

PHYSICS

Probe Upper Atmosphere

► EXPLORATION of the strange region 100 miles or so above the earth using sound waves pitched too low for the human ear to hear has been suggested in London.

Rockets have penetrated to this great height, and either brought or radioed back information about atmospheric conditions far above the earth's surface. But they roar skyward infrequently. Radio waves can also be used to explore this mysterious region.

Experiments with abnormal sound would, however, give us "invaluable information on the structure and properties of the higher atmosphere," Dr. J. Veldkamp of the Royal Netherlands Meteorological Institute in De Bilt states.

In somewhat the same way as seismologists learn much about the structure of the earth's interior by the nature of the waves sent out by earthquakes, so physicists can tell some of the conditions of the atmosphere by the changes in very low-pitched sound waves returned to earth by the

ionosphere. Such sound waves can be heard only at abnormal distances and, since they are in part pitched too low for the human ear to hear, special instruments must be used to detect them.

These very low-pitched sound waves have been known to travel as high as 100 miles before they are bounced back to the earth, and to return 500 to 600 miles from their starting point. Sound waves in the range of human hearing, however, are absorbed before they can be bounced back to earth.

By measuring accurately the travel time and the intensity of abnormal sound, physicists could gain much valuable information on the temperature and pressure in the ionosphere, Dr. Veldkamp states, particularly in regions which until now have been explored only by radio signals and an occasional rocket.

His proposal was made in the JOURNAL OF ATMOSPHERIC AND TERRESTRIAL PHYSICS.

Science News Letter, May 31, 1952

ELECTRONICS

TV for Half of Population

► NEARLY HALF of the total population of continental United States will be able in July of this year to follow by television the activities at the Chicago conventions at which Republicans and Democrats will nominate candidates for the presidency.

They will be able to do so by means of the approximately 17,000,000 television receivers now in use in America.

Elaborate plans for radio and television broadcasting have been made for these coming political conventions, RCA stockholders were told in New York by David Sarnoff, chairman of the RCA board. By election time in November, there will probably be 18,000,000 television sets in use in America. This is in addition to the 105,000,000 radio receivers in this country.

By convention time in 1956, the great majority of Americans will be able to watch convention events, it is predicted. By that time most of the total area of America will be within television reception areas. Many new television broadcasting stations will be erected in the near future now that the Federal Communications Commission has lifted the "freeze" of the past few years and given permission for the program to proceed.

Nation-wide networks of television broadcasting will become possible with the extension of coaxial cables now under way and of relay stations for transmitting television by air. The present coast-to-coast network utilizes such relays. Coaxial cable is primarily for telephone communication but can and is being used for television.

Americans will be able to sit in their homes and watch events as they take place in London and Paris within five years, it was predicted by Mr. Sarnoff. Respecting international television, there are technical, economic and political problems that must be solved before regular service can be established. But, he stated, "it is my present belief that international television as a regular service will be realized within the next five years."

Science News Letter, May 31, 1952

MEDICINE

Diet Control of Polio Ruled Out in Mouse Study

► HOPE OF controlling poliomyelitis or preventing the paralyzing effects of this disease by diet is ruled out, reports Dr. T. F. McNair Scott, director of research at Children's Hospital, Philadelphia, to the National Foundation for Infantile Paralysis in New York.

Studies of the effects of various diets on mice infected with the Lansing strain of human polio, made over the past 10 years at his institution, are the basis of Dr. Scott's statement.

Despite trials using simple and combined diet deficiencies, investigators came to the conclusion that in no way can an experimental animal be made absolutely resistant to poliomyelitis infection through dietary means.

Science News Letter, May 31, 1952

● RADIO

Saturday, June 7, 1952, 3:15-3:30 p.m. EDT

"Adventures in Science," with Watson Davis, director of Science Service, over Columbia Broadcasting System.

Dr. Thurlow C. Nelson, professor of zoology, Rutgers University, New Brunswick, N. J., discusses "The Story of Oysters."

OCEANOGRAPHY

Two-Ship Scientific Fleet Explores Vast Pacific Area

► THE HORIZON, research vessel of the University of California's Scripps Institution of Oceanography, is now starting to explore a 4,000,000-square-mile area of the eastern equatorial Pacific that is an almost complete blank on most navigational and research charts.

The three-months cruise will take the ship as far south as Callao, Peru, with stops to be made also at Acapulco, Mexico, Puntarenas, Costa Rica, and Guayaquil, Ecuador.

A companion vessel, the EPCE (R) 857 of the U. S. Navy's Electronics Laboratory, left San Diego, Calif., early in the month of May. The two vessels will join in mid-ocean.

The project, which has been dubbed "Shellback Expedition" because it crosses the equator, is jointly sponsored by the University of California's Scripps Institution of Oceanography, the Inter-American Tropical Tuna Commission, the U. S. Fish and Wildlife Service and the Navy's Electronics Laboratory.

The two-ship scientific fleet will study currents, weather, chemical composition of the sea, undersea geology, sound transmission through water and marine life in this vast ocean area that has previously been almost unexplored.

The findings will have many practical results and affect many Americans—ranging all the way from the housewife who makes a tuna salad, to navigators aboard vessels in Pacific shipping lanes, to shipwrecked mariners or passengers of crashed airplanes.

Science News Letter, May 31, 1952

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