ANTHROPOLOGY

NATURE RAMBLINGS by Frank Thone

The New Year

➤ NEW YEAR'S DAY is not the same on all calendars. Many peoples reckoned the year as beginning in the spring—ancient Greeks and Romans, for example—and a few even in autumn. But the marking of the new year has always been tied up with one of the four principal points of the sun's apparent path through the heavens: spring and autumn equinoxes, when days and nights are equal in length; summer solstice, when days are longest; and winter solstice, when they are shortest.

It is quite natural to begin the year in spring, when the days have grown long enough to provide warmth and light for germinating seeds and opening buds on vines and fruit trees. Calendars that put New Year's Day on or near the spring equinox are farmers' calendars. It is not without significance that Mars, in whose month (March) the Romans celebrated the coming of their new year, was the god of agriculture as well as the god of war.

It may seem strange, if you stop to think of it, that the calendar of the Christian year, which has come to be that of all Western civilization, should begin when nights are still long and dark, and when the coldest weeks of winter are still to come. But the long nights are not quite so long as they were a couple of weeks before. The winter solstice has been passed; the sun's retreat southward has turned into an advance northward again.

It was this first token of new hope that was the occasion of the old pagan Yuletide feast, with its brave show of evergreen branches, holly, mistletoe, and all the other trappings that have been taken over bodily by ourselves, including the immemorial, somewhat irrational, but thoroughly human custom of showing how glad we are by eating (and perhaps drinking) too much.

There is no written record of the exact date of Jesus' birth, as there is in all the gospels of his crucifixion. We have a hint that it may well have been in winter, because of the anxious need for shelter that sent Joseph and Mary into a stable when there was no room for them in the caravanserai. In selecting this particular time to celebrate the birth of Christ, and his ceremonial acceptance into the Jewish community a week later, the early Church simply took over the ancient pagan feast of hope and gave it a new significance.

Science News Letter, December 28, 1946

NUCLEAR PHYSICS

Heavy Water to Be Used In British Atomic Research

➤ HEAVY WATER, which Nazi scientists had planned to use as the moderator of atomic energy piles, will be produced for British studies at the Atom Research Station at Didcot. American atomic energy piles have used graphite for the moderator, though it is known that heavy water can be employed.

Chemically, deuterium oxide, heavy water differs from standard water in that the hydrogen atoms in the heavy water molecule are isotopes with an atomic weight of two instead of hydrogen's usual one. Discovery of this heavy isotope of hydrogen won a Nobel prize for the American atomic scientist, Dr. Harold C. Urey, in 1934. There is about one part of heavy water in 6,000 parts of ordinary water.

During World War II, the Nazis had a plant in Norway producing heavy water. The Allied high command suspected the Germans of atomic bomb efforts, and British commandos, in a hazardous raid, destroyed the heavy water plant.

Science News Letter, December 28, 1946

PHYSICS

Record V-2 Shoot Caught Cosmic Rays

➤ THE RECORD V-2 rocket flight to 114 miles from White Sands Proving Grounds, New Mexico, Dec. 17, was highly successful in radioing cosmic ray data from those great altitudes to the John Hopkins Applied Physics Laboratory group under Dr. J. A. Van Allen.

Apparently the rifle grenades which were to fire artificial meteors failed to shoot as scheduled, although astronomers from Palomar and Harvard Observatories and Aberdeen Proving Grounds were ready to photograph the effects.

Weeks of computation and study will be required to analyze the cosmic ray data from the flight.

Science News Letter, December 28, 1946

PHYSICS

Vigorous Attacks Probe Cosmic Ray Mysteries

➤ VIGOROUS attacks on the secrets of cosmic rays will bring new knowledge of these mysterious particles from outer space and basic facts by which to check theories of nuclear forces and interactions between radiation matter, the Committee on Coordination of Cosmic-Ray Investigations predicted. The Carnegie Institution is now supporting in whole or part cosmic ray study at the Department of Terrestrial Magnetism, at the Bartol Research Foundation of the Franklin Institute, Philadelphia, and at New York University.

Science News Letter, December 28, 1946

BIOCHEMISTRY

Lower Fatty Acids Develop Anti-Bacterial Properties

➤ THE LOWER fatty acids, chemical building-blocks of common oils and fats, develop anti-bacterial properties on exposure to light and air, apparently through the splitting of their molecules into still smaller units with their atoms strung in shorter chains. This new information is contained in the report of Dr. H. A. Spoehr and associates, of the Carnegie Institution's division of plant biology. In general, the acids made up of bigger molecules are less effective against bacteria than those of smaller molecular weight.

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