tific discoveries into industrial achievements. It has accelerated the movement of inventions into the humblest homes.

Without our patent system, research would languish, the streams of invention would become mere trickles, our industrial supremacy would be lost, employment would be reduced, and improvements in our standards of living would be retarded.

Let us, therefore, preserve this wholesome system unimpaired in order that we may continue to enjoy the maximum benefits of research and invention. Let us be careful in attempting to effect desirable improvements in this system and to prevent its misuse, we do not weaken or destroy it. And let us also, by every means at our command, promote and expedite the distribution of its benefits to all the people.

These laboratories are not intended to pre-empt the field of radio and electronic research. In science, as in everything else, competition is the greatest spur to healthful activity. The scientists who will man the work benches in these laboratories have been in keen but friendly competition with other scientists throughout the years. The sum of the effects of all of them has greatly accelerated scientific progress.

In the alliance of science with modern industry we need both individual inventors and organized research groups. Each has its field. The flame of some men's genius burns brightest alone. Many of our greatest inventions have been made by individual scientists, with primitive equipment and with little or no help, save the inspiration of their own unquenchable spirits.

But there are many inventions that could never be made and developed in that way. They call for systematic research and for organizations of men, of materials, of equipment, of resources. The workers in these modern and efficient laboratories will have at their command all these essential factors. They will also have a valuable association with the communications, broadcasting and manufacturing services of the Radio Corporation of America. These services will be sources of ideas for development as well as of problems for solution. They will also be proving grounds for testing inventions and new devices in actual service and production. And the inventions that crystalize here will also be available under licenses to the whole radio and electronic industry.

I want to pay respectful tribute to the directors of the Radio Corporation of America for their vision, courage and broadmindedness in authorizing the building of this institution as a means of broadening and strengthening the foundations of the Corporation and of the radio and electronic industry.

Earnestly and constantly the workers in these laboratories will endeavor to render services and to produce results which will justify the confidence in them, and in the efficacy of scientific research, which is demonstrated by this wise investment for the future.

To-day, RCA Laboratories and its magnificent enrolment of men, buildings and equipment stands enlisted in the cause of war. When we leave here to-day, the gates will be closed to others than war workers. These structures will then be as much a part of the nation's armament as are its arsenals and forts. The men who work here will be as much members of its armed forces as if they were in the trenches on the battlefields. The work they will do will be military secrets carefully guarded against leakage or intrusion.

But I can give you this prophecy: the scientific progress made here will play a most important part on all the battlefields—on land and sea, under the sea and in the skies. When the war ends, and the ban of secrecy is lifted, the recital of accomplishments will thrill all of us and fill us with justifiable pride.

But when the war ends—when the victory is won—these men and these laboratories will stand dedicated in advance to serve the cause of a victorious peace. For therein lies the distinctive characteristic of our scientific endeavor. Its destructive power is one of the greatest weapons of war, and its constructive power is one of the greatest assets of peace. The same radio and electronic discoveries which these laboratories will have forged into weapons to tear down the ramparts of our enemies will also serve to rebuild the structures of our peace.

Because men work to-day in laboratories like these, new cities will rise from the ruins of the silent battlefields, richer crops will be harvested from the black stubble of scorched earth, and finer homes—richer at least in material things—will replace the homes that have been devastated by war.

The triumphs of science warrant our saying—amid all the horrors of war—there is still hope for civilization.

To help make that hope come true is the purpose to which these new laboratories are dedicated.

OTTO S. SCHAIRER

OBITUARY

FERNAND HOLWECK

1889–1941

THE news comes from unoccupied France that Dr. Fernand Holweck, director of research of the "Centre National de la Recherche Scientifique" and associate professor of physics at the Institute of Radium of the Sorbonne (Laboratorie Curie), was murdered by the Gestapo on December 14th, 1941, in a Paris prison. Further details are missing.

