Kew's Bicentenary Essays (review).—None of the celebrations which have accompanied the bicentenary of Kew have been more in keeping with its tradition than this further contribution to botany: a book of essays aptly entitled Vistas in Botany and edited by Dr. W. B. Turrill*. This is by no means a local book: most of the authors are not members of the Kew staff and Kew receives little enough direct mention. But each writer is distinguished in his own field and the scope of the selected subjects makes a brave bid to justify the unity of botany implied in the title. This diversity at once humbles the reviewer and dictates the first comment: few botanists will read this volume without greatly enlarging their knowledge of plant study. That this enlargement will be uneven stems partly from the deliberate editorial licence which has permitted contributions to range from fundamental reviews to a short undocumented essay. One may criticize this policy for destroying botanical balance, yet it does give the volume an unusual side-value; it forces the reader to consider the morphology of the review-essay, which in the past few decades has become so noticeable (if not quite notable) a part of botanical literature.

The undocumented essay is on Plant Physiology by F. W. Went. It is (at least to one whose own field lies elsewhere) an address by a master physiologist. The vast literature has been digested by the enzymes of personal experience; the dross has been cast aside and the story is presented in the simplest and most lucid manner. No doubt too much has been discarded; no doubt the simplicity is deceptive; but surely this essay represents a stage through which the longer reviews should pass. It is now ready for elaboration: a little more detail here: a rather fuller report of controversy there: documentation by carefully selected reference. C. T. Ingold's contribution on the Fungi is admirable in this respect: the outline is woven into a readable story: the references are there to be followed as desired.

H. J. Lam on Taxonomy, W. B. Turrill on Plant Geography and R. Pichi-Sermolli on Pteridophyta interpreted their briefing more extensively, and these items (three out of a total of seventeen) make up well over a third of the book. Each is open to much the same criticism. The attempt to be fundamental traps the writers into a ponderous style which at times quite loses significance: for instance, "for the time being, however, it may suffice to state that we must suppose that no such similar results can come into existence unless the genome (the complex of hereditary factors) allows it" (Lam, p. 23): or "final incorporation of a species into a phytochorion only occurs when it can tolerate the environmental conditions within the phytochorion" (Turrill, p. 182). The use of literature, too, is clumsy. Instead of being given a digested story, with key reference for further detail, the poor reader stumbles over a patchwork of inverted commas and references and sometimes finds the most trivial commonplace given as a quotation from another paper. The annotated bibliography is a legitimate form of publication, but it is bad taxonomy to confuse it with the review-essay. To give a small example, the generic limits in *Ophioglossidae* (Pichi-Sermolli, p. 466) are either worth discussion or they are not: it is trifling with the reader merely to give references to differing opinions. Other examples could be selected.

Yet these articles contain much of value: H. J. Lam gives both review and a personal statement from an influential botanist: W. B. Turrill includes an

* Vistas in Botany: a volume in honour of the bicentenary of the Royal Botanic Garden, Kew, edited by W. B. Turrill. London, The Pergamon Press. 1959. Pp. xv+547, 9 plates. Price: five pounds.

original conspectus of the major phytochoria of the world's floras, while R. Pichi-Sermolli's survey of the work on the pteridophyta is almost a source-book in itself.

It is noticeable that the lack of a long retrospective vista gives a sharpness and verve to the articles dealing largely with modern work: K. A. Bissett (bacteria), E. C. Bate-Smith (biochemistry), D. G. Catcheside (cytology) and F. C. Bawden (viruses). Any of these may well win adherents among student readers. Yet it is not wholly the historical element that has made the long vista unattractive: it is that the authors have seen in the future little but the projection of the same vista. C. R. Metcalfe (A Vista in Plant Anatomy) has made a frank and brave attempt to disperse the museum atmosphere in which his subject has become enshrouded and shows that there is, behind his massive contributions to systematic anatomy, a lively mind aware of the more stimulating future ahead. G. L. Stebbins's essay (Genes, Chromosomes and Evolution) provides a more exciting prospect for taxonomy than does Lam's, though Stebbins deals with only one aspect of necessary taxonomic advance. Two or three authors maintain, or imply, the central authority of the taxonomic position, but it is doubtful if this can be upheld in serious argument. Taxonomists can and must use data from other fields, and any botanist who wholly disregards taxonomy imperils his own work ; but taxonomy is only one avenue by which the study of plant life can be approached.

Articles on bryophyta (P. W. Richards), gymnosperms (W. B. Turrill) and Algae (W. R. Taylor) not only give excellent summaries of recent work in these groups, but emphasise (as does C. T. Ingold's article on Fungi already mentioned) the very great contributions to general botanical thought which their students are making. J. W. Walton gives a brief survey in the rather restricted field of Palaeobotany in Great Britain, illuminating as he does so the personalities of the workers.

J. Braun-Blanquet's contribution, Grundfragen und Aufgaben der Pflanzensoziologie (the only article not in English) reminds one of the gulf between the British and Continental schools of plant ecology; British references are as scarce in his bibliography as are continental ones in Sir Edward Salisbury's essay on Causal Plant Ecology. Much of the emphasis here is thrown not merely on the physico-chemical nature of the soil, but on the soil as the environment in which much of the competition, whose study is the essence of plant ecology, takes place.

B. L. BURTT.

A New Edition of Hutchinson's 'Families' (review)—It is the taxonomist's privilege to handle a great variety of plants: it is Dr. Hutchinson's achievement that he has accepted this privilege with such gusto that his knowledge of the whole group of angiosperms is to-day unrivalled. This new edition of his "Families"* gives a unique panoramic view of the flowering plants. Through it the author imparts that ever-fresh wonder at the great variety of plant form which he certainly roused in those who have worked under him. To say that this is the first value of his book is in no way to detract from the second—its outstanding practical utility.

The artificial keys to the families are unrivalled, and nowhere else has the student access to a succinct description and at least one illustration of each. The author has enhanced the value of this edition by adding keys to the genera of many of the smaller families of dicotyledons, keys similar to those already supplied for most monocotyledons. "Hutchinson" undoubtedly provides the botanist's best chance of running down an unknown plant, and for this reason alone the second edition will be eagerly acquired by those who have long been unable to obtain the first.

* The Families of Flowering Plants, by J. Hutchinson. Second edition. Oxford, The Clarendon Press. 1959. 2 vols. Pp. xv+792, 450 figs. Price: seven guineas.