

gent birth control practiced succeeded in lowering the average birth rate below the natural biological level by only 57 per cent. The investigators reported that only a few more than one-tenth of the women in these unfortunate classes in this sample of material practiced birth control really intelligently.

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PALEONTOLOGY

Glands May Have Caused Evolution of Freak Dinosaurs

DINOSAURS may have evolved some of their most bizarre species as the result of a peculiar glandular disease known as acromegaly. Acromegalic human beings become "horse-faced" giants, with huge hands and feet. The disease is caused by the over-activity of the pituitary, a small gland within the skull.

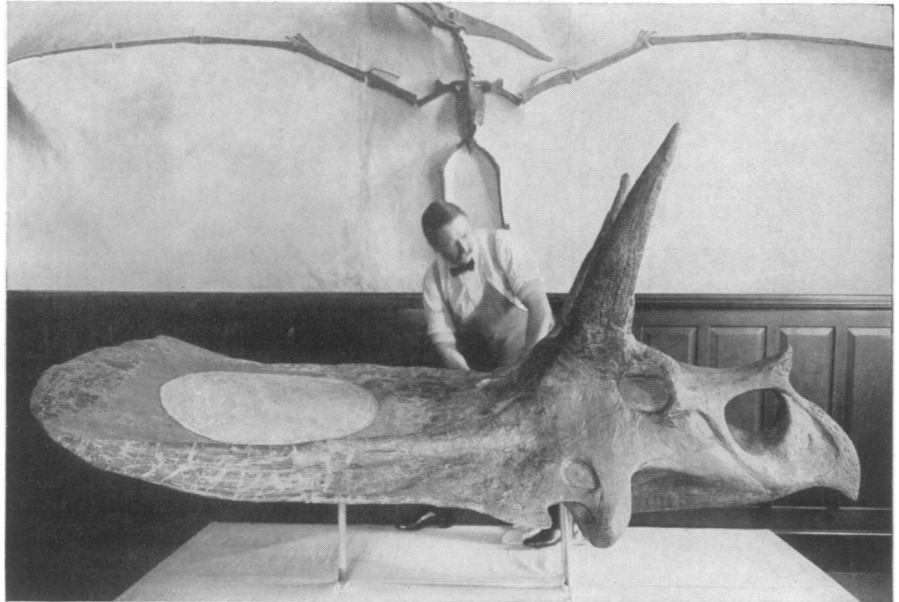
Acromegaly has been invoked by Dr. Richard S. Lull, paleontologist of Yale University, to account for the terrific skull sizes and the outrageous development of horns by certain species of ceratopsians, or horned dinosaurs, whose remains have been found in the Belly River valley, in western Canada. What may have turned a disease into a driving force in evolution is uncertain: Dr. Lull conjectures some abnormality in the food available to the animals.

One of the ceratopsians, the three-horned, rhinoceros-like *Triceratops*, is fairly familiar to the public, through skeletons and restorations in many museums, and especially through "living" models shown at the Century of Progress exposition last summer and in such motion picture romances as "The Lost World." But there were others of even weirder aspect than *Triceratops*; one of them, known as *Styracosaurus*, not only had a long nose horn, but developed eight still longer horns at the edge of his enormous bony frill or mantle that reached backwards from his head to cover his shoulders.

Although these horned dinosaurs were formidable fighters they were not flesh-eaters. This is indicated by their flat, grinding tooth-surface. Their teeth were renewable, apparently indefinitely, so that their life-span was not limited by dental failure as it is in most mammals, Dr. Lull states.

The apparent acromegalic development of the Belly River dinosaurs was not confined to the horned species, but included, for a time at least, all the great reptiles that lived in that limited area.

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A GIANT EVEN AMONG GIANTS

This skull, one of the largest pieces of dinosaurian headwork known, is in the Peabody Museum of Yale University. The great extension back of the huge horns is the bony collar or frill that covered the great beast's thick neck and shoulders. On the wall is the skeleton of a contemporary flying reptile.

ASTRONOMY

Planetary Merry-Go-Round Will Explain Earth's Motion

A MERRY-GO-ROUND will be an important feature of the new Hayden Planetarium which will open in New York next year in connection with the American Museum of Natural History. But this merry-go-round will not be in competition with those at Coney Island, nor will its passengers ride on painted lions and horses.

Follow Earth's Course

The visitor will be carried in a small carriage in a circle, representing the orbit of the earth, around the sun, an illuminated globe at the center. Above him the earth itself and other planets, in model form, will move around on tracks, and he will be able to see their changing aspects. He will see how, at different times of year, the sun is viewed against a different background of stars, themselves represented by electric lights on the circular wall of the room, 75 feet in diameter. Thus he may be able to form some appreciation of what travelers in rocket ships of the future will see when they leave our solar system and look back upon it from a point a billion miles or so from its plane.

This device, known as a Copernican Planetarium, will supplement the Zeiss optical planetarium on the floor above, in which the starry skies, as they appear from any part of the earth at any time, will be reproduced by the projection of spots of light upon a hemispherical dome. The Copernican planetarium is named after the Polish astronomer who in 1543 called attention anew to the old theory that the earth revolves around the sun. Since then it has been universally recognized by astronomers as a true statement of the facts. Only one other such device is now in existence, at the Deutsches Museum, in Munich, Germany.

Twenty Planetaria

It was at this museum also that the first optical planetarium was erected in 1924. Since then 20 have been erected, including two in the United States, in Chicago, and in Philadelphia. The third is nearing completion in Los Angeles, and the optical planetarium in the Hayden Planetarium will be the fourth in America.

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