

age, is the discovery that petroleum is being formed contemporaneously in the oceans from the debris of marine life. This explodes the theory that oil formation took millions of years of geologic time. Oil was recovered from the slime of off-shore seas and its high radiocarbon content showed it to have been formed recently.

Archaeologists reported that they had found that Jericho has been inhabited continuously for 6,000 years, which makes it the oldest city now existing.

In the heavens, something new was discovered about the great galaxy of stars, the Milky Way, in which we exist. It has spiral arms, detected both through light reaching optical telescopes and radio waves reaching radio telescopes.

The collision of two great aggregations of stars far distant from us in the universe was detected and located by very short radio waves received by radio telescopes. These nebulae are similar to our own Milky Way but so far away that it takes light millions of years to reach us. The newer method of observing both light and radio radiations produced convincing evidence that a gigantic meeting of nebulae has been spotted for the first time.

Science News Letter, December 20, 1952

AERONAUTICS

First Civilian Jetliner Starts Passenger Service

The world's first civilian jet airliner went into service, carrying 36 passengers between England and South Africa.

The greatest speed ever flown by man, 1,300 miles per hour in a Navy NACA experimental plane, was announced as accomplished in 1951.

The first helicopter crossing of the Atlantic, using the Labrador, Greenland, Iceland, Scotland route was successfully completed.

A high-speed, delta-wing interceptor aircraft went into production.

Television was used to improve radar reception for air traffic control at a busy airport.

Turboprop engines became standard equipment in an AF medium cargo transport.

Fast 100-passenger airliners with turboprop propulsion for long-range routes went into construction.

A new type of power plant, a turbo-compound standard piston engine with special exhaust turbines, was ready for use in a transport plane reported to have a maximum speed near 400 miles per hour.

Major progress was made in setting up very-high-frequency omnirange stations, blanketing the nation to guide pilots on cross-country flights.

Gas turbine and jet engines were used in sea-planes and flying boats, giving them the speed of land planes.

Britain's steam catapult for launching jet aircraft from Navy carriers was experimentally adopted by the U. S. Navy.

A revolutionary method of catapulting and belly-landing aircraft on land by catching it in a flexible sheet was developed.

A Northrop F-89D with rocket cannons in the wingtips instead of near the fuselage was announced.

A turbojet engine was developed that has, with its afterburner, a thrust giving approximately 25,000 horsepower.

A triple-deck freight airplane with room for eight automobiles, 42 passengers and crew was under construction.

A new means for bailing out of jet planes traveling at great speeds was developed; the whole cockpit is ejected by a rocket charge and parachuted to earth.

An American airbase at Thule, Greenland, 900 miles from the North Pole was opened, facilitating Great Circle flights over the top of the world.

Civilian polar air route from California to Denmark via new North Greenland defense airport at Thule was opened by an American-built Scandinavian airliner.

Airways criss-crossing the nation were given route numbers like highways.

An altimeter for use in the thin upper atmosphere was developed, using Geiger tube measurement of cosmic ray intensity as indicator of height above the earth.

A speed record of 699.9 miles an hour was made by a North American Saber jet plane at low altitude.

The "baby blabbermouth" radio signal used a recorded voice to identify stations on the VHF omniranges for aircraft.

ANTHROPOLOGY-ARCHAEOLOGY

Radiocarbon Dates Give Time of Migration Waves

Radiocarbon dates were interpreted to indicate that America was originally peopled by a long series of waves of migration, beginning more than 17,000 years ago and greatly stepped up 3,500 to 4,000 years ago.

Radiocarbon dating indicated that the ancient Dorset people, "ghosts of the Arctic," really lived in New York some 5,400 years ago while the north was still literally frozen.

Fluorine and other chemical tests of some North American human and extinct animal bones indicated that man was contemporary with some of the late Pleistocene animals.

Clovis fluted stone points, weapons used by early American man, were found for the first time in direct association with remains of a mammoth in Arizona.

Close to where 11,000-year-old Tepexpan Man was found in Mexico, discovery was made of man-made obsidian weapons and the bones of long-extinct elephants.

Superior flood control and irrigation devices were found in Arabia where they were in use a thousand years before the birth of Christ.

A new geochemical method for dating ancient human sites was developed, based on the fact

that where man makes his home he enriches the soil with chemicals, especially phosphorus and nitrogen.

Maize pollen grains, at least 2,500 years old, were found 240 feet below the surface of the lake bed on which Mexico City was built.

The shifting of archaic Mexican culture to the highlands and the return of the Nahua to the Basin of Mexico about 800-900 A.D. have been connected with climatic changes and resultant changes in lake level.

Excavations at the Biblical town of Jericho showed that people built houses and a city wall before they had learned to make pots, and that Jericho had a continuous history of at least 6,000 years.

Excavations at Nippur in modern Iraq, holy city of the Sumerians, yielded a large body of material representing the world's oldest literature and important sculptures.

Large jars in which Jewish people of the first century A.D. preserved ancient Biblical manuscripts were reassembled from fragments found in caves near the Dead Sea.

Digging was resumed at the important archaeological ruins of Pompeii where important Roman paintings have been unearthed.

Evidence of two-story construction in King Nestor's palace in ancient Greece and books on clay tablets, preserved some 3,000 years by the fire that hardened them while it destroyed the palace, were finds reported near Pylos.

A fifteenth century archer's helmet was plowed up in New Mexico and was believed to be part of the "surplus" with which the Spanish founder of the town equipped his expedition.

Human bones from the Mariana Islands showed the presence of yaws, a syphilis-like disease, in the South Pacific 1,000 years ago.

The same general pattern of social change is going on in widely separated parts of the world, it was found.

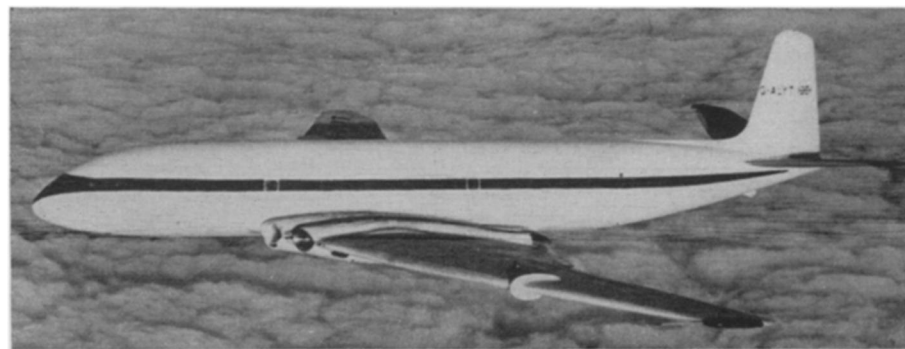
An anthropological laboratory was established in the highlands of Peru to test the effect of modern health, agriculture, education and industrialization measures on indigenous peoples.

ASTRONOMY

Trace Spiral Arms of Milky Way Galaxy

The spiral arms of our galaxy were tentatively located by tracing the shining nebosity in Milky Way fields and measuring with radio telescopes the neutral hydrogen in the space between the stars.

Upward revision of the scale of brightness of Cepheid stars, used as a stellar yardstick, placed the Magellanic Clouds, Andromeda Nebula and



COMET JETLINER—Future versions of de Havilland Comet, put in regular service in 1952, will resemble the jetliner shown here. Powered by Rolls-Royce "Avon" engines, it will carry 44 passengers, with freight and mails.