

Research Laboratory, furniture beetles are more prevalent than is often believed. Dr. Fisher pointed out that war-time furniture storage is likely to spread the trouble even further. Control of insects in wood is exceedingly difficult, but prevention of attack is much more feasible as a result of the researches on the physiology and dietetics of the pests. For example, it has been found that the so-called 'dry' wood-borer, *Anobium*, really needs a fairly high moisture content to flourish. Also the attack of *Lyctus* beetles can be prevented by elimination of starch.

Mr. Fox Wilson dealt with two pests less harmful but of considerable importance as nuisances. It is not generally realized that the invasion of houses by earwigs may actually render them uninhabitable. The reasons for such invading swarms are obscure, but they often occur on new building sites, and various connecting factors have been suggested.

The ants which trouble us in our houses and institutions may either be tropical species which have become 'domesticated' or invaders from the garden.

Both ants and earwigs can best be controlled by baiting, but whereas an arsenic-syrup bait is most effective against ants, the earwigs are most attracted by a bran-fluosilicate-fish-oil mixture.

¹ Johnson, C. G., *J. Hygiene*, **61**, 345 (1942).

cerned with the development of a single organ, the lens of the eye. Spemann entered both these fields, with his famous constriction experiments on the early cleavage stages of Triton, and his early grafting experiments on the optic rudiments of the same form. By 1918 he was able to bring forward his concept of the 'organization-centre', and demonstrate that the morphogenesis of the embryo, in its main outlines as well as in its details, is the result of interactions between different regions of tissue. For the next fourteen years, Spemann was the leader of a school, which rapidly filled in the outlines of what had come to be called 'embryonic induction'; their work was summarized in his Croonian Lecture of 1927. In 1932 he participated in the next major step forward, the beginning of the physico-chemical investigation of the process.

Although his work was one of the most important influences in the final discredit of vitalism, Spemann was never one of those who hoped that the discovery of the organizer would rapidly enable us to reduce the problem of biological form to a few simple chemical statements. His attitude was, in fact, much more a biological than a physico-chemical one. The extreme caution with which he formed his conclusions, joined with intense concentration on a narrow field favourable for an attack on fundamental problems, enabled him to lay a foundation on which the science of experimental morphogenesis can be securely based.

C. H. WADDINGTON.

OBITUARIES

Prof. Hans Spemann

THE death of Hans Spemann, of Freiburg-im-Breisgau, at the end of 1941, brings to a close a lifetime of work which threw a new and most revealing light on the great problem of the development of biological form.

Spemann was born in 1869. After leaving school he spent a few years in his father's business and in the performance of his military service, before beginning the study of medicine at the Universities of Heidelberg, Munich and Würzburg. He held his first position as a lecturer at the last-named University, passing from there to become professor of zoology at Rostock in 1908. During the War of 1914-18 he held a chair at the Kaiser Wilhelm Institute in Berlin, and in 1919 he was called to the professorship at Freiburg-im-Breisgau, which he held until his retirement in 1935, the year in which he was awarded a Nobel Prize for medicine.

Spemann's work did not cover a wide range of topics. His second paper, published in 1898, dealt with the development of the Amphibia; and this remained his field of investigation throughout his whole life. His great achievement was to bring into fruitful co-ordination the two, in themselves inconclusive, lines of attack which had been opened up in the casual investigation of development. On one hand, the studies of Roux and Driesch on the developmental potentialities of the first-formed blastomeres of the egg, although they tackled the major problems of the formation of the animal as a whole, seemed to lead only to a sterile paradox. On the other hand, Roux's notion of dependent differentiation appeared to suggest a plausible causal mechanism for development, but the one known example of it, and that a somewhat doubtful one, was con-

The Right Hon. Lord Salvesen, P.C., K.C.

EDWARD THEODORE SALVESEN brought to his profession and to his hobbies the vigour and enthusiasm bequeathed him by his Norwegian forebears. His profession carried him, by way of the University of Edinburgh, the Scots Bar and a sheriffdom, to a judgeship in the Court of Session of Scotland. His hobbies and his public interests were too many to mention, but he accomplished much for the veterans of the War of 1914-18 (in which his three sons were killed), he helped to reform the divorce law of Scotland, and he was a strong advocate of public-house reform. But his lasting memorial is the Scottish Zoological Park.

It was largely owing to his advocacy and to his energetic leadership as president of the Zoological Society of Scotland, founded in 1909 for the establishment of a national zoological park, the advancement of zoology, and the study of the native animals of Scotland, that the Park was opened in 1913. At that time it was a new venture in British zoos. The site of seventy-four acres with its mansion-house, gardens, fine trees and abundant natural exposures of rock invited broad and picturesque treatment, and the late Sir Patrick Geddes and Mr. F. C. Mears prepared the scheme for laying out the grounds.

Developments, carried out step by step under Lord Salvesen's guidance, as the funds of the Society warranted, have resulted in a park of great attraction, with spacious paddocks, and rocky dens in which the animals live and are seen to the best advantage.

