Physiologists in 1946–47, and chairman of the Division of Biology and Agriculture of the National Research Council in 1925–26. His services were sought in numerous national and international committees because he was as effective in such activities as in everything else that he undertook. He was genuinely and effectively public-spirited.

Among the honorary societies of which he was a member were Phi Beta Kappa, Sigma Xi, Phi Sigma, the National Academy of Sciences, the American Philosophical Society, and the Philadelphia Academy of Science. He was awarded the Medal of Honor of Public Education in Venezuela in 1951.

Duggar's services and honors were manifold and diverse. His advice was widely sought by his numerous graduate students and colleagues and was always freely and cheerfully given. He furnished leadership and inspiration in plant sciences during a period when they were urgently needed; he was erudite and he was useful; he was a profound scholar and an efficient doer.

Benjamin Minge Duggar was a great leader, by virtue of the power of his intellect, by virtue of the disciplined strength of his character, and by virtue of his helpful humanity. He was a great man.

E. C. STAKMAN
Institute of Agriculture, University of Minnesota, St. Paul

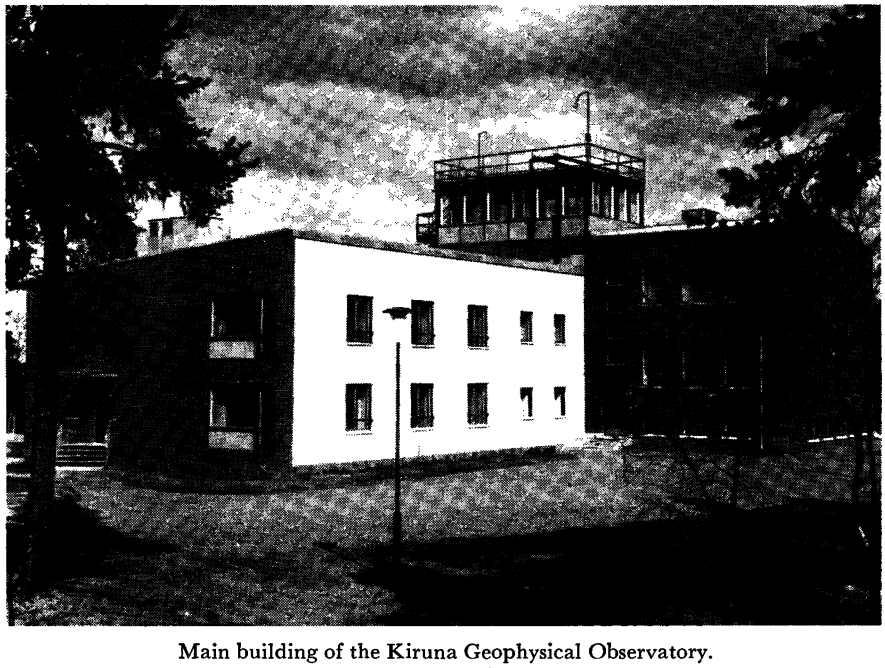
News of Science

Swedish Geophysical Observatory

The Kiruna Geophysical Observatory of the Royal Swedish Academy of Science was dedicated last summer. Representing a decade of planning, this new facility in northern Sweden will enable geophysicists interested in arctic phenomena to carry on research under the most favorable conditions. Bengt Hultqvist is director at Kiruna.

The location of the observatory is particularly significant with respect to the Geophysical Institute in Fairbanks, Alaska, because the two observatories are approximately 180° apart in longitude. This circumstance will make it possible for the two laboratories to undertake certain important types of transpolar research projects on a cooperative basis. Coordinates for Kiruna are as follows: geographic coordinates, North 67.8°, East 20.4°; geomagnetic coordinates, North 65.3°, East 115.5°. Similar coordinates for the Geophysical Institute at Fairbanks are: geographic, North 64.9°, West 147.8°; geomagnetic, North 64.5°, East 255.4°.

The Kiruna observatory consists of a main building and a number of small buildings for housing various types of instruments. It occupies a tract of 22.2 square kilometers, which provides amply for future expansion, including the establishment of auxiliary observing sites where measurements over base lines of several kilometers are desirable.



Main building of the Kiruna Geophysical Observatory.

The main building contains a series of laboratories, a combined seminar room and library, dining and lounging facilities, living quarters for investigators, a well-equipped mechanical workshop, and so forth. One large laboratory room can be subdivided into three small rooms if necessary, each suitable for one or possibly two workers. A second laboratory provides facilities for several persons, and five smaller rooms are equipped to accommodate either one or two people.

On the upper floor of the main building is a heated, glassed-in laboratory. Above this is an open deck on which can be mounted equipment requiring all-around seeing conditions. The mounting facilities are provided with supports that go down to foundation material that is independent of the building structure itself. A grant from the U.S. National Science Foundation has helped to equip the observatory with good basic instrumentation.

A special board of the Royal Swedish Academy of Science has been responsible for the planning of the new observatory. This board, which has 11 members, is headed by R. Sandler, president, and R. Sievert, vice president.

Since the dedication, Director Hultqvist has announced that the observatory welcomes suitable research proposals, particularly when appropriate financial support can also be provided. All proposals for cooperative activities should be addressed: Director, Kiruna Geophysical Observatory, Kiruna, Sweden.

Cedar Creek Forest

A new laboratory building, which will make it possible to expand studies on wildlife and plant life in their natural surroundings, was dedicated at Cedar Creek Forest, Minn., on 14 Sept. by the

University of Minnesota and the Minnesota Academy of Science.

