PHYSIOLOGY

Cancerous Tissues High In Content of Biotin

A NEW characteristic of cancerous tissues, high content of biotin or vitamin H, has been discovered by Dr. Philip M. West and Dr. William H. Woglom of Columbia University College of Physicians and Surgeons. (*Science*, May 30.)

Biotin is a vitamin whose role is not well understood at present, but it has been found in so many kinds of living cells that it is assumed by many biologists to be a necessary concomitant of all living substance. It is especially abundant in embryonic tissue. The discovery of its abundance in tumorous growths fits in well with other resemblances between these unhealthy proliferations and rapidly growing normal embryonic tissues.

Science News Letter, June 14, 1941

ARCHAEOLOGY

To Explore Home Life of West 10,000 Years Ago

SCIENCE is about to open a new page of prehistoric American home life. A camp site near San Jon, New Mexico, where America's 10,000-year-old (at least) Yuma hunters gathered when the West was really wild, is to be the scene of a digging expedition by Dr. Frank H. H. Roberts, Jr., Smithsonian Institution archaeologist.

Dr. Roberts, who explored a Folsom hunters' camp ground in Colorado, and found out many details of home life in America as it was 25,000 years ago, explains that the Yuma type of early American appears to follow along closely after the Folsom hunters in the dim and shadowy past.

Both the Yuma and Folsom hunters are missing men, whose physical appearance is still a mystery to archaeologists. It is mainly from their typical stone dart points that archaeologists have deduced their presence in early America, and trailed them over a wide area of the country. Some of the darts pierced such big game as camels, giant bison, mammoths, and other animals of the American scene that died out near the end of the Ice Age. Yuma hunting weapons were thicker and stubbier than Folsom, but both kinds got their game, Dr. Roberts states.

That the camp site in New Mexico will clear up details of how Yuma hunters lived—and whether they were more progressive than Folsom hunters—is the hope of Dr. Roberts. University of New Mexico archaeologists have already made a preliminary investigation of the site. A local cowboy's discovery of the curious Yuma projectile points, some years ago, first called attention of scientists to the place.

In Yuma man's lifetime, shortly after the last great ice sheet retreated north, the site was a lake-side camp, but the lake has long since dried. Hope of finding much information about the mysterious Yuma men, and women, of ancient America by digging at this camp is based on such evidence as the quantity of stone points already found there and the masses of animal bones, indicating that groups of primitives came year after year to hunt, make tools, and camp awhile.

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MEDICINE

Sulfa Drug Available for Fight Against Dysentery

SULFAGUANIDINE, new sulfa drug that is proving a potent and swift remedy for bacillary dysentery and a life-saving aid in operations on the lower alimentary tract, will be available to physicians generally, it was announced.

Sulfaguanidine was developed by Prof. E. K. Marshall, of the Johns Hopkins Medical School, in a search for a better sulfa drug than those already available for fighting pneumonia and streptococcus infections. The peculiar property of sulfaguanidine of remaining largely in the lower alimentary canal when given by mouth, instead of being rapidly absorbed by the blood, led to its extensive trial as a remedy for infections of this part of the body, such as bacillary dysentery.

Infections with other germs in this part of the body are a great and heretofore unavoidable hazard in operations for the removal of cancer or correction of other serious disorders of the lower alimentary canal. Shortly after the discovery of sulfaguanidine's action, therefore, Dr. Warfield M. Firor, acting chief surgeon of the Johns Hopkins Hospital and acting professor of surgery at Johns Hopkins Medical School, tried it as a weapon against infection in such operations. Remarkable success with the use of the drug before and after such operations has now been reported.

Sulfaguanidine is made by the Calco Chemical Division of the American Cyanamid Company and will be made available to the medical profession through Lederle Laboratories, Incorporated.

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IN SCIEN

ENGINEERING

Power for Defense Provided by Turbine

See Front Cover

IMPORTANT for essential defense industries is a plentiful source of electrical power. Shown on the cover of this issue of the SCIENCE NEWS LETTER, is a modern Westinghouse steam turbine. Despite its compactness, this one, turning 3600 times a minute, is able to drive a generator which produces 35,000 kilowatts of power.

Science News Letter, June 14, 1941

INVENTION

Warning for Motorists When Tires Need Air

MOTORISTS are warned when their tires need air with a new deflation indicator. One is attached to each tire, and when the air pressure falls below the standards, a red signal light flashes on the dashboard. In case the driver doesn't notice it, an audible signal gives a further warning. Operated electrically from the car battery, it does not operate when the vehicle is not in use. It can be used as well in trucks, trailers, airplanes, and any vehicle with pneumatic tires.

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LINGUISTICS

Meekness of Moses Doubted by Scholar

MOSES' Bible reputation for being the meekest man on earth is probably not justified. He was harassed, not meek, says Prof. O. R. Sellers of the Presbyterian Theological Seminary.

Proverbial meekness of the Israelite leader who stood bravely before Pharaoh, rests almost entirely on a dubious, though ancient interpretation of one Bible verse, Numbers 12, verse three, he pointed out. In the verse, which says, "Now the man Moses was very meek, above all the men which were upon the face of the earth," the Hebrew word translated as meek could just as well be taken to mean vexed or harassed, Prof. Sellers explained.

