

The work was produced under difficulties, and the publishers deserve credit for the pertinacity through which it was finally produced. E. H. Smart died in 1945; Mr. F. G. W. Brown undertook the final revision of the manuscript and read most of the proofs; he died in 1949, and his work was finished by a colleague. Partly because of this, the book (especially the first volume) contains a number of slips and misprints, sometimes surprisingly ingenious ones. More unfortunate are a number of actual errors or unsound statements, particularly in Chapters 4 and 9 of the second volume; and an occasional lack of co-ordination between the different sections. Because of these, one would hesitate to recommend the book to a student working by himself; but it is one which teachers of the subject ought to possess.

T. G. COWLING

AN APOSTLE OF HUMUS

The Weed Problem

A New Approach. By F. C. King. Pp. xii+164. (London: Faber and Faber, Ltd., 1951.) 8s. 6d. net.

MR. F. C. KING is the Don Quixote of the self-styled "apostles of humus". He tilts at windmills, with a fervid belief in their aggressive antagonism. He displays the same half-bewildered air of sweet reasonableness alternating with fierce resentment against those who, in his mind alone, dare to seem to disagree with the central article of his faith. His new publication, though ostensibly concerned with the virtues of weeds in gardens, is but a thinly-veiled reiteration of the "muck-and-mystery" creed. It is astonishing that the upholders of this faith seem entirely unable to believe that soil scientists and plant physiologists can see any value in organic material in the soil. To them, the soil scientist is one who advocates the use of inorganic fertilizers alone for the maintenance of soil fertility and, above all, the use of sulphate of ammonia, that *anathema maranatha* of the "composters". One can only charitably conclude that they read solely within their own circle and are unable, therefore, to appreciate that the soil scientist attributes just as great importance to humus-forming materials as they do themselves but for different and more logical reasons. They persist in the view that inorganic fertilizers and organic manures are opposite and alternative instead of being, as the scientist appreciates, complementary.

Although they cannot themselves see it, the whole matter has become for them a cult, an esoteric mystery, in which Nature occupies the theistic role. Their favourite phrase, used repeatedly in Mr. King's book, is "the immutable laws of Nature", and the greatest crime is to transgress these laws, which appear to have been revealed to them alone.

Mr. King's theme in the present book is that we must "preserve the earth's green carpet in accordance with the immutable law of Nature which demands a covering for all fertile land", and this is to be achieved by "controlled weed growth" within the crops. There is much vague and loose discussion of "symbiosis" between weeds and crop plants which abundantly confirms the conclusion that the author has rarely read and certainly not understood scientific publications. Perhaps most astonishing of all is the author's method of explaining away facts contrary

to his views by unjustified assumptions from untested premises.

The author gives no really clear-cut practical directions for the application of his ideas on weed control combined with no-digging, but patient seeking through the book brings one to the conclusion that basically his notion is little more than the principle of green manuring with surface-cultivation such as is achieved by rotary tillage, though this latter method is never specifically mentioned. He has obviously thought deeply and observed closely, but lacks the background of knowledge correctly to interpret his observations.

R. H. STOURGTON

TECHNOLOGY OF DEFECTS IN PAINTS

Paint Film Defects

Their Causes and Cure. By Manfred Hess. Pp. xvii+544+65 plates. (London: Chapman and Hall, Ltd., 1951.) 50s. net.

THIS book is the first English edition of the original German book published in 1938; but the present volume has been brought well up to date. Its very title will arouse interest among those who are concerned with the many diverse problems associated with paint deterioration, for, as the author says, "it is the first extensive collection of paint failures ever made". On first consulting this book in a general way one is at once impressed not only by the large amount of effort and time expended in the collection of the necessary material, but also by the thought given to the classification of the experimental results. When, however, one settles down to study a selected topic—following the instructions thoughtfully provided by the author for finding one's way through the labyrinth of possibilities—one realizes that while each topic is discussed exhaustively in all its aspects, the book is essentially practical and not scientific in its approach. It is for this reason that one feels that a word of caution must be given to those readers not versed in scientific methodology. The author has not been discriminating in his selection of the experimental evidence; a host of really useful information based on sound scientific evidence tends sometimes to become smothered by statements of a more superficial character, sometimes contradictory and often open to query. Apart from this criticism, the book is an excellent one; the author is to be congratulated upon its production, as it fills an important gap in the bibliography dealing with paint and allied subjects.

The subject-matter is considered under four main headings, divided into sections, dealing respectively with faults which may develop during storage, during application, shortly after application, and on finished objects when in use. There is also a useful postscript giving an alphabetical list of terms and definitions connected with paint failures. The bibliography is good and the indexing and cross-references—on which the practical value of the book ultimately depends—are extremely thorough. Errors arising from translation are very few, and the book is also remarkably free from misprints. It is a work which cannot be read conveniently section by section, since there is no continuity. It is essentially a reference book, and as such can be strongly recommended as a convenient *vade mecum* for a wide circle of paint technologists.

A. E. A. WERNER