

Disease Weapon Obtained From Sewage

On this page, Watson Davis describes some of the additional highlights of the meeting of the American Medical Association in Washington, May 16-20.

From out of the filth of the wastes of great cities, science is now plucking its latest weapon against disease. To join the war upon bacteria and other deadly microbes comes the bacteriophage, eater of bacteria.

The possibilities of this new and invisible ally of man were presented to the American Medical Association meeting in an exhibit by Drs. Janet A. and George T. Caldwell of Baylor University, Dallas, Texas. In small test tubes and upon culture plates they showed conflicts between germs and bacteriophages.

Ordinary sewage is filtered carefully to exclude even the most minute germs. In it remains the unknown principle that scientists have called the bacteriophage. A drop of the active material thus obtained can annihilate the germs that cause bacillary dysentery and other infections of the urinary tract. Once the proper strain of bacteriophage is obtained for a given infection, it can be used to treat that infection in a patient, through injection of small amounts under the skin. At present too little is known about this strange lytic principle to allow its use by physicians generally. But hopeful experiments are in progress in many laboratories throughout the world.

The first extensive work on the bacteriophage was done by a French-Canadian bacteriologist, d'Herelle, working at the Pasteur Institute at Paris, about ten years ago. He foresaw the day when great epidemics of disease might be stopped by the dumping of the proper bacteriophage into the water supply of the city. He ascribed the recovery of the sick patient to the success of the bacteriophage in overpowering the invading disease germs, and for that reason a strain of bacteriophage obtained from the recovering patient would come to the rescue of others sick with the disease. Scientists do not agree as to whether the bacteriophage is an organism or simply a chemical effect. It multiplies itself like a living organism yet in other ways it does not seem to live. Even the ultra-microscope can not see it; it is known by its actions only. Perhaps there is dawning a new era of bacteriology.

What Price Cosmetics?

Efforts of American women to improve their beauty and attractiveness are receiving the serious attention of the medical profession. The association has taken official recognition of the increasing vogue of paint and powder by pointing out the need of laws to make beauty preparations as safe for womanhood as the foods and drugs now regulated by the Pure Food and Drugs Act. Such action does not carry with it, officially at least, approval of the use of lipstick, rouge and other beauty aids, for many physicians consider cosmetics as merely camouflage of poor health.

The medical attack on beauty preparations is being made to protect both the public's health and pocket-book. Many cosmetics are actually dangerous. Some of them contain corrosive sublimate or some other compounds of poisonous mercury. Freckle and blemish removers, hair dyes and other preparations are likely to contain this poison. Superfluous hair removers are condemned on the ground that any compound that removes hair will also damage the skin. Barium sulphide is the active constituent of most depilatories. Moreover it has been pointed out that in many cases where beauty preparations were claimed to have been originated by famous physicians they were prescribed for diseased instead of healthy skin.

In addition to being fraudulent in their medical claims, most beauty preparations are manufactured and sold at exorbitant profits of many thousands per cent. One preparation advertised as a skin beautifier sold for \$2.72 a pound. It consisted of epsom salts, a pound of which can be bought at any drug store for about fifteen cents. To remedy such practices and obtain a plain statement of contents on each package the physicians are urging national and state legislation regulating the manufacture, sale and use of beauty preparations.

A disease new to America was reported to the association by Dr. W. Warner Watkins, of Phoenix, Ariz., and Dr. G. C. Lake, of the U. S. Public Health Service. It is undulant or Malta fever of Europe, a disease that is spread to man through the drinking of goat milk. The causative germ has been found to be identical to that causing premature calving in

cattle. Since the disease is likely to be confused with typhoid fever or malaria, doctors were asked to be on the lookout for it.

Beef Liver For Anemia

Before the advance of medical research, two diseases are retreating. Pernicious anemia and pneumonia, both enemies that have inflicted heavy losses upon mankind, are now beginning to be placed under control.

Beef liver provides the means of treating successfully pernicious anemia, an affliction which heretofore has been inevitably fatal. Drs. George R. Minot and William P. Murphy, of Boston, presented to the doctors their observations of eighty cases of this disease that had been treated by making the patients eat large amounts of liver. Some constituent of the liver causes the formation of red blood corpuscles in the blood, and the disease seems to be caused by a lack of this substance. Since patients, even though they realize its benefits, do not relish a diet containing nearly half a pound of liver a day, an attempt has been made to extract from the liver the active material. Dr. E. J. Cohn, of Harvard, has obtained a liver extract which has been used by Drs. Minot and Murphy with entire success in nine cases. Having thus succeeded in substituting a third of an ounce of the new extract for the distasteful half-pound of liver, the scientists are now attempting to isolate the substance that promotes the formation of the necessary red corpuscles.

The success of the liver extract treatment of pernicious anemia recalls the conquest of diabetes by insulin, an extract of the pancreas, an achievement that has saved thousands of lives.

Ultraviolet light can be used effectively in the treatment of pernicious anemia in conjunction with the liver diet, Dr. David I. Macht, of Baltimore, declared. His experiments showed that the actinic rays of the sun or mercury vapor light destroyed the toxicity of the anemic blood.

