

MEDICINE

Nervous Stimulation Can Produce Ulcers in Stomach

MOST PATIENTS suffering from stomach ulcers and ulcers of the intestinal tract just below the stomach can be helped by medical treatment. Many of them get well, temporarily at least, without any treatment at all. Even in the worst cases, where an operation must be performed, there is slightly better than a four out of five chance for "cure."

This cheerful message was presented to the American College of Physicians by Dr. Walter C. Alvarez of the Mayo Clinic.

Dr. Alvarez described the efforts physicians and surgeons are making to find ways of curing the unlucky patient who does not get well with operation or present methods of treatment.

"Some persons show such a strong tendency to ulcers that if one is cut out another will form within the year," he explained. "Physicians are looking now for ways in which they can recognize these individuals immediately so that the operation can be avoided, or if this is impossible, so designed that there will be much less likelihood of recurrence of the trouble."

Nervous influences play a large part in the disease. Experiments have shown that stimulation of the nerves or irritation of certain parts of the brain will produce ulcers in the stomach. Persons with brain tumor are very apt to get ulcers. There are even cases of persons of nervous temperament who have all the symptoms of ulcer without an ulcer.

"One experimenter has become so convinced of the importance of the temperamental and psychic factors in the production of ulcer that he has given up experimenting on animals and says he will begin again when he finds some way of getting them to worry about the stock market," observed Dr. Alvarez.

"In many cases what the patient needs most is to let down on the strain of life, to shorten hours of labor, and to take a little vacation now and then when the stomach gets to hurting," he advised.

The gastric juice has been found to have a corrosive action on the lining of the digestive tract, but recently a way has been found to protect the walls of the stomach from the acid. This con-

sists in giving washed and dried and powdered mucin from the mucous lining of animals' stomachs.

"Some of the results obtained are encouraging but it is too early yet to estimate the value of this treatment," Dr. Alvarez commented.

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ARCHAEOLOGY

Corroded Coins May Set Date of Persian Palace

ANCIENT COINS, badly corroded, are being closely examined by archaeologists, in the hope that these bits of metal will establish the age of the Persian Palace unearthed in Tepe Hissar, said C. Ross Smith of the University of Pennsylvania Museum, in a radio talk under the auspices of Science Service, over the Columbia Broadcasting System.

The palace, recently unearthed by the museum's Persian expedition, belongs to the Sassanian Dynasty, which ruled between 220 and 650 A. D. Prior to the recent discoveries, not much had been known about this early dynasty.

GEOLOGY

Great Submarine Gorge Acted As Dump Cart for Glaciers

HOW the mysterious "new" submarine canyon in the sea floor off Georges Bank and the New England Coast made its sudden debut by acting as a huge dump wagon, sliding its load of Ice-Age debris out when jarred by an earthquake, is told by Prof. Francis Parker Shepard of the University of Illinois.

Corsair Gorge is the name of the new feature on oceanographic maps of the North Atlantic. It apparently wasn't there before the earthquake of November, 1929, which wrecked most of the transatlantic cables off the Grand Banks, 600 miles to the north. It was there by Christmas of the same year, when it was

The palace, built of burnt, sun-dried brick, was admirably planned, Mr. Smith stated. The entrance he described as having been impressively beautiful. The portal was flanked by columns, apparently with life-sized lions as guardian deities. The columns were covered to a height of six feet with richly modeled stucco ornament.

The main hall of the palace was vaulted, and supported by eight large columns. Rich mural paintings in purplish red, blue, carmine, white, and ochre evidently covered the walls. From the fragments that remain, the excavators could distinguish the picture of a horseman at full gallop, other pictures of boars' heads, and the portrait of a smiling Sassanian queen or princess wearing a pearl necklace and with her hair bound in a simple fillet. Some of the pictures contain Sassanian symbols which have not yet been identified, but which may throw an important light on the date of the building, the speaker said.

"The ornaments of some of the vaulted arches are particularly beautiful," he continued, "and clearly indicate unsuspected origins of certain Islamic patterns that were common in sixteenth century Persian carpets. The exact nature of these patterns has hitherto been obscure."

The date when the palace was occupied is tentatively set at about 300 A. D., Mr. Smith reported.

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first detected by the sounding apparatus of the steamer *Transylvania*. Its presence was confirmed through a careful survey by the U. S. Coast and Geodetic Survey.

Corsair Gorge stood as a challenge and a mystery to oceanographers. It did not appear to be the result of a sudden drop in the ocean floor. Neither did it seem to be a drowned river valley.

Prof. Shepard disposes of its newness by advancing the hypothesis that it is not new at all. He holds that the gorge originated as a deep cut, excavated by a river when the land was much higher than at present, probably millions of years ago. Then subsidence of the land decreased the valley. Later, during the

glacial period when the sea level was hundreds of feet lower than now, great ice sheets spread out onto Georges Bank. Debris carried from the terminus of the ice by a network of streams probably filled the gorge till it lost its topographic expression.

