

title. Many of Norman Long's data concern the activities of the same eight or nine Zambians who appear frequently throughout the book in different contexts, and who earn sizable entries in the index under their pseudonyms. This emphasis on the individual was largely determined by his chosen field of research: the effects of economic changes on social organization and values in one small administrative "parish" of the Serenje District. This choice meant paying special attention to those twenty-four men in the parish who had by 1963 joined the "peasant farming" scheme introduced by the former colonial government. We are introduced to some of them in the initial chapters describing changes in the indigenous agricultural system, and the associated problems of acquiring and retaining sufficient capital, equipment and labour to run small farms producing cash crops. These farms are one of the new types of settlement emerging from the older villages of which the dissolution is analysed in the next two chapters. Changes in residence imply changes in the local evaluation of social status and prestige, on which Long next provides data drawn from questionnaires and from the longest case study in the book. Because many of the individuals most involved in all these changes are Jehovah's Witnesses, he devotes the last part of the book to an examination of possible connections between their religious ethic and their innovatory social roles.

All these subjects are of much topical interest (not least that of the Witnesses, who are currently under attack again in parts of Zambia), and Long's material on them is both new and important. His book therefore adds much to our knowledge of rural social change in Central Africa, and a lot of what he has to say is of wider relevance. Not all of it, though, is equally convincing. The obvious objection to the "extended case method", which he has adopted from some of his predecessors and which reinforces the emphasis on the individual, is the difficulty of knowing how representative are the particular persons and events with which it deals. To some extent Long anticipates this objection by providing more general quantitative data on the parish as a whole, but he makes several positive assertions, especially in the last chapters, that surely need more testing against negative cases drawn from the large majority of the population which has not made the same responses to change as the minority on which he quite legitimately concentrates. Yet that is merely to say that this valuable book ought to stimulate further comparative work in Central Africa, and that it could well be used as an example for similar research in other parts of the continent.

W. J. ARGYLE

COUNTING IN THE PAST

The History of the Abacus

By J. M. Pullan. Pp. xiii + 127. (Hutchinson: London, January 1969.) 35s.

THIS book is beautifully produced and profusely illustrated. It traces the history of the abacus from pre-historic times to the eighteenth century. The topics covered are best indicated by the chapter headings. These are: the origins of arithmetic, calculus and abacus, Roman numerals to Arabic figures, counter-casting to pen-reckoning, the abacus method, Jettons, the abacus in archaeology, and the abacus in education.

Most of the book deals with the history of the abacus in Europe. There is very little reference to the Far East or the Middle East, apart from an illustration of the Japanese soroban and the Russian schoty; for example, it is not mentioned that the schoty was used by the Turks, under the name coulba, and by the Armenians, under the name chorcb. There is, however, a comprehensive bibliography via which the interested reader can go further into the subject.

L. S. GODDARD

GARDENING HISTORY

The Early Horticulturists

By Ronald Webber. Pp. 224 + 29 plates. (David and Charles: Newton Abbot, September 1968.) 40s.

RONALD WEBBER has written thirteen brief biographies of men living between Tudor and Edwardian times, who played leading parts in the development of British horticulture and gardening. Each of his chosen subjects is described in a single chapter, and the thirteen biographical sketches are sandwiched, in chronological order, between a brief survey of commercial horticulture from the early iron age until about 1900, and an appendix listing where the most familiar plants grown in Britain came from. The book is inevitably fragmentary, but nonetheless it conveys a picture of the steady growth in horticulture since the sixteenth century, and into the bargain it throws many a fascinating sidelight on English social history. For the reader, the author's approach has one great advantage: he can dip into the book at any chapter without any sense of being lost in the narrative. On the other hand, the thirteen biographical sketches whet rather than satisfy the appetite.

Records of Tudor and early Stuart horticulturalists are, sadly, far too scant to allow Webber to do much more than mention a few names and generally outline the state of the art at a time when the potato was enough of a luxury to feature as a prime ingredient of fruit tarts. Only Richard Harris of Teynham, who more or less single handed made Kent the garden of England, attracted much attention from contemporary authors, one of whom wrote, "where our honest patriote Richard Harrys (Fruiterer to King Henrie 8) planted by his great coste and rare industrie, the sweet cherry, the temperate Pipyn, and the golden renate . . . so beautifully as they not onely stand in most right lines but seem to be of one sorte, shape and

TIME KEEPING

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Astronomical dial at Hampton Court Palace believed to have been made in 1540 for Henry VIII. Noon is at the foot of the dial. From the second edition of *How Time is Measured*, by Peter Hood (Oxford University Press: London, February 1969, 18s)—a book for children about the origin of the calendar, clocks and watches. In this new edition, recent developments as far as atomic clocks, the abolition of the different times in summer and winter in Britain, and the third second have been included. (Photo: Crown copyright.)