

GENERAL SCIENCE

Plant Cancer Experiments Basis For Study in Animals

It Should Now Be Possible To Investigate Fundamental Cellular Changes Which Are Problem's Biological Bases

BECAUSE of experiments showing that cancer spreads in plants much as it does in animals, Dr. Philip R. White of the Rockefeller Institute for Medical Research, Princeton, N. J., told the American Philosophical Society that it should now be possible to investigate more thoroughly the "fundamental cellular changes which are the biological bases of the cancer problem."

Dr. White has demonstrated that cancers of plants, called crown galls, can be transplanted or occur naturally without the aid of the germ that caused the primary growth. What happens in the plant is strikingly parallel to the metastasizing or spreading of an animal or human cancer.

For more than a year tissues from the secondary tumors, which are bacteria free, have been grown by Dr. White outside the plant in vitro. Grafted into either sunflower or artichoke plants, they produce typical crown-gall tumors.

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Light Metals Fuel Stars

THE VARIABLE stars, used by astronomers as "yardsticks" of the heavens, in all probability are kept glowing by subatomic transmutations depending upon lithium, beryllium and boron, Drs. Cecilia Payne-Gaposchkin and Sergei Gaposchkin of the Harvard College Observatory, Cambridge, Mass., told the society.

The central temperatures for intrinsic variable stars are found to be too low to be kept fueled by carbon, the way in which it is believed most stars are kept supplied with energy.

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Reptiles Once Deaf

THE VERY early forms of reptiles and amphibians were deaf and such perception of sound that they may have had was more tactile than auditory, Dr. Ermine C. Case, professor emeritus of historical geology and paleontology at the University of Michigan, told the scientists.

The ear structure of the geologically younger creatures similar to our snakes and frogs could not respond to air vibrations of ordinary intensity and frequency, Dr. Case has found.

Mammals of today do hear as man hears, the evidence indicates, but the auditory apparatus of fish, amphibians and reptiles is deficient. Birds probably hear in the same way as human beings although their hearing apparatus is less elaborate.

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America's First Invasion

SIBERIA holds the secret as to when the first human beings came to America, how they got here and whence they came, Dr. Edgar B. Howard, vice-director of the University of Pennsylvania Museum told the American Philosophical Society.

Science cannot yet give a definite answer to the query: How old is man in America?

Opinion in archaeological and anthropological circles revolves about the estimate of about 10,000 years ago for the advent of man on this continent, Dr. Howard explained, but extreme estimates range from about 2,000 B.C. to 70,000 years or more ago.

"Many secrets, so far as our own country are concerned, are locked up in Siberia," Dr. Howard said. "Until we know more of the glacial geology, anthropology, and archaeology of this region, we cannot hope to answer, with any degree of satisfaction, questions such as that relating to migration routes, the culture stage reached by these early wanderers, and many others which are necessary as a foundation to a real understanding of American prehistory."

The discovery in a cave at Folsom, New Mexico, some fifteen years ago of a number of specialized spearpoints made by primitive Americans, gave much impetus to investigation of the earliest phases of American archaeology. The controversy, however, between those who held to the view that man was a recent arrival in the New World, and those who held the opposite opinion, has continued. (*Turn to next page*).

Science News Letter, May 2, 1942



FINAL ASSEMBLY

In one of America's huge airplane assembly plants located inland "somewhere in the United States," the Curtiss P-40 fighters in the foreground are being put together side by side with the 25-ton Curtiss "Troopships of the Sky" (left background).