The perfection of a serum that has proved useful in half the cases of lobar pneumonia was announced by Dr. William N. Park of the New York Department of Health. If the pneumonia serum is given during the first four days of the disease, it has definite therapeutic value, Dr. Park's

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the successful treatment of the other types of this disease lies in the future. experiments upon pneumonias due to the type one and two pneumococci have shown. Type one pneumonia is the most dangerous for young people, and this method of controlling it is, therefore, expected to prevent many deaths. Only about half the cases of pneumonia are of these two types and

Automobiles, belching forth tar-laden fumes, were declared a possible cause of a marked increase in lung cancers during the past ten to fifteen years, by Dr. Chevalier Jackson, of Philadelphia. A small particle of tar from gasoline lodged in the lungs might cause a cancer since experiments on animals show that malignant growths can be caused by a tar-infected irritation. The lung growths are relatively easily controlled when treated early, but are fatal if neglected.

The part that emotions play in physical health is now being recognized much more widely by physicians. Dr. James S. McLester, of Birmingham, has found that over a third of the people who see doctors about their digestion are suffering primarily from emotional upsets. To effect a cure it is often necessary to effect a

change in the patient's philosophy of life. The emotional, nervous and mental factors in disease must be untangled from the physical ones in many cases. Unhappy married life, grief, repression and financial reverses are often found to affect the course of heart disease, diabetes, goiter and other diseases as markedly as physical conditions.

Cure Disease With Another

By setting one disease upon another encouraging progress has been made in the control and treatment of paresis, a condition of general paralysis caused by syphilis. The paresis patient is infected with malaria and the fever resulting kills the spirochetes that infect his brain and spinal cord. Nearly miraculous recoveries have been reported. It is sometimes difficult, however, to control the malaria. For this reason, Drs. M. M. Kunde, George W. Hall and F. J. Gerty, of Chicago, have injected foreign proteins into the paresis patients to raise a fever that will make it too hot for the spirochetes. This improvement promises to make paresis a less dangerous and hopeless disease.

One of the world's newest diseases is sleeping sickness, encephalitis lethargica. Since 1919 there have been many cases of this disease, and a quarter to a third of the sufferers died. To the doctors Dr. Walter F. Freeman, of St. Elizabeth's Hospital, Washington, reported a serum obtained from sleeping sickness patients that he had used in eight cases with encouraging results. Less than a year has passed since the first patient was treated, and Dr. Freeman is not yet willing to claim a specific remedy for this crippling progressive disease. Experiments in which conditions similar to sleeping sickness were produced in rabbits by infecting them with streptococci from sleeping sickness patients were reported by Dr. E. C. Rosenow, of the Mayo Foundation. Since he was able to produce localized symptoms of the various cases, Dr. Rosenow suggested tentatively that there are several kinds of sleeping sickness caused by several kinds of similar streptococci.

Nephritis, a diseased condition of the kidney, and heart lesions associated with heart disease, have heretofore puzzled medical research workers because they have been unable to produce them experimentally in animals except by serious operations. In the exhibit that won the gold medal at the American Medical Association, Drs. F. W. Hartman, Adolph Bolliger and H. P. Doub, of the

Henry Ford Hospital, Detroit, showed that these conditions can be caused by heavy doses of X-rays. This is an important step in the understanding of the disease since it must first be possible to produce a disease in experimental animals in order to attempt to cure it.

New Diabetes Remedy

The conquest of disease progresses by siege tactics. Over a long period of time slight gains are made, the enemy is weakened little by little, and then finally the great walls fall and medicine holds sway over previously unsafe terrain.

At present a large number of diseases are being hammered away at in laboratories and hospitals. Recently there was received by the American Medical Association reports from the latest researches upon diabetes, paresis, cancer, nephritis and sleeping sickness.

Blueberry or huckleberry leaves are the source of the latest extract to be used successfully in the treatment of diabetes, the disease that has in the last three years been removed from the hopeless class through the discovery and use of insulin. Dr. Frederick M. Allen, of Morristown, N. J., told the doctors of his new drug myrtillin which he has used in a series of 81 patients in connection with insulin. This extract of blueberry leaves, reminiscent of some of the infusions that our grandmothers used to concoct, can be administered by mouth and allows the unfortunate diabetic sufferer to eat more heavily and reduce his insulin injections.

To the cancer victim, Dr. Henry J. Ullman, of Santa Barbara, Calif., brought hope in the form of experiments combining the standard X-ray treatment of cancers with injections of a new lead compound. In England the Blair-Bell treatment of cancer by colloidal lead has been reported as somewhat successful. Dr. Ullman uses a phosphate compound of lead which he believes weakens the malignant cells of cancer and allows the X-rays to be more effective. This lead compound has the advantage of being stable and less poisonous than those used in England, but Dr. Ullman emphasized the necessity of further experimentation upon animals and great care in human applications.

Dr. William Sydney Thayer, of Johns Hopkins University, was elected president of the American Medical Association for the year to begin at the next annual meeting scheduled for Minneapolis.

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