So it stood for many thousands of years, perhaps until the recent earthquake gave it a kick. Then, like the load of a dump-wagon jolted from underneath, the accumulated debris slowly slid out of the trough, leaving it empty and ready for discovery by the first passing steamer with echo-sounding apparatus.

The movement was so slow that surface waves violent enough to betray the disturbance were not formed. Soundings of the ocean bottom at the mouth of the gorge reveal a zone of hummocks formed of the displaced sediments, further evidence of the great submarine landslide.

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MEDICINE

New Weapons Forged To Fight Scarlet Fever

NEW WEAPONS with which to conquer scarlet fever, one of childhood's most serious diseases, have been forged by the scientific research division of the U. S. Public Health Service.

Chief of the new weapons is a scarlet fever streptococcus toxoid, a product which may be injected into a child's body to build up his resistance to the disease. This toxoid has been given to about 1,000 children and has given them much greater protection against the disease than any method heretofore used.

Toxoid is the poison of the scarlet fever germ to which has been added the chemical, formalin, and which has then been incubated for several months during which time it loses its poisonous property but retains ability to give protection against the disease.

The other weapons the government scientists have forged are a concentrated and purified scarlet fever toxin, for use in testing and in preparing the protective toxoid; and the development of a suitable laboratory animal method for the standardization of the scarlet fever toxin and antitoxin. This method shows great promise and as soon as possible will be made available to other laboratories interested in producing scarlet fever toxin and antitoxin.

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Red foxes are better mousers than cats.

ARCHAEOLOGY

Ancient Earth of Mexico Reveals New Treasure Tomb

Disks and Belts of Beaten Gold Among Valuable Articles Taken From Sepulcher Discovered by Indian Farmer

THE ANCIENT EARTH of Mexico has revealed another rich old Indian treasure tomb. It is second only to the great archaeological discovery at Monte Alban that in January astounded the archaeological world.

Beaten gold, carved images, green jade, and obsidian objects were unearthed from this new-found tomb in a hitherto uncharted archaeological site. The site is at Texmelincan, one hundred twenty miles south of Mexico City, in the State of Guerrero. The area about the tomb is covered with archaeological mounds, concealing no one knows what manner of buildings and remains.

An Indian farmer discovered the tomb. The rare and beautiful articles were removed secretly into the safe keeping of the Mexican Department of Archaeology.

Outstanding among the discoveries is a great disk of beaten gold, eight inches in diameter. The disk has a hole in the center. On the disk are carved two intertwined plumed serpents, familiar and important symbols in ancient Mexico. The plumed serpents are portrayed with fifty-two vertebrae, probably symbolizing the fifty-two years in the Mexican century. The head of a warrior protrudes from each serpent's gaping jaws.

Jade Necklace

Among the other rich Indian adornments in the tomb are two belts made of thin gold sheeting. These beaten-gold belts are two feet long and three inches wide. A necklace of seventy-one unusually fine carved green jade beads is another rare ornament. There are also large gold earrings, a necklace of thirty-two hollow gold beads, many pieces of carved jade, three necklaces of shell and stone beads, twenty-one copper bells, and four huge obsidian earrings, painted red.

From the tomb also were taken three onyx vases, a stone idol, four finely polished pottery vessels, apparently Toltec, and much plain pottery, some of it filled with red mercury paint and also blue mineral.

Some clues to the identity of the people who made the tomb have already been noted among the tomb objects. Serpent symbols, as well as the carved pottery, suggest the Toltec style. Symbols of Xipetotec, god of the flayed, adorn some of the pieces. Eleven copper rings are carved with Xipetotec symbols.

The nearest important ancient city to the scene of the tomb discovery is Xochicalco. This large ruin is noted for its plumed serpents and its "Toltec-Maya" style, though it is far from the Yucatan Peninsula, where the Mayan civilization flourished.

Gold-Lined Skulls

Craniums lined with gold-leaf, and gold handles that appear to belong to scepters are strange and shining objects also taken from the tomb. The curious device of lining craniums with gold leaf is said by archaeologists to have been an ancient custom among Indians in the State of Oaxaca, to the east of Guerrero. Gold leaf to the weight of a pound has been gathered up.

The Indian farmer who made the Guerrero tomb discovery found two fine stone corn grinders among the objects in the tomb. From this it appears that some of the occupants, buried with their rich possessions, were women. The number of burials has not yet been determined.

Some of the objects from this new tomb are pronounced unique. There is, for example, a miniature turquoise mask of the wind god Ehecatl. There is also a bird's head made of turquoise, and many fragments of scattered mosaics.

Of special and absorbing interest to science are the hieroglyphs on some of the objects. These picture writings and three onyx vases stand out as clues which may link the Toltec, Mixtec, Huastec, Maya, and other great cultures in south-central Mexico.

The Mexican archaeologist, Enrique Juan Palacios, stated that ancient Indian inhabitants of the Guerrero region were versed in the Toltec calendar.

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