

MEDICINE

Conquering Cancer

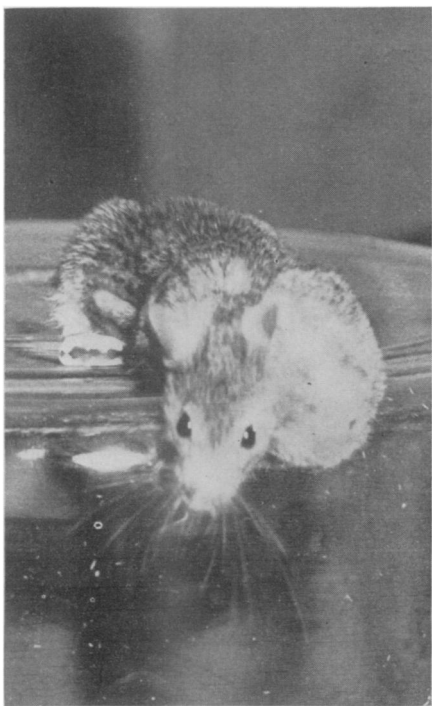
War hampers research in this important field, but scientists have hope that out of the new accelerated work on nutrition, promising hints may come.

By JANE STAFFORD

► WAR may bring an increase in the death rate from cancer, but out of the war-accelerated research on nutrition may come new knowledge and even promising hints as to how this disease may be conquered.

This is the talk in scientific circles where cancer fighters discuss their plans and hopes as they will do occasionally when scientists and science writers meet to assay what progress is being made.

The increase in cancer deaths will be misleading unless the age distribution of the population is considered. The loss of young men through war casualties will result in a relative increase of the older age groups in the population, and it is in these older groups that cancer is most prevalent.



CANCER—The huge growth on this mouse is a cancer. That a virus-like substance may cause cancer in mice, man and other mammals is suggested by recent research.

The prospect of a depletion of the staffs of cancer research laboratories and cancer diagnostic and treatment hospitals and clinics has worried some cancer control authorities ever since Pearl Harbor.

For instance, some cancer research projects in England have already been abandoned or halted because of the war's demands on the time of physicians and medical scientists. The English, with two more years of war experience than we have had, apparently have taken or have had to take the view that it is more important to save lives now threatened by battle wounds or war plagues than to continue searching for a possible cure for cancer.

Even if the war curtails some planned cancer research programs, advances in the search for knowledge of how cancer develops and how to check it may nevertheless be made. As an example of this, there is the research just reported by Dr. Alfred Taylor, of the University of Texas, which comes pretty close to showing what many have long believed, that cancer in man and other mammals is caused by a virus.

He has isolated from breast cancers of mice a virus or virus-like principle which, when injected into other mice, produces cancers. A virus cause for a certain type of chicken tumor has long been known, but Dr. Taylor's work provides apparently the first clear-cut evidence of mammalian tumors being produced by injection of material that does not contain cancer cells.

More Study Needed

Of course, much more work must be done before scientists will know for certain whether or not human cancer is caused by a virus, and if so, what can be done in the way of prevention or treatment. This probably significant discovery, however, was made during our first year at war and the circumstances show something of how other significant advances in the cancer fight might be made, even if some planned cancer research programs have to be curtailed during the war. For Dr. Taylor was not working at cancer research but in the field of nutrition.

His work was begun a month after Pearl Harbor when he was using large numbers of eggs in a study of the effects of vitamin lack on the growth and development of chick embryos.

Knowing that the yolk sac of the chick embryo had been used successfully to grow many disease-causing viruses, it occurred to Dr. Taylor that it might be possible to show the possible existence of a cancer-causing virus by using this material for its growth. So he turned from nutrition research to this cancer problem, and made the discovery just reported.

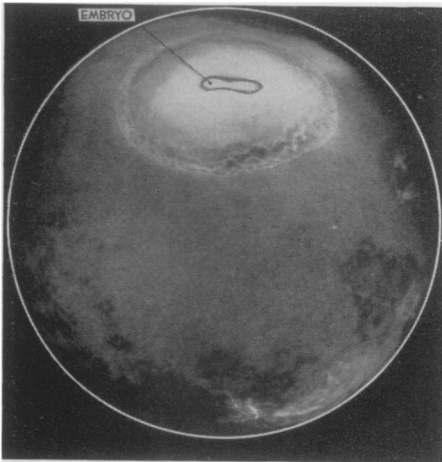
Nutrition research, which because of its direct relation to the war effort is likely to continue unabated, has provided other important leads on the cancer problem in recent years. Most people who have followed cancer news have read something about biotin. This is an important but little understood member of the vitamin B group. It is essential for the growth of yeast and other microorganisms. It is believed essential also for human nutrition, but its exact role is not yet known.

