a few days. In a group of these animals, he could even transplant whole hearts into the peritoneal cavity. These transplanted hearts obtained an organic union with the new host, the animal thus having two hearts.

In the chemical laboratories of the university, important researches on the catalytic effects of copper and of the methyl-groups of methylated benezene compounds are in progress. In the physical institute, studies on colors and their differentiation are conducted by Dr. Duschek-Frankfurt. A prehistoric cave, discovered in the Styrian Alps near Mixnitz, gave opportunity for the study of animals and plants of diluvial times, while the results of botanic researches in the Far East and in the African Sudan, begun by Austrians before the war, have been published recently.

PHYSICS IN INDUSTRY AT THE WEMBLEY LABORATORIES[1]

THE General Electric Company, Ltd., is now a very large organization, which employs some twenty thousand workers. It has engineering works at Birmingham, where it manufactures all kinds of electrical machines. At Stoke, near Coventry, telephones are manufactured. At the Osram lamp works at Hammersmith, lamps and valves of all kinds are made. At Erith, the company took over a few years ago the works of Messrs. Fraser and Chalmers, which manufacture steam turbines and mining plants. At Southampton, electric cables of all kinds are manufactured, and the company has glass works at Lemington-on-Tyne. Mainly on the initiative of Mr. Hugo Hirst, the managing director, it was decided some six years ago to establish a central laboratory to carry out the scientific and industrial researches which are essential for the progress of industry. Mr. Clifford Paterson, who was then the head of the electro-technical department of the National Physical Laboratory, was appointed superintendent, and he is now helped by a staff of physicists and engineers, many of whom have world-wide reputations.

The opening of the research laboratories on February 27 was a very interesting function. Lord Robert Cecil, speaking at the opening ceremony, said that the immediate task of the country is to repair the waste of the war. To do this the first and most essential requirement is to use every endeavor to increase the output of human energy and skill. This can only be done in two ways, namely, by reducing expenditure and by increasing the efficiency of production. Research, by making every man's skill go further, adds to the world's wealth. Science has no territorial boundaries. By promoting research the relations between this country and the world are improved. Sir J. J. Thomson, who also spoke, pointed out that it is absolutely necessary that a research laboratory should have a highly efficient staff. The capacity for the highest kind of research is rare. Training may increase the efficiency of a researcher, but it can not put insight and originality into him. It is also certain that no research laboratory can guarantee delivery. The output of such a laboratory is always highly irregular and spasmodic. Sir Joseph Thomson also dwelt on the importance of cultivating the thinking powers of the community to the utmost.

The research laboratories are situated near Wembley and have a total floor area of 80,000 square feet, but they have ample room for expansion. The building has a north-light roof and nearly all of it is only one story in height.

[1] From an article in *Nature*.

THE UNIVERSITY OF MICHIGAN BIOLOGICAL STATION

THE fifteenth session of the University of Michigan Biological Station will be held on the shores of Douglas Lake, Cheboygan County, Michigan, during the eight-week period from July 2 to August 24. This station offers unique advantages for the study of a fauna and flora marked by the inclusion of the northern boreal forms and many of the forms characteristic of the region further south, the area being in the transition zone between the northern-eastern coniferous forest area and the central deciduous forest. The summer climate of this region is ideal for outdoor work of all kinds.

The station is conducted as a camp, with log and frame buildings for laboratories and small frame houses and tents for living quarters. A mess, operated on the cooperative plan, furnishes table board for the members of the station. Located six miles from the

nearest village and three miles from the nearest farmhouse, the station furnishes a fine experiment in community life. This isolation makes for a minimum of distraction and for concentration of interest upon biological work.

The class period lasts through the working day, thus permitting all-day field trips. Certain classes make two or three day excursions to the sand dunes along the shore of Lake Michigan. The curriculum for this session has been enriched by the addition of new courses and the expansion of some of the old. Courses will be given in ichthyology, limnology, entomology, ornithology (two courses), herpetology and mammalogy, cryptogamic botany, taxonomy of the bryophytes, systematic botany (two courses), ecology and plant anatomy. Students undertaking research under direction will find a wide variety of fields from which to select subjects for investigation. The more than one hundred and twenty-five published papers bearing on the biota of the region attest the interest of former members of the station and the encouragement given research by those in charge.

The teaching staff will include Professor P. S. Welch and Dr. F. N. Blanchard, of the University of Michigan; Professor H. B. Hungerford, of the University of Kansas, and Mr. Francis Harper, of Cornell University, in zoology; Professor J. H. Ehlers, of the University of Michigan; Professor F. C. Gates, of the Kansas State Agricultural College; Professor G. E. Nichols, of Yale University, and Dr. H. A. Gleason, of the New York Botanical Gardens, in botany. Mrs. Margaret T. Gates will serve as dean of women, and Dr. Warren E. Forsythe, of the University Health Service, will be the physician to the biological station. All inquiries should be addressed to the undersigned.

GEORGE R. LA RUE,
Director

ANN ARBOR, MICHIGAN

RUSSIAN EXILED INTELLECTUALS IN BERLIN

THOSE who responded to an appeal made by me through SCIENCE some time ago for small sums to make up a total of one thousand dollars to be used for the special relief of approximately one hundred Russian university professors and other intellectuals exiled from Russia by the soviet government, and now trying to keep alive in Berlin, where local charity is feeding and lodging them, but is unable to do more, will be interested in news of what is being done with the money put into my hands.

The total amounted to a little more than twelve hundred dollars. This was sent to Berlin to be carefully distributed by a special small Russian committee, overseen by Captain Gardner Richardson, of the American Relief Administration, and Mr. Paul B. Anderson, of the Y. M. C. A. The committee is composed of Professors N. A. Berdiaeff, Bogilepoff and Iassinsky and Mme. E. L. Kousskoff. The first action of the committee was to express its gratitude to the individual donors of the money and to the editor of SCIENCE, and to ask me to make this gratitude known to these persons. This is done herewith.

The second action was to begin at once a careful distribution of the money. I have a full list of this distribution as so far made. It is a pathetic document. I can use space to note but two or three items:

To E. L. Soubasheff, former rector of the Technological University of Tomsk, $15.

To A. L. Baikoff, professor in the University of Moscow, with family, $30.

To I. A. Iljin, professor of Moscow University, with family, $30.

To V. D. Golovatcheff and I. L. Tchesliar, members of student organizations in Moscow, sent out with professors, each $10.

And so on. I hope that each donor will realize how much his money is doing. Ten dollars make the difference between suicide and keeping alive for some of these people.

VERNON KELLOGG
NATIONAL RESEARCH COUNCIL

SCIENTIFIC NOTES AND NEWS

SIR JOSEPH THOMSON gave an address at Yale University on April 4 in connection with the dedication of the Sterling Chemistry Laboratory and the meeting of the American Chemical Society. His subject was "The unity of physics and chemistry." Next week he delivers a course of lectures at the Franklin Institute, Philadelphia.