Lord Salvesen presented to the Society its acclimatization house adapted for some less hardy creatures, and was instrumental in obtaining from the Carnegie Trustees the grant which built the Carnegie Aquarium. His and his brother's connexion with the whaling industry in South Georgia enabled them to bring

together in the Park what must have been a unique collection of penguins in captivity. For at its best the collection comprised twenty-eight king penguins, which regularly bred and reared young, in addition to the ringed, gentu, rock-hopper and black-footed species. The War, alas, has destroyed some of the glory of that interesting group, as it has interfered with many of the accustomed inhabitants of the Park; but Lord Salvesen's experiment in planning a modern zoological garden has been abundantly justified and will continue for long to give to its many visitors pleasure mingled with instruction.

After a short period of ill-health Lord Salvesen died on February 23, still a man of vigour, in his eighty-fifth year.

JAMES RITCHIE.

WE regret to announce the following deaths:

Sir Henry Brackenbury, vice-president of the British Medical Association and, during 1927-34, chairman of the Council, on March 8.

Dr. H. D. Curtis, head of the Department of Astronomy and director of the Observatory, University of Michigan, on January 8, aged sixty-nine.

Prof. H. W. Foote, professor of physical chemistry in Yale University, on January 14, aged sixty-six.

Mr. P. G. Redington, forest supervisor of the U.S. Forest Service, formerly chief of the U.S. Biological Survey, on January 12, aged sixty-three.

Mr. F. J. Selby, C.B.E., secretary of the National Physical Laboratory during 1918-32, on March 5, aged seventy-four.

NEWS and VIEWS

The Poulkovo Observatory

INFORMATION that the Poulkovo Observatory had been severely damaged in the German bombardment of Leningrad was first received in a special message to the men of science of Great Britain broadcast from the besieged city on October 8, 1941, by Prof. Vassily Ogorodnikov, professor of physics in the University of Leningrad, who was fighting in the ranks of the Red Army defending Leningrad. The Observatory lies some twelve miles south of Leningrad, not far from the railway line from the German frontier to that city. The shelling of the Observatory appears to have been deliberate, and from later information it is learnt that its destruction is practically complete.

The Poulkovo Observatory was founded in 1839 by the Emperor Nicholas and recently celebrated its centenary. The first director was F. G. W. Struve (1793-1864), who had been the director of the Dorpat Observatory during 1818-1839. He was commanded by the Emperor to design and erect, almost regardless of cost, the most perfect and complete observatory that he could devise. Struve had a zeal for refined and precise methods of observation and, in addition, an inventive mechanical and engineering capacity, and he took full advantage of this unique opportunity. His "Description de l'Observatoire Astronomique Central de Pulkowa" is a work which, in the words of Sir David Gill, "no one, even in the present day, who may be charged with the design and erection of a great observatory, can afford to neglect". From the time of its foundation, the Poulkovo Observatory has taken a leading part in fundamental astronomy, for which its high latitude particularly fitted it. The standard refraction tables used in the reduction of astronomical observations are the Poulkovo refractions, based on Poulkovo observations. The fundamental observations made there have always been planned with care and characterized by their high accuracy, so that in the formation of a fundamental system of star places the Poulkovo catalogues receive very high weight.

The instrumental equipment of the Observatory included a Repsold meridian circle, an Ertel-Merz vertical circle, a Repsold prime-meridian transit instrument, a Repsold-Clark 30-in. refractor of

46 ft. focus, a Repsold-Merz 15-in. refractor of 27 ft. focus, in addition to numerous smaller instruments. F. G. W. Struve retired in 1861 and was succeeded as director by his son, O. W. Struve (1819-1905), who retired in 1889. The two Struves between them practically laid the foundations of double-star astronomy, by their discoveries and observations of double stars. J. O. Backlund (1846-1916), who was director during 1895-1916, made important investigations on Encke's Comet, the period of which (about 3.3 years) shortened by $2\frac{1}{2}$ days between 1819 and 1914. In a memoir that is a classic, he showed that the motion of the comet is retarded in a narrow region not far from perihelion by a resistance of some sort, and that this resistance has decreased rather abruptly several times. The library of the Poulkovo Observatory was one of the most complete astronomical libraries in existence, and its treasures included many of the manuscripts of Kepler. It is hoped that steps had been taken before the German attack to remove the valuable books and manuscripts to a place of safety. The Poulkovo Observatory was an institution of which the Russians were justly proud, and men of science in all countries will share with them their grief at its destruction.

Scientific Co-operation between Great Britain and the U.S.S.R.

THE Parliamentary Secretary of the Ministry of Information (Mr. Ernest Thurtle, M.P.) opened a conference of British scientific and technical institutes on March 9 at which Sir John Russell, adviser to the Soviet Relations Branch of the Ministry of Information, took the chair. The conference, which took place in the rooms of the Royal Society, was called to discuss an intensification of the exchange of technical and scientific information between the U.S.S.R. and Great Britain. Some sixty scientific organizations and learned societies of Great Britain sent representatives to the conference, and it was decided to set up a standing committee to assist the Ministry of Information in this work and to act as a clearing-house between organizations in Great Britain and their opposite numbers in the U.S.S.R. A representative of the Soviet Government is to be invited to join the sub-committee.