dr. Harry E. Morton of the University of Pennsylvania, Dr. Leon L. North, Jr., of the Philadelphia General Hospital, and Frank B. Engley, Jr., of Camp Detrick, Md.

Their report is based on studies made at the University of Pennsylvania aided by a grant from the American Medical Association.

Tests were made with samples of the compounds purchased over the counter from various drug stores. Cultures of virulent hemolytic streptococci were treated with these compounds so that the germs were exposed to the action of the compounds for 10 and 15 minutes. Then the germs were injected into the peritoneum (the membrane lining the belly walls) of mice. The mice usually died and hemolytic streptococci could be isolated from their hearts' blood.

This showed that the chemicals did not kill the germs and did not keep them from being infectious. The compounds tested do check the growth of the germs, but this is not enough, the experiments show, to keep them from causing infection. For that, the germs must be killed.

The question as to whether a germ-checking compound is effective for use on a cut or wound to prevent infection is, the scientists state, beyond the scope of their report. But they point out that another scientist has reported that germs checked only by mercurial compounds are still capable of causing local infection, such as skin abscesses, when introduced into the skin.

The three compounds tested, they also point out, have been reported by other scientists to be more poisonous to embryonic tissue cells and to white blood cells than to bacterial cells.

Germs other than the hemolytic strep-

tococci tested by the Philadelphia scientists might be affected differently by the mercurial compounds, Dr. Austin Smith, secretary of the A. M. A. council on pharmacy and chemistry, points out.

Infection of animals by influenza virus can be prevented by treating the virus with some of these compounds, it has been reported, and they have also been reported capable of inactivating the poliomyelitis virus.

Those who argue in favor of the mercurial compounds should, he states, "proceed seriously and diligently" to the task of exploring, proving and defining the field of usefulness of the compounds. The A. M. A. council is ready to give them an opportunity to meet the challenge, but, Dr. Smith warns, it is a field "in which wishful thinking is dangerous."

Science News Letter, January 10, 1948

ASTRONOMY

Find Many Gaseous Clouds In Interstellar Space

► MANY small gaseous clouds fly around in space against a background of larger and deeper clouds that seem to move along with the stars of our stellar system. Yet these enormous clouds do not share the motions of the individual stars, Dr. Walter S. Adams, director emeritus of Mount Wilson Observatory of the Carnegie Institution of Washington, stated in giving the Henry Norris Russell lecture before the American Astronomical Society meeting in Columbus, Ohio.

These gaseous clouds are made up of such elements as potassium, sodium, iron, calcium, ionized calcium and titanium and others. In all, astronomers have found 26 spectral lines that are added to a star's spectrum by material in space between the earth and the stars.

These interstellar gases have been identified by studying the spectra of such hot stars as Rigel in the constellation of Orion. The stars were chosen because they have relatively simple spectra.

In size the clouds range from one that covers a large portion of the constellation of Orion to others that do little

more than cover a wide double-star system. As many as four or five separate clouds are occasionally distinguished in the path of light from a not-too-distant star.

Most of the clouds move quite slowly, but a few between us and distant stars travel with a speed as high as 62 miles per second.

Science News Letter, January 10, 1948

ZOOLOGY

Mother Whale's Milk Found To Be Rich in Vitamin C

► YOUNG whales get concentrated vitamin in their mothers' milk, it appears from analyses in the British science journal *Nature* (Sept. 27). Prof. Michael Begg of Marischal College, Aberdeen, reports that in a small quantity of milk from the main duct of the mammary gland of a captured Antarctic fin whale the rickets-preventing ascorbic acid (vitamin C) had nearly double the concentration of the same vitamin in cow's milk at its best. It was close to the best assay for vitamin C in human milk.

Science News Letter, January 10, 1948

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