sity of Chicago has recently been made by the installation of wireless telegraph apparatus. The aerial will be stretched between the mast on Ryerson Laboratory and a similar one on Mitchell Tower, making available approximately a height of 140 feet and a length of 425 feet for the aerial conductor. This will consist of eight wires, each made of seven strands, which, including leads into the building, will require nearly six miles of phosphor bronze wire. The mounting and insulation will be most fully provided for in order to withstand a pull of three thousand pounds, which a heavy wind on ice-covered wires might produce; and also to make the electrical leakage negligibly small even when using the 20,000 volts which will be employed in transmission experiments.

The first transmitter will be of five kilowatts capacity, which will be sufficient for the present, though not suitable for transoceanic communication. The important parts of this apparatus are being made in the Ryerson Laboratory and already preliminary tests have shown that a high degree of efficiency will be attained.

All types of receiving instruments will be used and the excellent character of the aerial will make it possible to receive and experiment with the radiations from all the high-powered stations of the United States and with many of those of the European nations. Research work has already been started and arrangements made to carry on work in cooperation with another university as soon as the installation of the Ryerson apparatus is completed. Courses on the theory of wireless telegraphy and telephony coordinated with electrical measurements will be given during the coming summer quarter.

Associate Professor Carl Kinsley, of the department of physics at the University of Chicago, who prepared the substance of the foregoing statement, was for several years an electrical expert for the War Department and devised a wireless system, which was the first to be accepted by the United States government and is now in use by the San Francisco wireless station. Professor Kinsley has been connected with the University of Chicago for fifteen years.

THE LEASE OF THE TROPICAL BOTANICAL STATION AT CINCHONA

THE botanical station at Cinchona, in the Blue Mountains of Jamaica, formerly leased for ten years by the New York Botanical Garden, has now been leased by the Smithsonian Institution, on behalf of fourteen American botanists and botanical institutions that have contributed the rental. These botanists and institutions believe there is need in the American tropics of a counterpart of the famous Buitenzorg Garden in Java. They hope the opening of this laboratory at Cinchona may prove as stimulating to the development of botany in this country as the opportunities afforded at Buitenzorg have to the advance of this science in Europe.

The equipment available at the station consists of the residence, with its furnishings; of three laboratory buildings, two glass propagating houses and a garden of ten acres, containing scores of species of exotic shrubs and trees, besides many native plants from the highlands of Jamaica. The occupant of Cinchona is also free, within reasonable bounds, to study and collect plants over the many thousand acres of the whole Cinchona reservation, as well as in the neighboring valleys belonging to private owners. He will likewise be given every available facility for study at Hope Gardens, where he will find a herbarium, a library and an extensive collection of tropical plants. The same privilege will be his at Castleton Garden which contains a splendid collection of cycads, of palms, and of *Ficus* and other dicotyledonous trees.

The many different types of native vegetation accessible from Cinchona and from Hope, include a number of great ecological interest and numerous species of importance for the morphologist, cytologist and physiologist. The ecological types range from the tree ferns, epiphytes and water-soaked filmy ferns of the cool mountain forest to the hot, steaming woods of the lowlands of the north side at one extreme and to the dry savannahs and cactus deserts near Kingston at the other. Fuller

statements of the opportunities for research in various lines, written by men who have worked there, may be found in SCIENCE, Vol. 43, p. 917, 1916. (See also *Popular Science Monthly*, January, 1915.)

Any American investigator may be granted the use of the Cinchona Station by the Cinchona Committee, which consists of N. L. Britton, John M. Coulter and Duncan S. Johnson. Applications for this privilege and for information regarding the conditions under which it is granted should be sent to Duncan S. Johnson, Johns Hopkins University, Baltimore, Md.

THE COUNCIL OF NATIONAL DEFENSE

THE Council of National Defense and its advisory commission, composed of civilians, have decided to appoint seven committees to further develop the program for the mobilization of the resources of the country. They have issued the following statement:

The program of the council and commission has for its object the provision of an adequate military and naval defense based on an adequate industrial and commercial coordination and preparation. To attain this end, a definite, immediate and continuing program is being worked out.

The commission has divided into committees. A member of the commission is the chairman of each of the committees. Committees have been formed to take charge of the following subjects, and other committees will be formed as they may be needed.

A. Medicine, including general sanitation, Commissioner Franklin H. Martin, chairman.

B. Labor, including conservation of health and welfare of workers, Commissioner Samuel Gompers, chairman.

C. Transportation and communication, Commissioner Daniel Willard, chairman.

D. Science and research, including engineering and education, Commissioner Hollis Godfrey, chairman.

E. Raw materials, minerals and metals, Commissioner Bernard Baruch, chairman.

F. Munitions, manufacturing, including standardization and industrial relations, Commissioner Howard Coffin, chairman.

G. Supplies, including food, clothing, etc., Commissioner Julius Rosenwald, chairman.

The chairman of each committee will call a series of conferences with representatives of trades, businesses or professions. At such conferences the representatives shall be asked to organize so as to deal with the council through one man or through a committee of not more than three men, to whom the council shall submit problems which may affect the national defense and welfare.

One or more members of the council will meet the conferees and set forth the desires of the government and its needs. To quote the words of the enabling act, these needs are "the creation of relations which will render possible in time of need the immediate concentration and utilization of the resources of the nation."

The chairmen were authorized to select committeemen from either government or civil life.

THE ANNUAL MEETING OF THE NATIONAL ACADEMY OF SCIENCES

THE annual meeting of the National Academy of Sciences will be held at the Smithsonian Institution in Washington on April 16, 17 and 18, 1917.

By direction of the council and of the program committee, members are invited to present brief announcements, not exceeding ten minutes in length, of new discoveries and of the results of current research work, somewhat similar in scope and character to the announcements regularly made in the Proceedings. Titles, accompanied by an abstract of 100 or 200 words, should be sent to the chairman of the program committee, Professor B. B. Boltwood, Yale University, New Haven, Conn., not later than March 30, in order to be included in the program to be printed in SCIENCE. Titles which reach the chairman later than March 30 will be assigned a place by the program committee so far as time permits. About one third of the scientific program has been reserved for these announcements; the remainder will be arranged by the program committee. The sessions will be held as follows:

Monday, April 16

9.30 A.M. Business session, U. S. National Museum.

10.30 A.M. Scientific session (open to the public), U. S. National Museum.

2.30 P.M. Scientific session (open to the public), U. S. National Museum.

4.00 P.M. First William Ellery Hale Lecture,