protect for nine weekly washings. For the troops, a solution rendering garments protective for six to eight weekly washings has been recommended, and arrangements for large-scale treatment of such garments have been made.

Apart from its value for the control of typhus, D.D.T. may prove valuable for the control of a wide variety of insect pests. Annand and his co-workers (*loc. cit.*) report the results of their tests of its action on the bedbug, the house- and stable-fly, ticks and fleas of dogs, goat lice, "German" cockroaches (*Blattella germanica*), ants and termites, larvæ of the house-fly and numerous plant pests. For the control of the larvæ of malaria-carrying mosquitoes it is being tried as an emulsion sprayed over waters containing them, and the method of spraying it from the air is also being tried in an attempt to kill mosquitoes infected with malaria in areas in which troops have to operate. For the control of some species of cockroach it certainly seems to be effective. Recently an appeal reached the writer from a Manchester hospital for some means of exterminating a pest of 'steamflies' (*Blattella germanica*) on the hospital premises; Dr. H. Hurst sent a supply of a preparation containing D.D.T. and pyrethrum, with very good results. J. M. Ginsburg records (*J. Econ. Entom.*, *loc. cit.*) the results of his experiments on the action of D.D.T. on this species of cockroach, which is a growing and serious pest in various parts of North and South America. Ginsburg found that the minimal concentration of D.D.T. required to kill 100 per cent of these cockroaches in jars in 48 hours was 7 per cent, while 33 per cent of sodium fluoride was required to kill 100 per cent of the cockroaches under the same conditions. In the same time a dust containing 33 per cent of derris killed only 30 per cent of them, while a dust containing 33 per cent of pyrethrum killed 90 per cent. If D.D.T. is as toxic as this to *Blatella germanica*, the work now being done on its action on locusts should be interesting.

Much of the work on D.D.T. is summarized by V. H. Chambers, G. L. Hey and N. K. Smitt, of the Murphy Chemical Company, Wheathampstead, in a reprint of an article in the *Market Grower* (62 Doughty Street, W.C.1—the date of the issue of this journal containing this article is not given). These authors refer to the work with D.D.T. done in Switzerland by R. Wiesmann (*Schweitz. Z. Obst.-u. Weinbau*, **51**, 155, 206, 245 and 329; 1942) on its effect on bees and fruit and vine pests and (*Anz. Schadlingskunde*, Berlin, **19**, 5; 1943) on flies in cowsheds. These authors also describe their own work with D.D.T. in the form of the Murphy Chemical Company's proprietary spray called 'DeDeTane' and with this Company's other preparations of D.D.T. Encouraging results were obtained against caterpillars of the tomato moth and against the grain weevil and the apple blossom weevil. 'DeDeTane' was, however, not so effective as nicotine against the apple sawfly, and it failed to control the plum leaf-curling aphis. Its possibilities as a means of controlling other insect pests are discussed, and the American work is summarized. D.D.T. may, according to this article, partly replace pyrethrum in the aerosol 'bombs' widely used by the United States Army for the disinfestation of tents, aeroplanes, buildings, etc. (But Mr. Lyttelton has announced in Parliament that the entire output of D.D.T. is being taken for military use and that, apart from a small quantity released for use in air-raid shelters, none can be released for civilian use (*The Lancet*, 485, Oct. 7, 1944).) In a reprint from *Fruit* (W. Seabrook and Sons, Chelmsford—the date of the issue of this journal containing this article is not given) it is claimed that in a field trial of 'DeDeTane' against the apple blossom weevil, a "very large reduction of infestation was secured". It is concluded, however, that much more work is required before the efficacy of D.D.T. against this weevil can be finally assessed.

It is clear that D.D.T. will have many uses other than the control of the lice which transmit typhus. Field tests should be made on its action on such insect pests of domesticated animals as the blowfly and the lice of mammals and birds. It might even prove useful against human scabies and the scab mites of animals. But we must not expect too much of it. Local factors in the environment will always affect the action of even the best insecticide. It is one thing, for example, to kill 100 per cent of house-flies or mosquito larvæ with D.D.T. or any other substance in the laboratory, and quite another to kill these quickly on a large scale in a tropical area where they are causing the deaths or illnesses of large numbers of human beings; or to do the same thing among populations whose normal habits, or disorganization during disaster, stultify the best of sanitary plans; or to apply such a remedy to large herds and flocks of domesticated animals or to extensive crops in the spacious areas of America or Australia. All remedies of this nature are subject to this kind of limitation. We are fortunate, indeed, in having, while the War lasts, opportunities for the control of both the experimental man or animal and of their environment which should enable us to investigate these aspects of the problem more thoroughly than we could investigate them in times of peace. In this respect, our partial and, we hope, temporary, loss of freedom is a help rather than a hindrance to progress. G. LAPAGE.

OBITUARIES

Mr. H. P. Marks

HENRY PERCY MARKS, a member of the scientific staff of the Medical Research Council at the National Institute for Medical Research, died on September 13 after a short illness. After serving in the Navy in the War of 1914–18, Marks joined the Medical Research Council as an attached worker at Hampstead in 1922, and was appointed a member of the staff in 1927. His work at Hampstead was mainly concerned with insulin and carbohydrate metabolism although, in collaboration with others at the Institute, he also carried out interesting work on the mechanism of action of calciferol. More recently, Marks had become interested in the influence of the pituitary gland on carbohydrate metabolism and had published a number of papers on this aspect of the subject. For the two years immediately preceding his death he had been assisting in research work of national importance in connexion with the War, and had undertaken the arduous duties involved with the enthusiasm of a man many years younger. His untimely death will be mourned by his many colleagues and friends at Hampstead and elsewhere.

