

the course of the treatment can be altered during these important years there may be great hope for recovery.

Effects of the treatment on heart and kidney action were reported in detail by Dr. Talbot at the meeting in Atlantic City on May 5 of the American Society for Clinical Investigation.

One of the most interesting cases described was that of a young medical student who had been admitted to the hospital several years before. She had not talked in more than two years. When her bodily temperature reached 89 degrees Fahrenheit she talked clearly and logically and with insight. When her

temperature reached 93 degrees Fahrenheit her conversation became confused and her speech thick. In describing her Dr. Tillotson said:

"During the four intervening hours she had looked and acted quite normally and could not have been diagnosed as suffering from schizophrenia. Her conduct during the following three months was possibly somewhat better. During the second treatment two months later she duplicated her previous performance. When her temperature reached 88 degrees Fahrenheit she became mentally clear and conversed for nearly four hours with her father."

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of the way cancerous growth spreads.

"Such observations have led to the conclusion that the pattern of cancerous growth is influenced decisively by surface forces," Prof. Lucké stated. "Thus, if the outgrowths from the cancer extend into the cavity of the eye where they are completely surrounded by fluid, and where in consequence interfacial forces are equalized, the resultant form is cylindrical. If, instead, the outgrowths make contact with a firm surface such as the lens, the interfacial relations become such that the edges of the growing tumor are drawn over the lens, forming a spreading membrane. If, however, the proliferating tumor pushes into the clefts of a loose tissue, such as the iris, the invading cells become arranged as spheres or cylinders, again through the operation of surface forces."

It was also possible to study cancer growth through a far wider range of temperature than is possible with higher animals, because the frog is cold-blooded. Growth was observed at temperatures ranging from only a few degrees above freezing to that of a warm summer day. Low temperatures retarded growth, high temperatures speeded it. At low temperatures the outgrowths were short, stubby, solid, whereas the more rapid growth induced by warmth produced long branching outgrowths that tended to become bulged with fluid.

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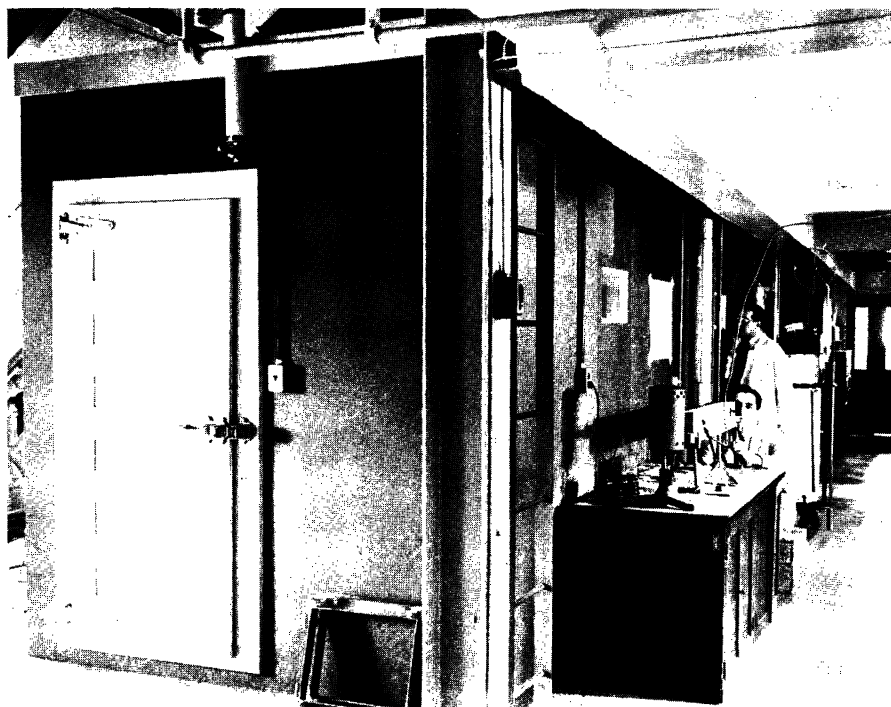
PHYSIOLOGY

Cancer Watched In Frog's Eye; New Facts Learned on Spread

Pattern of Growth Seen To Be Influenced Decisively By Surface Forces; In Fluids, Cancer Is Cylindrical

CANCEROUS tissue growing between the pupil of the eye and the curved, transparent front surface can be watched as if through a window, and studied in detail with a microscope, Prof. Bal-

duin Lucké and Dr. Hans G. Schlumberger of the University of Pennsylvania told the American Philosophical Society meeting in Philadelphia. Their investigations have led to new knowledge



TEST CHAMBER EXTERIOR

This shows the airtight door of the toluene chamber. The scientists shown are measuring the concentration of gas inside the chamber.

