

Theory Proposed on Cause of Cancer

Medicine

Dr. Leo Loeb Reviews Present Knowledge of Disease

ATENTATIVE, working theory of the cause of cancer was advanced at the meeting of the American College of Physicians by Dr. Leo Loeb of the Washington University School of Medicine. Dr. Loeb reviewed the present knowledge of cancer, which consists of a number of disconnected facts brought out by various investigators, and proposed his theory which attempts to construct from these facts a connected whole.

If the action of heredity is considered as sensitizing the substratum to the effect of various agencies which promote growth, it may be concluded that all the factors which cause cancer have in common the faculty of increasing the reproductive, growth-producing activity of cells, usually over a long period of time. It is this continued excess in reproductive activity in localized and often in sensitized cells which leads in the end to the cancerous changes, according to the theory suggested by Dr. Loeb.

"Thus we might tentatively attempt to construct out of more or less isolated facts a connected whole, a provisional theory," Dr. Loeb said. "This theory presumably will have to undergo many changes, but it will have served its purpose if it makes it easier for us for the time being to keep in mind and to understand many otherwise disconnected findings."

Sun Treatment

HELIOTHERAPY, or treatment with the direct rays of the sun, in cases of tuberculosis of the lungs seems to be limited as to favorable results, Dr. Bernard L. Wyatt, of Tucson, Ariz., reported

"It is clear that the series is too small for definite conclusions to be arrived at," Dr. Wyatt said after reporting his results with heliotherapy in some 200 cases of pulmonary tuberculosis, "but it is a matter of considerable interest that the number of patients showing appreciable improvement that might be attributed solely to direct heliotherapy was negligible."

Dr. Wyatt was careful to point out that because his studies were made under meteorologic conditions prevailing in southern Arizona, no generalizations would be drawn from them. Dr. Wyatt's experience with direct rays from the sun in treating other forms of tuberculosis was more grati-

fying, he reported. His observations on the limitations of this form of treatment in tuberculosis of the lungs was confirmed by the opinions of other authorities, he said.

"Sunlight, which was formerly used extensively in Switzerland for the treatment of pulmonary tuberculosis, has been given up almost completely," he said, and also quoted a personal communication from Dr. Edgar Mayer of Saranac Lake, N. Y., who wrote: "As to the use of direct sunlight in pulmonary tuberculosis, I think that most of the reports have not been on controlled cases and there-



Is this good for tuberculosis?

fore biased in its favor. We have given it a very fair trial here in the summer time and only in the rarest instances was I convinced that it helped."

Personality

SUSCEPTIBILITY to certain diseases goes hand in hand with certain types of personality, Dr. Walter Freeman of St. Elizabeth's Hospital, Washington, D. C., told the meeting.

This fact, learned from 1400 post-mortem examinations made at the government hospital for mental diseases, should help physicians treating patients who are not confined to such institutions, because personality types are the same inside and outside of

these institutions. They are more exaggerated in patients inside the institutions, but Dr. Freeman told the assembled physicians methods and questions by which they might easily determine to which type their patients belonged.

Persons of the quiet, retiring personality type, who are given to day-dreaming and who are happiest living a routine existence, are especially apt to have tuberculosis, Dr. Freeman found. He called this type schizoid. Cancer was found most often and tuberculosis least often in the paranoid type; this is the type that is moody, grouchy, quarrelsome and suspicious. The cycloid type, who is the "good fellow," with hosts of friends and innumerable activities and interests, appears to be most susceptible to diseases of the heart, kidneys and blood vessels. The fourth type, the epileptoid, characterized by convulsions or sudden fits of temper or migraine, is most apt to have diseases in which the structures of the brain and glands of internal secretion are affected. Cancer, on the other hand, is a rarity in such individuals.

Dr. Freeman explained the relation between personality types and susceptibility to disease by the theory that a personality which will respond in a certain way to a psychological insult will respond similarly to a bacterial or chemical insult. The psychological insult may send the patient to a hospital for mental diseases, while the chemical or bacterial insult may send him to another hospital for the treatment of tuberculosis or heart disease.

"Stomach Trouble"

IN 500 consecutive cases of indigestion or abdominal distress reviewed by Dr. Walter C. Alvarez of the Mayo Clinic, Rochester, Minn., he found that "The most frequent single cause of 'stomach trouble' was disease of the gallbladder."

"Actual disease of the stomach could be demonstrated in only 12 of the 500 cases," Dr. Alvarez stated. "As Dr. W. J. Mayo long ago pointed out, the stomach often serves as a fire-box to call attention to a conflagration elsewhere in the body. In many of these patients the fire was far away, in the brain, the teeth, the thyroid, lung, heart, spine, (Turn to page 124)

Parrot Fever Claims Medical Martyrs

Medicine

Disease Now Thought Transmitted By Canaries

PARROT fever is now adding to the roll of medical martyrs. The history of modern medicine is punctuated with the sacrifices of men and women who, seeking to discover the cause and cure of unknown diseases, have themselves fallen victims.

Today the laboratories in Washington, Baltimore, Pittsburgh, and Chicago are just as much the front line as were the trenches of France during the World War. Illness and perhaps death threatens the workers there.

