

In reporting their biological triumph to the National Academy of Sciences, Prof. Pincus and Mr. Enzmann comment, "We believe, therefore, that this is the first certain demonstration that mammalian eggs can be fertilized in vitro."

The way for the experiments of the two Harvard physiologists was prepared by the work of earlier research men, to whom their communication gives due credit. That fertilized egg cells could be transplanted from the body of the mother animal into the body of another female, where they would then go through normal development, had been demonstrated as early as 1905 by an English physiologist, W. Heape, and his results had been confirmed in 1922 by a German group, A. H. Biedl, H. Peters and R. Hofstätler. Prof. Pincus had obtained similar results in 1930, but his effort to carry the process one step further had not then succeeded.

Babies born in glass flasks in the laboratory, instead of being brought forth by human mothers in the age-old painful way, have been a dream of modern biological romancers, just as the "homunculus," or synthetic little human being, was one of the dreams of old-time alchemists. In a little book called "Daedalus, or Science and the Future," published ten years ago, J. B. S. Haldane prophesied the "birth" of the first ectogenetic baby in 1951. But even with the success of Prof. Pincus and Mr. Enzmann before them, scientists hardly expect, in so near a future, that particular type of "blessed event."

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SEISMOLOGY

Chilean Mountains Shaken by Earthquake

THE MOUNTAINOUS region northeast of Valdivia, Chile, was the scene of a fairly severe earthquake on Thursday afternoon, March 1, seismologists of the U. S. Coast and Geodetic Survey decided after examining instrumental data obtained from five observatories by Science Service.

The epicenter was located in 39.5 degrees south latitude, 72.5 degrees west longitude, and the time of origin was 4:45.4 p. m., E.S.T.

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A plant under construction at Regensburg, Germany, will produce alcohol and saccharose products from wood.

SEISMOLOGY

Observing Ground Tilt May Aid Earthquake Prediction

PREDICTION of earthquakes a few hours before they occur may be possible in the future as a result of studies that have been made in Japan, Capt. N. H. Heck, chief of the U. S. Coast and Geodetic Survey's division of terrestrial magnetism and seismology, declared before the Brooklyn Academy of Arts and Sciences.

In a number of earthquakes there was perceptible tilt of the ground several hours before the earthquake, Capt. Heck said. In one case the villagers observing the tilt, feared a tidal wave and took to the hills. The tidal wave and earthquake came later.

A new machine for measuring tilt of the ground has been invented by George E. Merritt, formerly of the U. S. Bureau

of Standards, and installed in California through the cooperation of the U. S. Coast and Geodetic Survey and the University of California. This apparatus is expected to throw new light on California's earthquake problems. Tilt on a large scale and the creep of the earth's crust, known to be a factor in earthquake production, can be detected through triangulation and leveling, such as is being undertaken by the Coast and Geodetic Survey.

Prediction of earthquakes, however, lies in the future, Capt. Heck emphasized. We now have, he said, no possibility of prediction beyond indicating whether or not a certain region is likely to have an earthquake in the not too distant future.

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ECOLOGY

Buttresses Formed on Cypresses By Action of Air and Water

CYPRESS buttresses, those curious wide outgrowths that develop around the bases of these water-dwelling trees, are formed only when air and water have a chance to act together on the wood-forming tissues. Cypress trees growing on permanently dry land, or with their roots permanently covered with deep water, are alike in not forming buttresses.

So state Prof. Herman Kurz of Florida State College for Women, and Dr. Delzie Demaree of Stanford University, in the current issue of *Ecology*. Prof. Kurz has had unusual opportunity for observing cypresses in the vast swamphorsts of northern Florida, and Dr. Demaree has made a special study of the trees of the Reelfoot Lake region in northwestern Tennessee, where great areas of already existing forest were partly submerged by the great New Madrid earthquake of over a hundred years ago.

Everywhere the story is the same. Where there is no standing water the cypresses form no buttresses. Where

the water level is shallow and constant, the buttresses are low but very wide. Where the water level fluctuates considerably, buttresses of a more or less conical shape develop. An interesting variant of this latter condition was discovered by Prof. Kurz in some moderately deep cypress lakes that went suddenly dry and then re-filled, a season or two ago. Here the tree-trunks had buttresses twelve feet or more high, with "waists" in them, so that they resemble the bottles in which a familiar soft drink is sold.

The form and magnitude of the buttresses are directly proportional to the total time that the various buttress horizons are in contact with air and water. This relation is so clearly revealed by the buttress forms that their profiles may be used to interpret water depth and water level fluctuations of lakes in which cypresses grow.

Dr. Demaree found convincing evidence that buttresses are not necessarily formed around roots, when the water level of Reelfoot Lake sank far below