Bureaus of Chemistry and Soils, Animal Industry, Plant Industry and Home Economics of the Department of Agriculture joining with Dr. Franke in the investigations. In the spring of 1931 Dr. W. O. Robison, of the Bureau of Chemistry and Soils, found in toxic wheat 10–12 p.p.m. of selenium, and he also found selenium to be present in the soils of the affected areas. Franke, by feeding selenates and selenites, was able to produce the typical symptoms of the disease so that the etiological factor was thoroughly demonstrated. His studies, however, indicated that the selenium complex in the grain was, in some instances at least, definitely more toxic than the inorganic selenates or selenites, and he accordingly turned a part of his attention to an attempt to isolate an organic selenium compound which was responsible for the toxicity. Unfortunately this work is left uncompleted, but he did adduce evidence that indicates strongly the presence of such a compound, probably one in which the sulphur of a normally occurring compound has been replaced by selenium.

In the nine years that Dr. Franke directed the chemical work in the South Dakota Agricultural Experiment Station he made a major contribution to agricultural science and accomplished far more than many men accomplish in a lifetime of endeavor. Twenty-two papers under his authorship had already appeared in print, and the experimental work on several more had been completed and manuscripts were in the process of preparation. In spite of these evidences of scientific productivity there remains considerable unpublished data and many problems which were only begun or projected.

Not only has agricultural science lost one of its most promising research workers, but those of us who knew Dr. Franke intimately feel the additional loss of a sincere and cooperative friend. He had a forceful personality, but he was always ready to contribute as much as or more than he received. His friendships were the sort that grow with time. He is survived by his wife, Louise, and a son, Royden, now a student of aeronautical engineering at the University of Virginia.

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RECENT DEATHS AND MEMORIALS

CHARLES A. WILLSON, dean of the College of Agriculture at the University of Tennessee since 1923, died on October 9 at the age of fifty-eight years.

DR. JOHN PEASE BABCOCK, formerly deputy commissioner of fisheries for British Columbia, died on October 12 at the age of eighty years.

THE death at the age of forty-nine years is announced of A. E. Clarence Smith, senior lecturer in physical chemistry at University College, Southampton, England, known for his work in photomicrography.

THE fiftieth anniversary of the beginning of the work of Dr. Charles Henry Fernald, one of the founders of economic entomology in this country and an authority in economic entomology, was celebrated at Massachusetts State College on October 16. Dr. Fernald founded the department of entomology at Massachusetts State College in 1886. He died at Amherst in 1921. Dr. W. E. Britton, state entomologist of Connecticut, presided at the formal exercises. The speakers were President Hugh P. Baker, of the Massachusetts State College; A. F. Burgess, of Greenfield, entomologist with the Federal Moth Control Laboratory, who has carried on the work of gipsy moth control begun by Dr. Fernald in 1886, and Dr. E. Porter Felt, director of the Bartlett Tree Research Laboratory, Stamford, Conn.

SCIENTIFIC EVENTS

THE MEDICAL CURRICULUM IN GREAT BRITAIN

IT is reported in *Nature* that the British General Medical Council has adopted certain resolutions in regard to professional education. These will come into operation on January 1, 1938, and include the following:

In the pre-registration requirements, it is laid down that every applicant for registration as a student by the council or for admission to the medical curriculum proper should have passed (*a*) a recognized preliminary examination in general education as laid down in the regulations of the council; and in addition (*b*) an examination or examinations conducted or recognized by one of the licensing bodies.

The subjects to be included under (*b*) are:

(1) One or two subjects of general education, other than chemistry, physics or biology, at a standard higher than that of the preliminary examination, for those who have received their instruction in these subjects before entering universities, university colleges or medical schools.

(2) Chemistry (theoretical and practical), the elementary principles of general and physical chemistry, and of the chemical combination of elements, including carbon.

(3) Physics (theoretical and practical), the elementary mechanics of solids and fluids, the elements of heat, light, sound, electricity and magnetism.

The examination in biology (theoretical and practical) may be taken either before or after registration as a student.

