Science at Work

THE rubber shortage ranks as one of America's major headaches during this war. The Japanese capture of Dutch and British possessions in the Far East, from which the United States imported large quantities of rubber before the war, has caused untold millons of dollars to be spent in the United States for developing synthetic rubber for mass production.

Malaria is a menace second only to the enemy in the Pacific theater. Quinine, most effective medicine against the strength-robbing disease, stopped coming to America early in the war. Atabrine, used as a substitute, is adequate, but not entirely satisfactory. Recently, the formula for synthetic quinine was discovered, but the precious drug will not be produced in large quantities for some time.

Dr. Arthur C. Shead, associate professor of chemistry at O. U., believes that America's plight in regard to many raw material shortages comes from neglecting opportunities for domestic cultivation of useful plants. He points out that rubber trees could have been, and can be, grown quite easily in the Caribbean area. If the situation became desperate, rubber could be obtained from common prairie "weeds" such as goldenrod, guayule, milkweed and Colorado rubber weed.

Cinchona trees (the source of quinine) could be grown within the United States sphere of influence also. There are approximately three million potential malaria cases in this country who buy medicine virtually controlled by another nation. There will be many more of these people after the war.

Dr. Shead believes that the United States, in failing to establish great plant industries like those developed in the Dutch East Indies and the Malay Peninsula, has ignored natural botanical products which could be put to good use with little outlay and provide employment as well.

One of the main reasons for this neglect is that American chemists formerly looked more or less toward Germany for leadership. Germany, he says, a land with few raw materials, specialized in synthetics and substitutes. Our scientists did likewise and overlooked our natural resources, especially plants.

To overcome this handicap, he urges the establishment of industrial botanical gardens. Almost every English borough boasts such an asset, yet America has none worth mentioning. These gardens would investigate and develop the commercial uses of native vegetation.

Having no individual botanical garden to work with, Dr. Shead has organized a file of hundreds of plants that might be used for commercial purposes. Many of these plants grow in Oklahoma and the southwest. Oklahoma, being on the crossroads of four great regions, has a fusion of flora. Its plant products, unlike the mineral resources, have been neglected in the past to such a degree that they constitute a tremendous field for exploitation. A timely feature of a large number of these proposed botanical industries is that they present opportunities for one-man businesses, attractive to returning servicemen.

Rubber, sugar, camphor, gums and dyes are among the items that can be secured from the scrubby trees and oft-cursed weeds of Oklahoma's sand hills and gullies, in Dr. Shead's opinion. Many of these plants have by-products which make the entire plant commercially profitable. He believes that nothing could be more economical than recovering the wastelands and at the same time obtaining valuable, salable commodities.

Dr. Shead received his B. S. from the University in 1919 and his master's degree in 1923. He obtained his doctor's degree in 1931 from the University of Illinois, Urbana. He first joined the O. U. faculty in 1924.

The majority of his publications are in the field of analytical chemistry, one of the latest being the Oklahoma Geological Survey Bulletin No. 14, *Chemical Analysis of Oklahoma Mineral Raw Materials.* He is a member of Phi Beta Kappa and various scientific organizations, including the American Chemistry Society and the Oklahoma Academy of Science.

Currently on leave of absence from the University, Dr. Shead is serving as analytical chemist for the Oklahoma Geological Survey.—ELIZABETH LEES.

► Homer L. Dodge, former dean of the Graduate College at O. U. now president of Norwich University in Vermont, was awarded the Oersted Medal of the American Association of Physics Teachers at the annual meeting of the organization held at Columbia University, New York City, late in January. The Oersted Medal is awarded annually for notable contribution to the teaching of physics. A nationally known physicist and educator, Dr. Dodge was on leave of absence from the University faculty for two years, prior to accepting the Norwich presidency, to serve as director of the Office of Scientific Personnel in Washington. He was head of the physics department at O. U. before he became dean of the Graduate College. In 1931 he became the first president of the American Association of Physics Teachers. In 1932 he conducted for the American Association of University Professors a survey among 70 institutions in all sections of the country in connection with a program for the improvement of college teaching. In 1942 he served as chairman of the committee which raised funds for the purchase of the headquarters building in New York City of the American Institute of Physics. He is one of six physicists elected to the Council of the Society for the Promotion of Engineering Education during the last 50 years. He has secured two patents on his inventions and is the author of half a hundred articles on electrical instruments and measurements.

► Henry L. Kamphoefner, professor of architecture, was in New York City in February to serve by invitation as a member of the jury of award for the Beaux Arts Institute of Design. He helped to judge the fall group of competition drawings in all classes, including sophomore, junior and senior drawings, and sketches done by juniors and seniors in schools of architecture. Later he attended a series of meetings on policy for the Institute. On his return trip, Mr. Kamphoefner visited schools of architecture at Syracuse University, the Illinois Institute of Technology and the University of Illinois.

► Women of the University faculty honored three professors emeriti at a dinner given February 9 in the Union Building. Honorees were Grace Brown, professor of music, who came to the campus 26 years ago; Lucile Dora, professor of modern languages and first woman professor on the faculty, and Ida Z. Kirk, professor of drama who came to O. U. in 1920. Mrs. Grace King Maguire, the University's first music teacher, gave resumes of the education, achievements and services of each honoree. Costumed figurines representing the honorees and myriad glamorous women of history, created by Mrs. Leonard Good and Dorothy Kirk, decorated the tables.