

ASTRONOMY

New Birth of Earth Theory

A pancake of gas and dust which rotated around the sun is the latest theory of the earth's origin. The moon was probably formed as partner planet to the earth.

► THREE billion years ago there was a giant cloud of gas and dust rotating around the sun. A few thousand years passed and a thin pancake was formed, a gigantic ring, in the plane of the present planets. Whirling eddies of matter appeared. These shrank and finally condensed into the planets and their satellites.

This is the latest theory of the origin of the earth and the rest of the planets, advanced by Dr. Gerard P. Kuiper, director of the Yerkes and McDonald Observatories of the Universities of Chicago and Texas.

Dr. Kuiper's new theory is a modern version of the early one put forth in 1755 by the German, Immanuel Kant. He speculated that the planets and the sun were formed from a single rotating gaseous cloud.

The mass of the planets-forming nebula around the sun in the Kuiper theory was about half that of the sun. The whirling eddies became what Dr. Kuiper calls "proto-planets", each of which went into the making of its planet and its satellites.

The ring of Saturn gives an idea of what the nebula looked like, since it is the only part that failed to condense. The reason

was that it was too close to the planet.

The compositions of the planets were determined largely by the temperatures of the regions of the cloud from which they were formed. Mercury, Venus, and Earth, close to the sun, are dense materials which became solid at fairly high temperatures. Planets far from the sun, Jupiter, Saturn, Uranus and Neptune, are gases, water or ice and hydrocarbons.

Solar tides worked on the proto-planets and rotated them in the same direction as their motion around the sun. While the satellites of the planets were forming all the planets had rings like Saturn.

But the moon of the earth is an exception, according to the Kuiper theory. It was probably formed as a double planet as a partner to the earth. The earth and the moon were formed of solid matter that hailed down in a manner conceived by the earlier Chamberlin-Moulton earth origin hypothesis. The craters on the moon date from that time, and so does the Arizona meteor crater, the others on earth having been eroded away.

Science News Letter, October 22, 1949

GENERAL SCIENCE

Nobel Peace Prize Winner

► AWARD of the Nobel Peace Prize to Lord Boyd Orr, Scottish nutrition authority, marks the second time this award has gone to a scientist.

The previous award of the Peace Prize to a scientist came in 1922 when it went to Fridtjof Nansen, Norwegian Arctic explorer. Like Lord Boyd Orr, Nansen had turned from his scientific work in the field of exploration to problems of world hunger. At the close of World War I, Nansen directed relief work for famine-stricken Russia and later continued to direct two agricultural demonstration estates in the former famine areas.

"Nansen passports" owe their name to his work with refugees.

Lord Boyd Orr turned to problems of world hunger and their effect on world peace from the more conventional approach of researcher in nutrition. At Rowett Agricultural Research Institute in Aberdeen, Scotland, he organized surveys of the place of essential minerals, such as lime, salt, iodine and iron, in the diet of animals. He and his collaborators investigated the mineral content of the pastures of Britain,

parts of Africa and elsewhere.

While in Africa, he made a study, famous in scientific nutrition circles, of two African tribes living side by side but following different methods of getting a living and consequently different diets. One tribe which tended herds lived chiefly on meat, milk and blood. The other tribe lived chiefly on cereals, tubers, green leaves and peas and beans. Members of the first tribe averaged five inches taller and 23 pounds heavier and had much greater strength than the second tribe. In the first tribe, 60% of the children under eight years rated "very good" in health and nutritional state, compared to 7% of "very goods" in the second tribe. And members of the second tribe had much more tooth decay, softer bones, and more sickness than the first.

From this experience and further study of diets of humans, who, he used to say, were much worse nourished than their animals, he turned to the broader problem of hunger and the food supply in relation to world peace.

In a Thanksgiving Day message to Ameri-

cans, he predicted that the world food shortage would not end soon (See SNL, Nov. 22, 1947).

"It will continue for many years," he declared. "But it can be overcome, provided the nations act together on a unified plan. The solutions are to be found in more production and a more equitable distribution of food, together with a general improvement in the economic life of the people of the whole world.

"Then and only then may a Thanksgiving Day for the world be proclaimed."

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MEDICINE

New Technique Aids Malaria Medicine Search

► HOPE of getting a better medicine against malaria, one which will attack the parasites of the disease in the early stages, is advanced through a new technique developed by Drs. I. N. Dubin, R. L. Laird and V. P. Drinnon of the University of Tennessee.

These scientists have developed a method of getting malaria parasites to grow on chick embryos so that scientists will be able to watch through the microscope the development of the parasite through all the stages of its life cycle.

During part of this cycle after a mosquito bite has deposited the malaria parasite, or germ, in human blood, the parasite disappears. Finding a medicine that will reach it during this stage of its development is the next object of the Tennessee doctors' Navy-supported research.

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NOBEL PRIZE WINNER—Lord Boyd Orr, Scottish nutrition authority, has been awarded the Nobel Peace Prize for 1949. The second scientist to receive this award, Lord Orr has made valuable contributions to the solution of world hunger problems and their effect on world peace.