Dr. William Royal Stokes, bacteriologist of Baltimore who handled some of the first infected parrots, has given his life in the battle with parrot fever, as did Harry B. Anderson, laboratory assistant at the U. S. Hygienic Laboratory. Dr. Daniel S. Hatfield of Baltimore and Dr. Charles Armstrong of the U. S. Public Health Service are both suffering from the disease, although their recovery now seems assured.

Other diseases which have had their deadly revenge on the warrior-scientists who fought them are yellow fever, Marta fever, bubonic plague, and Rocky Mountain spotted fever. The list of these gallant fighters includes Jesse W. Lazear, Hideyo Noguchi, Adrian Stokes and William A. Young, who perished in the fight against yellow fever; Thomas B. McClintic and A. Leroy Kerlee, who succumbed to Rocky Mountain spotted fever; Alexandre Yersin and Hermann Franz Muller, who were victims of the dread bubonic plague; Tito Carbone and Allen Macfadyen, who died of Malta fever; J. Everett Dutton, who died of African relapsing fever; Howard Taylor Ricketts, who died of tabardillo or Mexican fever; and Daniel A. Carrion, who died of verrugas.

Dr. George W. McCoy, director of the U. S. Hygienic Laboratory, is himself carrying on the U. S. Public Health Service's fight against the disease which Dr. Armstrong was investigating when he fell a prey to it.

Dr. McCoy is a veteran of many engagements in the fight against disease. He did some of the pioneer work in the study of tularemia, has conducted important investigations on plague, leprosy and influenza and has also done work in the development of some of our protective and curative vaccines and sera.

Convalescent serum, of which Dr. Armstrong has had several doses, is thought to have contributed to the improvement in his condition. This serum was obtained by some of Dr. Armstrong's fellow-officers of the U. S. Public Health Service who visited convalescent patients in Baltimore and obtained from them enough blood to yield the serum for Dr. Armstrong.

"I know of no case of psittacosis in canaries," declared Dr. Herbert Fox of the Pepper Laboratory of Clinical Medicine, Philadelphia, when questioned regarding the possibility of these popular birds having the disease which their feathered relatives, the parrots, have been suffering from and transmitting to human beings during the past few weeks.

Two cases of parrot fever or psittacosis, in which the disease was contracted from a canary, have occurred in Norfolk, Va., according to the U. S. Public Health Service. An officer of the service was sent from Washington to Virginia and reported on his return that the history of the two cases showed that the patients had contracted the disease from a sick canary.

"The identity of the disease psittacosis has not been established," Dr. Fox continued. "I have no doubt the capable workers of the government service will solve the problem. I regret deeply the loss of Dr. Stokes of Baltimore, whose death from the disease has just been reported.

"The association of parrot fever with human pneumonia outbreaks has not been perfectly established. I understand no culture of the organism has been proven in the present outbreak in this country. I have seen no confirmation of the newspaper report of the Chicago discovery. The psittacosis bacillus is not very difficult to isolate from parrots in fully developed cases of the disease. In parrots the germ seems the cause of the disease. There are groups of deaths among parrots, canaries, finches and thrushes in which the bacterial findings are not conclusive.

"I have thought of a non-microbic virus as the possible cause of the disease. If this is true of the present outbreak, the spread of the parrot infection to other birds is more than probable.

"I presume the tissues of the humans who have died have been tested

with parrots and other birds. The confusing issue is the pulmonary involvement in birds and man. The virus seems easily transmissible, possibly by dust, whereas the germs of the *Bacillus psittacosis* group are usually transmitted by food and water, also by handling of birds or soiled objects.

"The indications for parrot owners are to isolate each bird, to permit no dust from the cages, to handle the birds and their utensils with gloves, to burn the refuse and to have the birds inspected. Sick birds should not be killed and destroyed but should be shown to the authorities."

This last bit of advice was also emphasized by Dr. T. S. Palmer of the U. S. Biological Survey in Washington. Identification of the suspected birds is important as a means of tracing from what country the birds have come, Dr. Palmer said. Dr. Palmer regretted that no reliable information as to the species of the infected birds has yet been obtained. He pointed out that we import 175 different kinds of parrots into this country.

Science News-Letter, February 22, 1930

Physicians Meet—Cont'd

kidney, bladder, uterus, or blood vessels."

Definite disease of the digestive tract, such as inflammation of the gallbladder, ulceration or cancerous changes in the intestines and stomach, or appendicitis was found in 175 cases or one-third the total number.

"In 43 cases the indigestion was thought to be due primarily to nervousness and in 50 more it appeared to be due to the congenitally frail, sensitive, or psychopathic make-up of the patient," Dr. Alvarez said. "In a number of cases it was due to the fact that husband and wife were at swords' points and the meals were being eaten to the accompaniment of bitter words. Often the patient was so nervous, so querulous, or so badly upset by fatigue and worry that it was hard to know what significance to attach to the symptoms, and the operation which would have been prescribed for a strong phlegmatic person with the same complaints was hardly thought of."

Science News-Letter, February 22, 1930