Dr. Hook. Dr. Hook who was as I could prove were it a proper time the first Inventor or if you please first Hinter of those things about which Magni Nominis Heroes have contested for the Priority. R. W.

Later the "Diary" and other papers were used by the Rev. William Derham in the preparation of his "Philosophical Experiments and Observations of the late Eminent Dr. Robert Hooke" (1726). After that the "Diary" and other papers were passed into private hands and were bought by the Corporation of the City of London. It was loaned by them for the purposes of this edition.

A brief 16-page "Sketch of his Life" precedes the "Diary," which fills 470 pages and is followed by a list of taverns and coffee-houses mentioned in the diary and a biographical index of 57 pages of names cited by Hooke.

The diary covers the period from August 1, 1672, to May, 1683, but entries after 1679 are not included in this work because of many extensive interruptions in the later years and the lack of significant material.

The diary is wholly lacking in literary merit and has no eye to the future reader, as seemingly did that of Pepys. It is a terse, concentrated, matter-of-fact account of his personal routine, financial, official and scientific. He was deeply interested in his own physiology, especially in the effects of his food and drink, and one sees how important in the scientific life of his day were the convivial meetings, where conversation and criticism stimulated thinking. He notes often the purchase and reading of books, scientific instruments, methods of flying, Leeuwenhoek's tadpoles and mites, and, in later years, his diverse services as surveyor for the City of London in directing rebuilding after the Great Fire of 1666.

It was fortunate that his "Micrographia" was published in 1665, for shortly afterwards his public services were so onerous that even the Royal Society became restive lest its scientific activities be restricted thereby. His "Diary" was written during this period of divided attention given to the architectural service of the city, the professorship of geometry in Gresham College and the secretaryship of the Royal Society. The "Diary" reveals his inventiveness; his ingenuity along mechanical lines; his wide interests in chemical matters stimulated, doubtless, by years of association with Robert Boyle as his assistant; his wide acquaintanceship with scientific men of his day; and his unusual and remarkable versatility.

CHARLES A. KOFOID

REPORTS

DESTRUCTION OF THE GREAT WESTERN RANGES

A REPORT entitled "The Western Range," U. S. Government Printing Office, 1936, has been transmitted to the United States Senate by the Secretary of Agriculture in response to Senate Resolution 289 (74th Cong. 2d. sess.) reading as follows:

Whereas large parts of the western range have been subject to unrestricted use since settlement and are commonly believed to be more or less seriously depleted; and

Whereas the Department of Agriculture has through many years of research and of administration of the national forests accumulated a large amount of information on the original and present condition of the range resource, the factors which have led to the present condition, and the social and economic importance of the range and its conservation to the West and to the entire United States: Therefore be it

Resolved, That the Secretary of Agriculture be, and hereby is, requested to transmit to the Senate at his earliest convenience a report incorporating this information, together with recommendations as to constructive measures.

The report was prepared by the U. S. Forest Service with the cooperation of other government and state agencies. It is the first attempt to treat the range resource as a whole and presents an unusually clear picture of the destruction of land and water resources resulting from unwise use of range lands. It is a book of 620 pages well illustrated.

One of the primary reasons for neglect, and hence the serious depletion of the range resource and a series of major maladjustments in land use, has been a division of responsibility among public agencies.

That this division of responsibility must be corrected before satisfactory progress can be made in formulating and in putting into operation a long time program is made evident by the facts presented.

Among the high lights of the report the following are of special interest.

The range area of 728 million acres is nearly 40 per cent. of the total land area of the continental United States; more than 99 per cent. is available for live stock grazing.

About half the range area is in private ownership.

Three fourths of the entire range area has declined during the last 30 years, and only 16 per cent. has improved.

About seven tenths, or 523 million acres, of the range area is still subject to practically unrestricted grazing.

No less than 589 million acres of range land is eroding more or less seriously, reducing soil productivity and im-

pairing watershed service. Three fifths of this area is adding to the silt load of major western streams.

