

PHYSIOLOGY

Youngest Children Most Likely To Be Malformed

THE YOUNGER children of very large families are more likely to be born with some physical defect than are the first-born children, Dr. Douglas P. Murphy, of Philadelphia, told the meeting of the Eugenics Research Association in New York.

Death certificates of 130,132 persons dying in Philadelphia during a period of five years were examined by Dr. Murphy. Then, by visiting the mothers, he obtained information about the births of 582 individuals who had been born malformed in some way. Thirty-three of the families visited were found to contain more than one malformed child.

Malformations occurred among the oldest four in the family less often than might be expected upon the basis of chance alone. But the seventh-born children were defective twice as often as might be expected, and the ninth-born three times as often.

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SEISMOLOGY

Northern India Scene Of Many Earthquake Shocks

NORTHERN India, stricken by disastrous earthquake on Friday, May 31, is one of the "most seismic regions in the world," Frank Neumann, seismologist of the U. S. Coast and Geodetic Survey, told *Science Service*.

In prehistoric, possibly pre-human, times, the most tremendous earthquakes the world has ever known rocked the region, as is evidenced by geological structures still existing.

The mountains are still growing, so that shakes like the recent one are still to be expected fairly frequently. A violent earthquake there on Aug. 26, 1931, killed several hundred people. There was another sharp shock, though not fatal in its effects, on June 14, 1934.

The location of the epicenter of this earthquake was an unusually difficult matter, because of its remoteness from all of the reporting seismograph stations. However, the Jesuit Seismological Association, St. Louis, Mo., has calculated a tentative location in latitude 27.3 degrees north, longitude 65.7 degrees west. This is in the mountainous region of eastern Baluchistan, approximately 220 miles in a southeasterly direction from the ruined city of Quetta.

The data for this estimate were gathered telegraphically by *Science Service* from the Dominion Observatory, Ottawa; Canisius College, Buffalo, N. Y.; Georgetown University, Washington, D. C.; the University of Vermont, Burlington, Vt.; the University of Virginia, Charlottesville, Va.; Pennsylvania State College; St. Louis University, St. Louis, Mo.; the Seismological Laboratory, Pasadena, Calif., and the stations of the U. S. Coast and Geodetic Survey at Honolulu, Chicago, and Tucson, Ariz.

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ANIMAL PSYCHOLOGY

Cow vs. Horse—Which Learns Best?

COWS are just as clever as horses. Bossy's timid and backward disposition keeps man from recognizing her mental ability.

Temperament differences and intelligence similarities between these two favored domestic animals have just been revealed by tests at Cornell University, by Dr. L. Pearl Gardner as part of a series of experiments on the nature of learning in man and animals.

Cows not only learn as easily as horses, but remember better what they have learned, it was discovered. Among the six breeds of cows used in the tests, the best "milker" was also the best learner.

The learning problem for the cows and horses was to find breakfast when it was hidden in one of a row of three boxes under a black cloth. Altogether 41 cows were tested with 850 trials and 62 horses with 1,234 trials.

The cows were timid and fearful. Many were so afraid that they preferred to go breakfastless rather than attack the strange thing.

Yet when the scores were all in, it was found that both horses and cows had the same average of seven boxes opened before the correct one in 22 trials. Cows made mistakes in method of attack less frequently than horses, who often nudged the box that was already open.

Ten of the cows that had learned the problem were re-tested after a year during which they had had a vacation from the experimenting. Their retention for a year was much better than that of horses over a period of three to eight months, it was found.

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IN SCIENCE

ARCHAEOLOGY

World's Oddest Shoe On Display at Chicago Museum

MAGIC boots in which the fairy tale hero walked safely invisible are not so wonderful, after all. At least, Australian bushmen would think nothing of it, for they used to wear shoes themselves that left no plain track that an enemy could follow.

Calling these bushman shoes "the oddest shoes in the world," the Museum of Science and Industry, Chicago, is exhibiting one of them. The bushmen no longer make them, and they are extremely rare.

The shoe is woven of hair rope in which feathers of the emu are enmeshed. The wearer of these shoes was assumed to have supernatural powers. The shoes had further practical usefulness in protecting the wearer against hot sands and sharp stones of the Australian bush.

The feather shoe is a feature of a collection of over 300 historic and modern shoes, many worn by famous people, and now temporarily at the museum.

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ZOOLOGY

Hippos Can't Stay Under Water So Long As Whales

BEHEMOTH is no match for Leviathan, when it comes to holding his breath under water.

Prof. G. H. Parker, Harvard University zoologist, held a watch on three different hippopotamuses, in the zoological gardens at Hamburg, Germany, Philadelphia, and Washington, D. C., respectively, as the huge creatures, immersed in their tanks, came bubbling up at intervals to breathe. He found that the longest time any of them stayed under was 4 minutes 40 seconds, the shortest time 5 seconds, and the average 2 minutes 14 seconds. (*Journal of Mammalogy*, May).

This, he comments, does not come anywhere near the long breath-holding performances of submerged whales, which are truly aquatic mammals. The hippo is to be classified as an amphibious rather than an aquatic animal.

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E FIELDS

MEDICINE

Physicians Warn Against Reducing By Dinitrophenol

FAT folks can take off weight by proper reducing diets more effectively than they can by using the drug dinitrophenol.