About a year ago a conference of representatives

nominated by the Universities of Oxford, Cambridge and London; the Royal College of Physicians of London; the Royal College of Surgeons of England and the Society of Apothecaries of London published a report on the medical curriculum which stressed the need for a continuance of the general education of intending medical students of post-school certificate stage, and therefore recommended that "the Licensing Bodies consider the possibility of allowing an encouraging exemption from the first M.B. examination by means of a higher school certificate examination conducted by any recognized examining body in which, in addition to the three principal scientific subjects, a subsidiary non-scientific subject be taken."

The higher school certificate examination is the normal objective of the post-school certificate student in public and secondary schools, and *Nature* points out that if the licensing bodies would recognize for the purpose of exemption from the second examination stated in pre-registration requirements those subjects in which a student has passed a higher school certificate examination, they will impart to the higher school certificate examination a value which has been questioned in the past by intending medical students. The recognition would also lead to greater uniformity in the education of post-school certificate students in the schools and would go a long way towards removing the evil of segregation of intending medical students from the rest of the school.

THE CONTROL OF FOREST FIRES

FOR the past fourteen years the Forest Service has been assimilating weather data that makes it possible for the ranger to determine to a certain extent the hazard of forest fires at all seasons of the year. With this information at hand and a variety of instruments he is able to estimate the probability of fires in his particular patrol and is prepared for emergencies.

According to H. T. Gisborne, senior silviculturist of the Northern Rocky Mountain Forest and Range Experiment Station, the principal factors contributing to forest-fire danger, aside from careless and indifferent human actions, are as follows: The character and volume of common forest fuels; topography, which influences the exposure of fuels and the rate of spread of fires; lightning, the one weather element that causes fire; wind, which often controls the rate of spread of fire, and current moisture content or inflammability of the fuels, which is determined principally by precipitation, temperature, humidity, solar radiation and soil moisture.

Mr. Gisborne states that the first two factors vary little from year to year, but that the third, fourth and fifth factors vary decidedly each season, even from day to day; consequently these three require daily measurement if the development of critical fire danger is to be estimated correctly, the character of each fire season rated accurately and the efficiency of the fire-control organization judged on the basis of fire danger.

Standard meteorological instruments are used in measuring weather factors by all fire-stations. This work is carried out in cooperation with the Weather Bureau. In the measurement of precipitation the standard Weather Bureau gauge, as well as a smaller Forest Service gauge, is used.

In addition to precipitation, humidity, wind and lightning, there are several other weather factors which need careful observation and accurate reporting. Haze, mist and smoke often prevent prompt discovery of fires at distant points from the lookout station. Another is the moisture content of the forest duff—the mat of dead leaves, twigs and other vegetation. The duff hygrometer, an instrument for measuring moisture content in dead vegetation, gives an accurate check on the inflammability of the material. It is possible for the forester to make a complete integration of all information from the various instruments—rain gauge, thermometer, thermograph, psychrometer, hygrothermograph, anemometer, meteorograph and duff hygrometer. From this information he can form an accurate fire-danger chart which has three major uses: (1) As a basis for localizing weather forecasts, (2) as an index of current fire-danger and (3) as a basis of fire-danger comparisons.

Mr. Gisborne points out that the value of these measurements may be offset to a great extent unless there are coordinating fire-protective regulations. In the Rocky Mountain region, such measurements are now the basis for deciding when smoking shall be forbidden within national forests, when all national forest visitors shall be required to register and obtain permits and when certain areas within national forests shall be completely closed to entry. It is desirable also that spring and fall slash burning be regulated on this basis.

THE FOSSIL CYCAD NATIONAL MONUMENT

To the two national monuments left by nature and now protected and preserved as illustrations of ancient plant and animal life, the Dinosaur National Monument of Utah and the Arizona Petrified Forests, has been added a third, the Fossil Cycad National Monument of the Southern Black Hills, of South Dakota, as a result of the work of Professor G. R. Wieland, of Yale University.

This site, in the neighborhood of the "Stratosphere Bowl" and Mount Rushmore, where the great rock carving is being carried on by Gutzon Borglum, was recognized by Professor Wieland some twenty-five years ago. Here in formations 120,000,000 years old