Dr. Holweck, born in 1889, graduated in physics

from the "Ecole de Chemie et Physique" of Paris, the school made illustrious by some of the greatest French physicists, among them Pierre Curie and Paul Langevin. In 1912 he became assistant to Madame Curie, and since that time all his activity was connected with the Curie Laboratory, which he helped to organize.

Holweck's thesis for the degree of science doctor was the well-known study on soft x-rays, which bridged the gap in our knowledge between the far ultraviolet region and x-rays. This study is a classic which still supplies most of the available information on the x-ray spectra of the elements of low atomic number. In the course of this research, Holweck's interest had been directed to the problem of high vacuum production: the result was the design of the Holweck molecular pump, the most powerful vacuum-producing device prior to the invention of the vapor diffusion pumps. Other of his important achievements in the field of applied physics are: the Holweck gravimetric pendulum, a tool that proved of the utmost utility in the oil survey technique; a high power radio tube which could be disassembled, and the first x-ray tube with successive stages of acceleration. Moreover, during research on television, he was among the first to develop the use of the focusing of electrons and to pioneer the developments of electron optics.

Through his lifelong friendship with Dr. A. Lacassagne, now head of the Pasteur Laboratory of the Institute of Radium, Holweck became interested in radiobiology. In 1929 he rediscovered, independently of previous work by Crowther, the quantic interpretation of the biological action of radiation on microorganisms. In the following years he made fundamental contributions in this field with studies on bacteria, fungi and viruses.

During the first World War, Dr. Holweck had substantially contributed to the application of science to defense, by studying with Langevin and Chilowsky the detection of submarines by means of ultrasonic waves. From the onset of the second World War until the defeat of France, he was actively engaged in defense work, and obtained some of the finest results achieved by French scientists in this field.

Less known than his personal achievements are Holweck's contributions to most of the research that was performed in the Curie Laboratory since its foundation. His tremendous skill as an experimenter (he was a man for whom technical difficulties just "did not exist") and his sympathetic disposition made him the willing adviser of all the scientific workers in his entourage. Many an important research was made possible by his uncanny ability to discover the way out of some technical bottleneck. Moreover, it is not an exaggeration to state that he contributed more than anybody else to the systematization of the radioactive technique, which was created in the Curie Laboratory and spread thence throughout the world.

With the exception of painting, for which he had a particular gift, Holweck's hobbies were mainly scientific. An amateur astronomer, he had built in his Paris home a complete observatory equipped with a 10-inch telescope, a source of admiration and envy of many professional astronomers. He was about to publish a study on certain peculiarities of Jupiter's satellites.

The privilege of collaborating with Holweck enabled the writers to appreciate not only his inspiring personality and deep humanity, but also the inflexible independence of his character. This independence was perhaps responsible for the fact that his ability was not always duly recognized. It is easy to imagine that such a man would refuse not only collaboration, but even obedience to the iniquitous Nazi rule in France. He has paid with his life for his love for freedom and for his country. His example will inspire all scientists of the world in their fight for the cause of liberty and democracy.

S. ROSENBLUM
S. E. LURIA

RECENT DEATHS

DR. ROSS A. GORTNER, chief of the division of biochemistry of the University of Minnesota, died on September 30. He was fifty-seven years old.

DR. WILLIAM COLEMAN STURGIS, from 1905 to 1914 dean of the School of Forestry of Colorado College, previously, from 1891 to 1901, connected with the Connecticut Agricultural Station, and for ten years educational secretary of the Board of Missions of the Episcopal Church of New York, died on September 29 in his eightieth year.

SCIENTIFIC EVENTS

EMERGENCY BASE HOSPITALS

SELECTED hospitals and medical schools in the coastal states have been invited by the Surgeon General of the U. S. Public Health Service to organize affiliated staff units which will be ready to serve when needed to supplement the medical staffs of Emergency Base Hospitals, now being designated by the Medical Division of the Office of Civilian Defense. These units resemble the affiliated hospital units of the Army except that they are smaller in size. They are being organ-