The use of this drug with the long name and dangerous reputation has spread like wildfire among the obese of the nation within the last two years. Six months ago, the Journal of the American Medical Association issued a warning against reducing through the use of this substance, which can be obtained at any corner drug store.

Now come two Pittsburgh physicians, Drs. James M. Strang and Frank A. Evans, not only to repeat the warning, but emphatically to state that the drug has little practical value in weight reduction. (*Journal, American Medical Association, June 1*).

The tests showed that the same rate of weight loss can be achieved by only very slight modifications of the diet. In fact, they found the rate of weight loss obtainable by the use of the drug is only from one-fifth to one-sixth of the rate that is obtainable by diet alone.

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MUSEUM SCIENCE

It Isn't Taxidermy Now— It's Sculptoderm

THE GENTLE art of arranging animal skins in a lifelike manner isn't taxidermy. Not any more.

Sculptoderm is a more fitting term for zoological art in its up-to-date forms.

So the American Association of Museums was told at its meeting in Washington, by Louis Jonas of Yonkers, N. Y. Mr. Jonas has watched animal exhibits evolve from the stuffed owl era to the present humanized scenes that show birds and beasts so natural that visitors hardly know whether they are in a museum or a zoo.

Where the taxidermist used a variety of stuffings to fill out a skin, the sculptodermist models the contours of the animal for his foundation. Sometimes, he does not even use a real skin at all, an idea

that would have horrified the old-school taxidermists. "Nature faking," they used to say disapprovingly, when even a few artificial leaves were put on the ground for a stuffed bird to stand on. Now, a whole undersea group of sharks, sea-turtles, and fish struggling for existence may be made up and none of it "real."

"Is it faking?" asked Mr. Jonas. "No; truthful ideas are reported and scientific knowledge interpreted."

To show how far zoological art has come in its evolution, Mr. Jonas told an old incident of a naturalist who found a taxidermist struggling with a grotesque form wrapped in excelsior. He asked whether it was a lion or a lamb, and the proprietor answered:

"I don't know yet. I have the skins of both animals. Whichever will fit best, I'll use."

Today the three-dimensional scenes of animal life in museums are so real, Mr. Jonas said, that sculptors, painters and designers come to study them for models and reference.

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PLANT PHYSIOLOGY

Ethylene Made By Plants In Stems And Blossoms

ETHYLENE, used to speed up the production of color in fruits and vegetables, appears to be a normal product of the plants' own activities, from the results of recent researches at the Boyce Thompson Institute for Plant Research, Yonkers, N. Y.

Recently, independent investigations at the University of Minnesota and at Cambridge University showed that this gas is produced by apples in the process of ripening and by self-blanching celery. Now Drs. F. E. Denny and L. P. Miller of the Institute have shown that ethylene is also produced by such diverse things as dandelion, rhubarb and hollyhock leaves and peony tops. Six dandelion flowers in a two-gallon container produce enough ethylene to cause typical down-bending reaction in potato leaves.

Ethylene has such a powerful effect on the growth-rate of potato leaf-stems that one part in 40 million of air causes a downward bending, due to speeding up of growth in the tissues of their upper sides, Dr. William Crocker, director of the Boyce Thompson Institute, has shown.

The researches of Drs. Denny and Miller are cited as further evidence for the harmlessness of using ethylene gas in preparing vegetables for the market.

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NUTRITION

Mayo Clinic Finds Apples Disagree With Many

AN APPLE a day deeps the doctor in pay.

Some such paraphrase of the old saying will need to be written as a result of studies by Drs. Walter C. Alvarez and H. Corwin Hinshaw, noted authorities on diet at the Mayo Clinic. Apples are among the foods that most commonly disagree with people, these physicians have found. (*Journal, American Medical Association, June 8*)

Four persons out of five in a group of 500 men and women who admitted food sensitiveness complained of discomfort after eating apples, onions, cabbage or milk. Many who cannot touch raw apples or onions can digest with comfort boiled onions or cooked apples. Others who dare not eat boiled cabbage are able to digest cole slaw or sauerkraut, the doctors found.

Other common offenders among foods are wheat, chocolate, milk, eggs, tomatoes and oranges.

If a person has indigestion, he can select from the following list of fairly innocuous foods, these physicians find: lamb, gelatin, butter, sugar, rice, rye, barley, arrowroot, tapioca, sago, Lima or soya or string beans, cooked apple, pineapple juice, beets, peas, asparagus, Irish and sweet potatoes, eggplant, turnips, parsnips, pumpkin, artichokes, cooked pears and weak tea.

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OCEANOGRAPHY

Plan New Ice Breaker For Northern Arctic Sea Route

EVER mindful of better ways to link European Russia with the far-flung provinces and cities like Vladivostok across Siberia, U.S.S.R. is completing plans for a new ice-breaker to convoy ships along the ice-bound northern sea route for 4,000 miles.

It is proposed to install engines capable of generating 24,000 horsepower in the new ice-breaker which will make it over twice as powerful as the famous S.S. Krassin, rated at 10,000 H. P.

With great fuel capacity the new vessel should be able to make the 4,000-mile trip in a single season without touching at intermediate ports for fuel. Further exploration of the Arctic ocean is projected and the vessel can conduct freight ships through the hazardous stretch of sea.

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