Cedar Creek Forest, which is located approximately 25 miles north of the Twin Cities in northern Anoka and southern Isanti counties, contains a wide variety of trees, other plants, and animal life. Among the trees are all three kinds of pine that are native to Minnesota, old prostrate junipers, white cedar, white pine, black spruce, and many species of hardwoods. Among the birds are ruffed grouse, Canada spruce grouse, Canada jay, and, occasionally, the rare arctic three-toed woodpecker. Deer are numerous, and other mammals of the northern forest can be found.

The forest will be administered as a natural history area—that is, it will be used primarily for observation rather than experimentation. Access for scientific and educational purposes, as well as for protection from fire, will be permitted. The administration will seek to conserve and if possible to develop the natural values of the area and to minimize the loss or depletion of plants and animals through hunting, collecting, fishing, picnicking, or other disturbances.

William S. Cooper, of the botany department of the University of Minnesota, first called attention to the Cedar Creek Bog, as it was then known, in 1937, when he described it to the Academy Committee for the Preservation of Natural Conditions. In 1939 the Academy approved the committee's recommendation that some effort should be made to preserve the area, and in 1942 the University agreed to accept and preserve the land if the Academy would obtain gifts from private sources to make the purchase possible. By 1953, 750 acres had been purchased.

Construction of the laboratory, purchase of additional land, and other improvements were made possible by a grant, in 1954, of $250,000 from the Max C. Fleischmann Foundation of Nevada. The laboratory building contains an office, a combination meeting room, classroom, and laboratory, a map and record room, three research laboratories, and small dormitories.

Studies now underway at the forest include a wildlife survey of a portion of the area, population studies on frogs, and studies on external parasites of mice. A three-year study on total plant yield under natural conditions was begun last summer.

Sky High

A new laboratory 17,000 feet high in the Bolivian Andes, to be used for the study of the effect of altitude on the human and animal body, will be set up shortly by the University of California's Donner Laboratory with the cooperation of Bolivian scientists and with the support of the Atomic Energy Commission and private donors.

The altitude chosen is considered to be about at the limit of human acclimation. When oxygen tension is low, the production of red blood cells increases tremendously. Immediate plans call for an attempt to isolate a humoral factor that appears to stimulate production of red blood cells.

Three American scientists will remain at the high Bolivian laboratory for a month. Thereafter, the Bolivian scientists will continue research with collaboration from the California group. Much of the biological material taken at the Bolivian laboratory will be shipped to California for analysis.

Temperature Test Facility

An elevated temperature test facility which can duplicate the intense heat developed by missiles from atmospheric friction at high velocities has been developed by Westinghouse Electric Corporation.

The facility, which consists of an analog regulator, graph recorder, and multiple banks of infrared lamps, can create a 2500-degree temperature in 12 seconds. This will make it possible for aircraft builders and designers to pre-test structural parts in simulated flights.

The regulator controls the "flight pattern," proportioning the output of the infrared lamps to generate the amount of heat produced at various speeds. In actual practice, the missile or aircraft component, such as a nose cone or wing section, would be loaded to produce the aerodynamic stresses expected during flight. The theoretical flight is plotted on the graph recorder; by means of the plot, the "flight" may be checked to assure that all conditions of speed and heat were accurately reproduced.

NAS–NRC Medical Science Awards

The Division of Medical Sciences of the National Academy of Sciences–National Research Council has announced that applications for postdoctoral research fellowships for 1958–59 will be accepted *until 1 Dec.* Further information may be obtained from the Medical Fellowship Board, NAS–NRC, 2101 Constitution Ave., NW, Washington 25, D.C.

Two fellowship programs are offered: National Research Fellowships in the Medical Sciences and Donner Fellowships for Medical Research. The latter were initiated in 1956 with the support of the Donner Foundation of Philadelphia.

These programs are designed to provide research experience in the basic medical sciences for people who plan careers in academic medicine and investigation. Fellows are expected to devote their entire time to research, and funds are not available for support of practical experience in the clinical field. Awards are open to citizens of the United States and Canada who hold the M.D., Ph.D., or Sc.D. degree. Ordinarily fellowships are not granted to persons over 35 years of age.

The Division of Medical Sciences has also announced, on behalf of the James Picker Foundation, the continued availability of funds in support of radiological research. The program is oriented toward, but not necessarily limited to, the diagnostic aspects of radiology. Support is not restricted to citizens of the United States or to laboratories within this country.

Three distinct types of support are offered:

1) *Grants-in-aid* are awarded to institutions for support of specific research projects.

2) *Grants for Scholars* are a transitional form of support, designed to bridge the gap between the completion of fellowship training and the period when the young scientist has thoroughly demonstrated his competence as an independent investigator. The application is submitted by the institution on behalf of the prospective scholar. Grants of $6000 per year are made to the institution as a contribution toward the scholar's salary, or his research, or both.

3) *Fellowships in Radiological Research* are open to candidates seeking to gain research skills leading to investigative careers in the field of radiology. Candidates holding the M.D., Ph.D., or Sc.D. degree are eligible, but those trained in radiology who are 35 years of age or less will receive preference.

Applications for Picker awards for 1958–59 should be received at the NAS–NRC *by 1 Dec.* However, it should be noted that within the next year the National Research Council of Canada will assume the responsibility for serving as scientific adviser to the Picker Foundation with respect to its Canadian program.

Scholarships

The U.S. Office of Education has reported that 237,000 scholarships having a monetary value of $65.7 million were available to undergraduate college students in the school year 1955–56, com-