Egg White Tried

The finding of more biotin in cancerous tissues than in normal tissues focused attention on biotin as a possible factor in cancer, and even led to the suggestion that raw egg white, which contains an anti-biotin substance, might prove useful as a cancer remedy. Most cancer authorities who have investigated this last possibility see no ground now for considering raw egg white, or its anti-biotin chemical, avidin, as a cancer remedy.

Whether biotin holds any clue to solution of the cancer problem could be determined more readily and rapidly if there were more of it available. This chemical, however, is very difficult to extract from natural sources, so scientists in both nutrition and cancer research hailed a recent announcement from Prof. Vincent du Vigneaud and associates at Cornell Medical College. These scientists have worked out the structural chemical formula of biotin from which it is hoped synthesis of the vitamin and consequent ample supplies for research will soon follow.

Cancer-fighting however, is pretty much of a 50-50 job. Scientists in the



FOOD FOR GERMS—Studies of the vitamin needs of the chick embryo and knowledge that the yolk sac keeps disease viruses nourished and growing led to an important cancer discovery.

research laboratory cannot, at present, do all of it. Part of it depends on the physicians, surgeons and radiologists who diagnose and treat the condition. The other, very large part of cancer-fighting must be done by lay men and women.

Discussing the effects of war on the fight against cancer, Dr. C. C. Little, managing director of the American Society for the Control of Cancer, has warned that "women all over the country must realize that in all probability cancer will continue to kill 10 to 50 times more of them each year than will the missiles delivered by the enemy from the sea, land and air combined."

Success in treating cancer by methods now available, in other words, the can-

cer patient's chance for recovery, depends on early diagnosis and treatment. A good many men and women now know this but do not take the vital step of consulting a doctor when symptoms of possible cancer first develop. In a recent study of patients entering the New Haven Hospital or Tumor Clinic, it was found that more than half delayed consulting their doctor for over a month because they did not think their symptoms serious enough.

This shows that the first battle in the war on cancer must still be fought on the home front. Preventing unnecessary sickness, keeping well or taking prompt

steps to get well quickly are important ways of helping win the military war. Remember, therefore, the danger signals of cancer: the lump or changed appearance of the breast; the unusual bleeding; the persistent indigestion; the sore that does not heal promptly; the mole or blemish on the skin that gets bigger or is frequently cut or rubbed. Consult your doctor promptly about any of these symptoms. Just because you and he are busier than ever is no reason for putting off the consultation over such symptoms, nor for putting off the annual or semi-annual medical examination that might detect cancer.

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PSYCHOLOGY

Specific Goal Needed

Achievement of peace requires more adequate study of psychology of Americans and other peoples. We need to see day by day pattern of life ahead.

► **INDIVIDUALISM**, the dominant trait of the American character today, as it was in Daniel Boone's time, is not enough by itself to see us through the present world conflict and help to build a post-war world fit to live in, Dr. Gardner Murphy, of the College of the City of New York, declared at the meeting of the American Orthopsychiatric Association in New York.

"The one thing that will carry us through now," he stated, "is a clear definition of the future to which we move. If our leaders cannot soon give us clearer and fuller objectives, we will have to make them up ourselves."

We must go beyond the Four Freedoms to a picture of the day by day pattern of our lives such that the life we see ahead is worth the cost, if we are to make the supreme sacrifices necessary to win the war and the peace.

"In every epoch of American history," Dr. Murphy reminded his audience, "men and women have been hard to budge, sure of themselves, until a direction was defined, a goal made clear. The issue in 1860 was a hodge podge of confusion. As one State after another seceded, the North hesitated. The one thing that carried the Union through those dark days of the Civil War was the simple and clear and ever repeated determination of Abraham Lincoln to save the Union no matter what the cost."

Analyzing the American character further to learn what can be expected of

us, Dr. Murphy said that we are individualists unwillingly turned into competitors who have also had grafted on our individualism a great deal of cooperativeness through clubs and social organizations, group work and democratically led camps and playgrounds.

Our American democracy is different from that of the Greeks, the Jews, the Dutch or other earlier organizers of democracy who were more community minded, Dr. Murphy pointed out. Most of us have only for an ideal the kind of democracy in which we struggle not for our individual selves but for a collective life shared by all. To act, however, as if that ideal were already among us in practice is, he said, unreal moralism which may do more harm than good.

The liberation of war energies among people such as we are, Dr. Murphy declared, is possible only by using an individualistic type of approach which shows clearly and constantly a type of world for which we as individuals are willing to make the supreme sacrifice. He concluded:

"The achievement of a peace in which not only safety but abundance of life will be made real is to a very large degree a question of more adequate study of our own psychology and that of other peoples."

Science News Letter, March 6, 1943

British soldiers are eating Idaho *potatoes* in North Africa.

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