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REVIEW

R. D. PRESTON (ed.), Advances in Botanical Research, Volume 3 — Academic Press, London and New York, 1970. 309 pp. USD 13.75.

The intention of this serial of review papers covering the various branches of botany is firstly to offer the authors a freedom to express opinions and to speculate as widely as they dare upon future trends, and secondly to offer the classical- and modern-minded readers at least a possibility to dip into each other's pages so that each may appreciate the other and learn 'what it is all about' (Preston, in the preface to Volume 1).

The present reviewers are engaged in the field of plant morphology and anatomy, to which the last paper of this volume belongs, namely the excellent contribution by P. B. Tomlinson on Monocotyledons (mainly arborescent forms). Tomlinson presents a lively picture of the 'habit', vascularization, inflorescence, etc. in these plants, which were much neglected by one-sided temperate approach during decades. He does so by adding many functional details and by always considering the development of these structures. Especially his scheme for the construction of the stem in the palm *Rhapis* presents a reliable demonstration based on exact observations.

The first article by A. A. Staehelin and M. C. Probine deals with the fine structure of plasma membranes. It critically reviews the drawbacks of the various electron-microscopical techniques. A fine plate is given of schemes representing 15 membrane models proposed during the last 35 years. One may wonder what the fate of these will be after some 50 years to come. Possibly the same as that of the schemes of vascularization of the palm stem of the past 120 years as represented in the article by Tomlinson?

The other two papers by W. Kreutz and by R. E. Weatherley deal with X-Ray structure research on the photosynthetic membranes and with some aspects of water relations, respectively. These two articles, introduced by R. D. Preston as examples of the painful metamorphosis which botanists now and in the future will need to undergo, require an amount of physical and mathematical knowledge lacking in the minds of the present reviewers. Here we come to a crucial point. In how far can a series like 'Advances in Botanical Research' really bring different disciplines succesfully together?

We are afraid that most readers will behave like us: enjoy the pages on one's own subject or on a related field and only reluctantly pass on to the other chapters. The sad consequence of the inevitable specialization in botanical research cannot be overcome by a diversity of specialized papers brought together in beautifully processed volumes alone. The success of this worth-while undertaking depends not only on the quality of the papers offered but also on the degree of intelligibility to the non-specialists that each article conveys. Due consideration should therefore be given to the non-specialists by adding to the articles short but clear general discussions and summaries.

In our opinion no botanical institution can afford to do without this serial, firstly because of its important reviews and prospects, written by qualified specialists, and secondly because of its contribution towards better understanding between workers in different fields of specialization in Botany.

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