SCIENCE NEWS

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THE 25TH ANNIVERSARY OF RADIO BROADCASTING

RADIO broadcasting is now twenty-five years old as an American system and its silver anniversary will be celebrated by a National Radio Week, beginning on November 4. The week is sponsored by the National Association of Broadcasters at Washington, D. C., in cooperation with the four major networks and the Radio Manufacturers Association.

The first regularly scheduled broadcast, it is claimed by Westinghouse Electric Corporation, was a report of returns of the Harding-Cox presidential election on November 2, 1920, presented on its Pittsburgh station.

The year 1920 does not mark the discovery of radio or of radio broadcasting, but it is the date of the origin of the American broadcasting system. Experimental licenses were granted as early as 1916, but they were for stations experimental in character. In 1920, radio broadcasting ceased to be an experiment and became a permanent adjunct to American life.

The first radio broadcast in history, it is claimed, was on Christmas eve, 1906, from the Fessenden station at Brant Rock, Mass. Morse-code radio operators on vessels at sea were among those who picked up the human voice from the air, very much to their surprise, instead of the familiar dots and dashes.

Professor Reginald A. Fessenden was one of the pioneer radio experimenters. This first broadcast was made possible by the development of the high frequency alternator by Dr. Ernst F. W. Alexanderson, consulting engineer of the General Electric Company, who earlier this year was the recipient of the highly prized Edison Medal for 1944, awarded to him for this and other outstanding radio and electronic discoveries.

During radio week, broadcasters, equipment manufacturers and others identified with the American system of broadcasting will tell the public the meaning of this kind of broadcasting, how it came into being, its position in local and national affairs in war and peace, its role as a guardian of free speech and its contributions to the welfare of the nation and to individual citizens.

ITEMS

A NEW restoration of the skull of an ancient animal intermediate in physical characteristics between a man and an ape shows it to have been less ape-like, more man-like, than preliminary studies indicated. The creature, called Plesianthropus (Greek for "almost man"), represented thus far by skull fragments, brain cast and a few teeth, was discovered near Johannesburg, South Africa, by Dr. Robert Broom, well-known anthropologist who has done much work on the fossil primate remains of that region. The present restoration, made by Dr. William K. Gregory and Dr. Milo Hellman, of the American Museum of Natural History, is not intended to be the final one: too many parts are still missing. But so far as it has been made, on the basis of casts and minutely detailed measurements sent to this country by Dr. Broom, it takes an intermediate position between apes and men. Details regarding the new restoration are published in the *Journal of Physical Anthropology*.

THE speed of the baseball between the pitcher's hand and the catcher's mitt needs no longer be a guess; it can be measured, and timed accurately down to a ten-thousandth of a second. Electronics is the answer; a versatile electronic device does the job. The same device can measure the speed of the shutter on a camera or the rate of travel of a bullet from a rifle. In measuring the speed of a moving body, two photo tubes with light sources aimed on them are set up with a known interval between them and directly in the line of flight of the moving object. The light sources shining on the photo tubes create two beams of light. A meter begins timing when the moving object breaks the first beam of light and ceases timing when it breaks the second. It records the time in thousandths of a second. In measuring shutter speed on a camera, the time interval meter clocks time consumed by one shutter operation at any speed setting. A photo tube picks up light and transposes it to voltage pulse first when the shutter opens and again when it closes. The dial records the interval. This measurement is taken without any mechanical attachment to the camera which might retard its movement. The device was used during the war to determine time interval in checking high-speed aerial cameras.

MANY species of Pacific island birds may become extinct because of military occupation, report Dr. Harvey I. Fisher, ornithologist of the University of Hawaii, and Paul H. Baldwin, U. S. National Park Service, who recently completed a survey of birds on Midway Island. Two species of birds formerly plentiful on Midway already most likely have become extinct, Dr. Fisher and Mr. Baldwin state. The Laysan rail and the Laysan finch, both of which were plentiful on Midway in 1941, have probably been wiped out. The only other known habitat of these species is Laysan Island in the Midway group, from which both are believed to have disappeared some years ago. Other birds, though perhaps not so rare, have also suffered. The "gooney bird," or Laysan albatross, has been reduced to less than half its estimated 1941 population. Whereas there were half a million Bonin Island petrel in 1941, the present population is estimated at 25,000. Only three noddy terns were found on Midway, where 2,000 were believed to exist before the war. The importation by military shipping of rats which kill off birds; use of large areas for buildings, lawns and walks, eliminating vegetation and cover; and unavoidable slaughter of birds by planes landing and taking off are some of the reasons why military occupation of an island is devastating to bird populations. In addition, birds are unavoidably trapped in barbed wire, old gun emplacements and fox-holes. Bird eggs are also collected for eating.