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CE FIELDS

ENGINEERING

Vacuum Cleaner Keeps Locomotive Dry

A STANDARD vacuum cleaner had a novel use recently, when it served as an air compressor to keep water out of the motors of an electric locomotive. The locomotive was used in a tunnel through which water was flowing. Even with the motors raised, there was trouble with water entering. Since no air compressor was available, an ordinary vacuum cleaner was applied to give positive pressure inside the motor. This counteracted the flow of the water and kept the motors dry. (*General Electric.*)

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MEDICINE

Insuring Stout-Hearted Soldiers Requires Care

INSURING stout-hearted soldiers for Uncle Sam and protecting his purse against some of the costly mistakes of past wars requires care in both examination and early training of recruits, Dr. Eugene S. Kilgore, of San Francisco, warned at the meeting of the American Heart Association in Cleveland.

Use of the electrocardiograph and other similar diagnostic aids will help to prevent mistaken diagnosis of heart disease on the basis of certain symptoms which mask as heart trouble.

Those who have what is known as effort syndrome, in which rapid heart beat, giddiness, shortness of breath and heart consciousness are symptoms, are generally worrisome men with little stamina who, even though their hearts may be essentially sound, are likely to break down under the strain of military duty and join the rolls of disabled and pensioned veterans.

Suggesting to a recruit that his heart may not be normal might frighten him into a condition where he is not fit for duty, so Dr. Kilgore warned medical examiners to be sure of their diagnosis before telling the examinee he has heart trouble.

Building up the recruit's physical condition with plenty of rest and good food while protecting him from too strenuous physical activity during the early days of service before he has acquired the requisite physical strength may help, Dr. Kilgore suggested, to prevent many recruits from developing this effort syndrome which is perhaps as much a nervous as a heart ailment.

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WILDLIFE

Only 14,000 Bighorn Sheep Left in United States

BIGHORN sheep, like the remnants of an army that has retreated into the mountains, are making their last stand in the West. There are only about 14,000 of them left, the U. S. Fish and Wildlife Service reports. They are scattered through 12 states.

There are two kinds of these animals. The Rocky Mountain bighorn count totals approximately 8,350, with heaviest populations in Wyoming, Colorado and Idaho. There are some 5,350 desert bighorns, centered mainly in California, Nevada and Arizona.

In addition, there is an animal in Alaska, known as the Dall mountain sheep, numbering perhaps 40,000 specimens. However, some zoologists claim that this animal is not a true bighorn.

Bighorns are zealously guarded now, with strict laws against hunting, and a number of sanctuaries administered by the Fish and Wildlife Service. They also receive protection in a number of National Forests and in the National Parks where they occur. The Boulder Canyon National Wildlife Refuge in Nevada and Arizona, although primarily a wildfowl area, has a considerable herd—more than 350 of the animals.

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ENGINEERING

New Instrument for The Hard of Hearing

A NEW instrument for the hard of hearing uses in miniature vacuum tubes and essential circuits found in the most advanced broadcasting stations. Not only can it amplify sound far above normal intensity, but it can also amplify different portions of the sound spectrum by different degrees. It also gives the user control in noisy places against certain noises which might be amplified, and would destroy the intelligibility of speech. (*Western Electric.*)

Science News Letter, June 14, 1941

ANTHROPOLOGY

American Scientist First to Measure Famed Mummies

ANCIENT Peru's most famous and dignified mummies, old men with deformed super-high-brow heads and bundled in fat layers of gorgeous robes, have been measured as bare bones for the first time, for science.

Returning from Lima, Peru, where he examined physical traits of these prehistoric Indians, Dr. T. Dale Stewart of the Smithsonian Institution says that the curious custom of tightly binding the head in childhood deformed every skull he studied. Every one was an old man, indicating that an entire cemetery where 400 richly decked mummies were unearthed was a priestly burying place.

Recovering hundreds of mummies from the sands of Paracas, southern Peru, has been the work of Dr. Julio Tello, noted Peruvian archaeologist. The finds, famed internationally for ten years, hold court in a museum at Lima, where Dr. Tello displays beautifully woven and embroidered wrappings and studies this culture of Peru, that flourished nobody knows exactly how many centuries prior to 1000 A.D.

The peculiar head-binding custom of Paracas makes it hard for an anthropologist to discover what the normal facial measurements of the head type of these people were, Dr. Stewart explains. He has measured various body and head bones, and brought back to this country fragments of the mummified skin and the hair for special tests. Knowing more about the appearance and type of these ancient Indians will help in clearing up the mystery of their relationship to other ancient Peruvian peoples, and their role in South America's prehistory.

That these Indians practised an extraordinary and mysterious type of surgical operation is shown by 30 or more skulls examined by Dr. Stewart. It is well known that ancient Peruvians cut small holes in the skull which released pressure and that patients often survived this delicate operation. But this operation consisted of scraping away all but a thin inner table of skull bone, until as much as a third of the skull top was removed, even a six-inch-long piece.

It is hard to believe anything so radical was attempted during life, says Dr. Stewart, or that a patient could have survived, if it were tried. Both Dr. Tello and Dr. Stewart believe that it was done after death. But "Why?" is the mystery.

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