It will probably require more than 50 years of management to restore the depleted range sufficiently to carry even the 17.3 million livestock units now grazed and probably an additional 50 years to restore it to the nearest possible approach to its original grazing capacity of 22.5 million units.

Action of greatest immediate urgency and importance is to—

Stop soil and forage depletion, and start both on the upgrade;

Reduce excessive stocking, place all range lands under management, and restore cheap range feed;

Rectify land ownership and use maladjustments, and obtain a sound distribution of ownership between private and public agencies;

Build up economic private and public units;

Balance and integrate crop and range use;

Correlate the livestock, watershed, forest, wildlife, and recreation forms of range-land uses and services;

Obtain a recognition of the responsibility of stewardship by private owners;

Minimize or remove various financial handicaps of stock producers;

Reconcile range conservation and the financial needs of State institutions;

Solve the tax delinquency problem;

Place public lands under the supervision of agricultural agencies as a step toward unification of public responsibility for the entire range problem. Provide on such lands for a sound distribution of grazing privileges, and prevent the establishment of prescriptive rights;

Obtain and apply the information necessary for the conservation and wise use of the range resource;

Prevent human wastage and insure social and economic security.

This report should be studied in connection with the symposium "Scientific Aspects of Flood Control," sponsored by the Ecological Society of America and the American Association for the Advancement of Science at the Rochester meeting of the association. The papers presented in this symposium were of such outstanding value that they are being issued with illustrations as a supplement to SCIENCE in the Occasional Paper Series of the American Association for the Advancement of Science. They will be invaluable to all interested in soil conservation and flood control.

A. F. WOODS

SPECIAL ARTICLES

SOME RESULTS OF INVESTIGATIONS ON POLYPORUS SCHWEINITZII FR.

IN July of 1928, while forest pathologist in the New York State Conservation Department, the senior writer's attention was called to a resinosis disturbance which was present in the root crown and in the roots of northern white pine (*Pinus strobus* L.) in forest plantings at Norwich, N. Y. A year later, there was reported to him a similar condition in the municipal forest plantings of the city of Rochester, N. Y., located along Hemlock and Canadice Lakes. Preliminary surveys of these situations showed that, although the disease was making very rapid progress, the cause was quite obscure. The plantings along Hemlock Lake, where the disturbance was most severe, were established from 1910 to 1914 on abandoned fields. All the stock had been grown from seed in the nurseries of the New York State Conservation Department. Imported white-pine seedlings had been grown a few years previously in some of these nurseries which have since been abandoned. This fact suggested the possibility that a parasitic fungus of foreign origin might have been introduced into the nursery soil and spread to various places in the state on stock grown from seed in these nurseries.

Intensive investigations of the cause of this disturbance were begun in the summer of 1930 by the senior writer and have been conducted largely in the region of Hemlock and Canadice Lakes. Reddish streaks suggestive of incipient decay were observed occasionally in the central part of some of the "resinosed" roots; many cultures from these discolored regions failed to yield any organism known to cause the decay of wood; bacteria were the only organisms present in the majority of the cultures.

In August, 1932, a single sporophore which resembled *Polyporus Schweinitzii* Fr. was found, but it was so imperfectly developed that a species determination was impossible. It was attached to the base of a living tree which showed little evidence of resinosis. In the summer of 1933, sporophores of *P. Schweinitzii* were occasionally observed near the base of dead and diseased white-pine trees in an eleven-acre tract along Hemlock Lake. Sporophores of this fungus were quite abundant in this and two other plantings in the summer of 1935. The earliest date on which a perfect sporophore of *P. Schweinitzii* has been observed in this locality was June 6, 1935. With this discovery of *P. Schweinitzii,* the senior author then sought to determine whether the resinosis was caused by this organism or if it was due to some other pathogene. Hundreds of cultures from the "resinosed" lesions failed to yield *P. Schweinitzii,* but a grayish-black fungus developed in approximately 75 per cent. of these cultures; all efforts to induce the latter to fruit have been unsuccessful. Thus it would seem that no direct connection