

from inside it, information is abundant, but the walls, towers, and gates have not been too generous of material, and their chronology has required some rather anxious argument from negative evidence.

The built-up areas within have provided the most uniformly successful sections of the report; probably no excavation on a Romano-British town site has ever been more laborious yet more superbly conducted and brilliantly described. It is impossible to go into detail here, but the section on the 'Triangular' temple demands especial mention, while the peculiarly interesting theatre has called for publication at greater length in *Archæologia* by

its excavator, Miss Kathleen Kenyon. The plans and drawings, mostly by Dr. Wheeler himself and Mr. A. W. G. Lowther, are everywhere splendid, and the coloured reproductions of the mosaic pavements by Mrs. Wheeler and others are as beautiful as their text is illuminating.

To historians, and especially economic historians, this work should above all be commended; the archæological method is now an essential instrument of their science, and seldom can a single excavation report have carried so much matter for thought so far beyond the circle of archæological specialists.

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## Illustrations of Weeds

### Weed Plates

By Prof. Dr. E. Korsmo. Series 2, Plates 31-60: Comprising 44 Species of Weeds on Cultivated Soil. 33in. × 25in. With explanatory Booklet of 92 pp. (Oslo: Norsk Hydro-Elektrisk Kvaestofaktieselskab; Leipzig: Koehler und Volkmar A.-G. und Co., 1935.) Paper, 22 gold marks; Leather paper, cloth edges, eyeletted, 38 gold marks.

THIS second series of illustrations of farm weeds fully maintains the high standard of execution and reproduction of the preliminary set (see NATURE, 135, 937; 1935). The presentation of each weed provides an education in its life-history and in many cases demonstrates in a most striking manner why any particular species is peculiarly difficult to eradicate.

The plates reveal the variety of methods of reproduction of individual weeds, many of which are frequently overlooked by the trained botanist as well as by the casual observer. For example, *Ranunculus ficaria* produces seed, bulblets in the leaf axils, and 'root tubers', all capable of withstanding a variety of adverse conditions and thus insuring the safety of the species. The great range of subterranean systems of weeds often remains unsuspected, as the aerial parts give little hint of what is happening below ground. The variety of morphological development in this direction may be indicated by *Mentha arvensis*, which possesses an amazing underground range of tubers, *Campanula rapunculoides* which forms an extensive creeping underground system with storage roots, *Bunias orientalis*, a crucifer with an exceptionally deep root and great basal leaves which may be two feet long, while *Polygonum bistorta* gains its name of 'snakeweed' from its fantastically twisted and curved rhizome.

A valuable feature of the illustrations is the help they give in distinguishing closely allied species, such as *Bromus secalinus* and *Bromus mollis*. For teaching purposes, also, many details are brought out which usually escape observation. Most students regard a poppy capsule as a partitioned box filled with numerous loose seeds, as it actually is when ripe, while the systematic attachment of the young seeds on the walls of the loculi is seldom realized. Another point is the wide range of variation in the size of the fruit of such species as *Atriplex patula*, which at first sight appears accidental, but is in reality a feature of the species. Yet again, special notice is taken of characteristic forms of hairs, which are often valuable aids in the determination of species, as the stellate hairs found in *Berteroa (Alyssum) incana*. Examples of this kind might be multiplied indefinitely, all pointing to the expert knowledge of teaching requirements which inspired the preparation of the plates.

Throughout the series, each weed is recognized as an individual, and no stereotyped form of treatment has been attempted. In each case the particular points of interest have been worked out, and the development of a single detail is often illustrated by a whole series of drawings. Of special value are the sketches of the early stages of such weeds as *Galeopsis*, which are not usually at all well known by botanist or student.

A third series of plates is due to appear, and on their publication the botanical world will be in possession of a work on the morphological details of farm weeds which is outstanding in the accuracy of its workmanship. These charts, together with Prof. Korsmo's recent book on weed seeds, with its beautiful coloured illustrations and detailed letterpress, will undoubtedly become a classical work of reference for many generations to come.