Marks's most important work was concerned with the standardization of insulin and more recently with the standardization of potamine zinc insulin. He visited both Copenhagen and Toronto in this con-

nexion, and was in part responsible for the biological assays which finally fixed the activity of the international standard preparations. As the result of his work on the standardization of insulin, Marks became interested in statistical analysis in relation to biological assay, and made some important contributions to this aspect of the subject. He was also a microchemist of some standing and had visited Graz in 1925 to attend the special course in this subject which was held there.

Personally Marks was rather shy and was not so well known among his scientific colleagues as might otherwise have been the case. But those who came into contact with him at Hampstead and elsewhere were always attracted by his charm of manner, and it is no exaggeration to say that he never failed to be on good terms with all his many colleagues. The early death of 'H. P.' will leave a gap which will be difficult to fill.

WE regret to announce the following deaths:

Dr. Alexis Carrel, known for his medical researches chiefly at the Rockefeller Institute of Medical Research, New York, aged seventy-one.

Prof. J. H. Priestley, professor of botany in the University of Leeds, on October 31, aged sixty-one.

Dr. D. S. Raitt, naturalist at the Marine Laboratory (Aberdeen) of the Scottish Home Department, on October 4.

NEWS and VIEWS

Royal Society: Medal Awards

THE following awards of Royal Society Medals for 1944 are announced:

Copley Medal to Sir Geoffrey Taylor, Yarrow research professor of the Royal Society, in recognition of his many contributions to aerodynamics, hydrodynamics, and the structure of metals, which have had a profound influence on the advance of physical science and its applications.

Rumford Medal to Dr. H. R. Ricardo, in recognition of his important contributions to research on the internal combustion engine, which have greatly influenced the development of the various types.

Davy Medal to Sir Robert Robertson, lately Government Chemist, in recognition of his researches on explosives, analytical methods, the internal structure of the diamond, and infra-red absorption spectra.

Darwin Medal to Prof. J. Stanley Gardiner, lately professor of zoology and comparative zoology in the University of Cambridge, in recognition of his work on coral reefs and on the organisms associated with such habitats.

Hughes Medal to Prof. G. I. Finch, professor of applied physical chemistry at the Imperial College of Science and Technology, in recognition of his fundamental contributions to the study of the structure and properties of surfaces, and for his important work on the electrical ignition of gases.

Nobel Prize for Physiology and Medicine for 1943: Profs. H. Dam and E. A. Doisy

IT is announced that the Nobel Prize in Medicine for 1943 has been awarded jointly to Prof. Henrik Dam and Prof. E. A. Doisy for work on vitamin K. Looking back, we may recall that it is now fifteen years since the first Nobel Prize given for research on vitamins was shared by Sir Frederick Gowland Hopkins and Prof. C. Eijkman, as a tribute to their pioneer observations in this field of science. Prof. Eijkman had been concerned specifically with one vitamin factor, namely, vitamin B_1; and since then other Nobel Prizes have been awarded at various times for researches on vitamins A, C and certain components of the B complex. It is fitting that the latest prize should mark the completion of an important chapter in nutritional knowledge, namely, that concerned with vitamin K, for it is one of the vitamins, still relatively few, which have so far been proved to have important clinical uses.

It was in 1929 that Dam, working at Copenhagen, recorded haemorrhages which occurred in chicks raised on synthetic diets poor in certain fat-soluble vitamins. In 1934 Dam and Schønheyder concluded that this disorder was due to deficiency of some new vitamin which they not inappropriately called vitamin K ("Koagulations Vitamin"). Soon afterwards they published their fundamental finding regarding the mode of action of vitamin K, namely, that it is concerned in maintaining the normal value of the prothrombin in the blood. In the course of the next year or so, several groups of workers, including Dam, demonstrated the clinical usefulness of vitamin K. It finds its application in two main directions, namely, in preventing the haemorrhagic disease of new-born babies, and in controlling haemorrhages after the surgical treatment of obstructive jaundice, a condition which had often proved fatal in the past. The routine method commonly used for assessing the effectiveness of vitamin K therapy, or detecting the presence of a deficiency, is based on Dam's work, namely, a determination of the level of prothrombin in the blood. Dam, who published his earlier investigations from Copenhagen, has been living in the United States of America since 1940.

The two most important forms of vitamin K occurring naturally are those known as vitamins K_1 and K_2. Like all vitamin-K active substances, they are both naphthoquinone derivatives, and both have been synthesized in recent years. Numerous active synthetic analogues are also known, and now largely replace natural K_1 or K_2 in treatment. The isolation of pure vitamin K_1 was reported in 1939 by Dam in collaboration with Prof. Karrer and their several co-workers; and almost simultaneously Doisy and his colleagues of the University of St. Louis isolated K_2. In the very same year three laboratories independently achieved the synthesis of vitamin K_1, namely those of Doisy, of Almquist and of Fieser. The demonstration of the vitamin activity of the relatively simple compound, 2-methyl-1,4-naphthoquinone, which can be regarded as the prototype of the K vitamins, was due to Ansbacher and Fernholz. In the following year Doisy with his collaborators crowned their chemical studies of the K group by elucidating the structure of vitamin K_2.