taking of the ARDC, the Strategic Air Command (SAC), and the University of Chicago. The global flight was proposed by John A. Simpson and Peter Meyer of the Enrico Fermi Institute for Nuclear Studies.

With scientists of ARDC's Air Force Cambridge Research Center accompanying a selected crew from SAC's Second Air Force, the KC-97 flew a 1500-pound cosmic-ray meter on the 90,000-mile trip in order to measure the intensity of cosmic rays at the equator. From these measurements the shape of the magnetic field, far out from the earth's surface, will be determined.

Assumptions regarding the pattern of the magnetic field above the ionosphere have been based on measurements made on the surface of the earth. Heretofore it has been assumed that this pattern projected outward into space substantially as it existed on earth. Studies of cosmic rays, however, which are influenced by the earth's magnetic field as far out in space as 4000 miles, have given definite indication that the magnetic field is "twisted" and has a pattern that varies from the previous assumption. The measurements obtained during the special flight are expected to permit fairly accurate mapping of the outer magnetic equator. The information gained is expected to be of great help to many agencies who will be using geophysical data during the forthcoming International Geophysical Year.

Effort to Determine the Amount of Matter in Space

A group of investigators from Stanford University are setting up a radio listening post at the southern tip of South America in a new attempt to learn more about conditions in outer space. Ernst Gehrels, a graduate student in Stanford's Radio Propagation Laboratory, has gone to Punta Arenas, Chile, where he will install and operate the receiving equipment. Robert A. Helliwell, a member of the technical panel on ionospheric physics for the International Geophysical Year, is directing the project with support from the Office of Naval Research.

Gehrels will attempt to detect specific signals from the Navy's radio transmitter at Annapolis, Md. These will be commonly used low-frequency signals of around 20 kilocycles, ordinarily reflected back to earth by the ionosphere some 60 miles aloft. Gehrels will be located as near as possible to the point of a signal's return to earth from its take-off point at Annapolis.

The Stanford group's theory is that some of this signal energy penetrates the ionosphere and escapes into outer space. But when there is sufficient ionized matter in space, the escaping signal energy is believed to come under control of the earth's magnetic field, which focuses it and gradually bends it back toward earth. The signal's looping path through space is estimated to be 40,000 miles long and to rise 15,000 miles above the earth. The Stanford experiment may lead to a better estimate of the amount of matter in space.

Varying Incidence of Heart Disease

The Public Health Service has reported wide variations in mortality rates from coronary heart disease in different parts of the United States, with rates twice as high in some states as in others. A survey has been made that is an initial step in a nationwide study of variations in the incidence of heart disease. The survey is described by Philip E. Enterline and William H. Stewart in the 20 Sept. issue of *Public Health Reports,* Public Health Service journal.

Improved methods of reporting causes of death, which became effective in 1949, and population data from the national census of 1950 have provided information for a more accurate study of coronary heart disease rates than has been previously possible. The recent study showed that coronary heart disease causes about a third of all deaths among white males in the age group 45 to 74, and about a fifth among men 35 to 44. The rates among white females were somewhat lower. The lowest death rate for coronary heart disease among white males of all ages in 1950 was in New Mexico, 191.1 per 100,000 population. Arkansas had a rate of 201.2 and Kentucky 211.2.

Rates for white males were highest in New York, Rhode Island, and the District of Columbia (Washington, D.C.): 393.8, 364.3, and 344.3 per 100,000, respectively. For white females the differences in death rates from coronary heart disease in different areas were even greater—83.4, 87.8, and 89.0 in New Mexico, Arizona, and Nebraska, as compared with 217.4, 176.6, and 175.6 in New York, New Jersey, and Rhode Island.

News Briefs

■ The Radiological Institute of Freiburg University, Freiburg, Germany, has reported that the level of radioactivity detected in some grain fields and pastures increased during July and August and reached a level that, if maintained, would be dangerous to human beings. The radioactivity was particularly serious on high ground, and at about 4000 feet it was 10 times as strong as in the valleys. The radioactivity of milk from cows grazing on the heights in the Black Forest was about 5 times as strong as that from cows in the plains.

■ A long-distance call to London by Cleo F. Craig, president of American Telephone and Telegraph Company, inaugurated the world's first transoceanic telephone cable system on 25 Sept. Ceremonies were held in New York, London, and Ottawa. Construction of the phone link, which can carry up to 36 conversations simultaneously, was undertaken 2 years ago by A. T. and T., the British Post Office, and the Canadian Overseas Telecommunication Corporation. The principal underwater section of the system crosses the Atlantic between Clarenville, Newfoundland, and Oban, Scotland.

■ The U.S. Atomic Energy Commission has announced that it proposes to waive its statutory rights to inventions or discoveries resulting from the use of certain materials made generally available by the commission. Notice of the proposed policy and of the materials involved appeared in the *Federal Register* for 18 Sept. The published notice gives opportunity to the public to comment within 30 days after the date of publication.

■ Ground was broken last month for Canada's first nuclear power plant, which will be the plant at Des Joachims on the Ottawa River about 20 miles north of the present atomic research plant at Chalk River. The $15-million installation will have a capacity of about 20,000 kilowatts by 1958. It is not expected to produce power at an economically competitive cost, but it is designed to give scientists an opportunity to learn how to do so.

Scientists in the News

THOMAS F. GALLAGHER of the Sloan–Kettering Institute for Cancer Research delivered the first of the New York Academy of Medicine's Harvey Society lectures. He discussed "Steroid hormone production and metabolism in man." Other lectures have been scheduled as follows: 11 Oct., DAVID BODIAN of Johns Hopkins University, "Physiologic aspects of infectious processes in poliomyelitis"; 15 Nov., ERWIN CHARGAFF, professor of biochemistry at Columbia University, "Of nucleic acids and nucleoproteins"; 20 Dec., FRANCIS D. MOORE, Mosely professor of surgery at Harvard University and surgeon-in-chief for Peter Bent Brigham Hospital, "Metabolism in trauma; the meaning of definitive surgery"; 17 Jan., A. M. PAPPENHEIMER, JR., professor of microbiology at New York University College of Medicine, "Hypersensitivity of the de-