ARCHAEOLOGY

Armageddon Battlefield Figures in Oil War

THE BIBLE'S most famous battlefield, Armageddon, toward which international conflict is drawing, has new significance in the present struggle, for crossing the famous Palestine plain runs a pipeline to carry the Near East's most precious fighting material—oil.

The pipeline, carrying Mosul oil gushing from Baghdad west to the port of Haifa in Palestine, was opened in 1934.

If armies converge on Armageddon, as they did in the World War in 1918, and as they have been doing since at least as far back as 1479 B. C., the fighting will appear different from any battles there before, because never before has this Biblical plain seen mobile tanks in attack at 50 miles an hour. World War tanks moved at a snail's pace. Ancient Assyrians fighting at Armageddon had wheel towers for carrying battering rams or soldiers, rather suggesting forerun-

ners of tanks, of a slow-motion variety.

But throughout history until now, horses and foot soldiers have been mainstays of fighting at this field. Egyptian Pharaoh Thutmose III, who fought the first battle on record at Armageddon, against the Syrian Kings, rode in a glittering chariot of electrum, and part of his soldiers' booty was a collection of gold and silver chariots and horses that had belonged to Syrian troops.

Surprise tactics have won many victories at this pass. Pharaoh Thutmose III won by marching quickly north and rushing his troops through the narrow pass, a plan which Allenby used successfully against the Turks over 3,000 years later.

Although the plain has been a battleground throughout history, because the pass is a bottleneck controlling the route

between Egypt and the Tigris-Euphrates countries, the fortress has not been maintained since before the time of Christ. Prof. Edward Robinson stood on a mound and looked over wheat fields in the region a century ago, and wondered where the fort-city of Megiddo, or Armageddon, lay. Between the World War and this war, American archaeologists have dug into the mound where Robinson stood, finding twenty layers of ruins, representing the succession of fortified cities that overlooked the plain from about 3500 B. C. to 350 B. C.

The city 20 times rebuilt testifies to Armageddon's numerous battles and other disasters. In later times, Armageddon has seen clashes between Byzantines and Arabs, Crusaders and Moslems, and Napoleon lost near there the battle of Acre.

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writings regarding Christ, this episode has occurred before. Prof. Casson pronounced the new-found manuscript, however, a long version of Christ's supposed letter and in some respects quite unparalleled.

Written on a single sheet of papyrus, almost complete, the new record of the episode dates probably from the seventh century A.D., Prof. Casson concludes.

He translates the letters:

"Abgar, Toparch of the city of Edessa, to Jesus the Benevolent Saviour who has appeared in the city of Jerusalem, greetings.

"I have heard about you and about the cures which you effect without the use of medicines or herbs. For it is said that you cause the blind to see, the lame to walk, that you cleanse lepers and drive out unclean spirits and demons, and that you heal men tortured with chronic diseases and that you raise the dead. When I heard all these reports about you. I made up my mind that one of two things were possible: either as God descended from heaven you are accomplishing these miracles, or as the Son of God. And because of this I am now writing to beg you to come to me and cure me of my disease. For I have also heard that the Jews are muttering against you and want to do you evil. Mine is a very small city, but honored, and it is sufficient for both of us.

"Letter of Jesus Christ, Son of God, to Abgar, Toparch of Edessa.

"You are blessed, and blessed is your city, called Edessa. You are blessed because you have had faith in me although you have not seen me. For it is written of me that those who have seen me have no trust in me, but that those who have not seen me will believe and abide in me. Because you have shown your trust in me, preparations for your health will be made for you in every way. With respect to my coming to you, of which you wrote, I am obliged to fulfill these duties for which I was sent here by my Father, and, after doing so, to be taken up to my Father who sent me. But I am sending you one of my disciples who will cure you of your disease and give eternal life and peace to you and all of yours, and who will make your city safe so that none of your enemies may conquer it. Therefore I have written this letter in my own hand and sealed it with my seal."

In the papyri which the Colt expedition found during excavations at Auja Hafir, in southern Palestine, four other

ARCHAEOLOGY

Letters Purported To Be Correspondence With Christ

Unparalleled Documents Shown to Archaeologists Seem To Be Letter From Sick Syrian Asking Cure, and Reply

A LETTER purporting to be written to Jesus Christ by a sick Syrian ruler, offering Christ a haven from His enemies in exchange for healing, and Christ's own letter of reply!

A copy of this rarely interesting correspondence has come to light in Palestine, among a mass of old papyrus writ-

ings found by the Colt Archaeological Institute of New York.

Given to Prof. Lionel Casson of New York University for study, he read the letters, as he has translated them before the Classical Association of the Atlantic States meeting in Washington.

Among the doubtful, or apocryphal,

