30;

97; 74; 24; 67; 62; 42; 81; 14; 57; 20; 42; 53;
32; 37; 32; 27; 7; 36; 7; 51; 24; 51; 79; 89;
73; 16; 76; 62; 27; 66;

0;

→

RESULTS

Treesort

Trial data

(N, 3, (N, 43), 47, N, 73, N, 86);
3 43 47 73 86

only 16 cells available

(((((N, 10), 11, N, 14), 16), 26), 33), 36,
((N, 36, (N, 45), 46), 47, (N, 60), 61, (N, 62), 63, N,

71, N, 80, N, 95), 96, N, 98);

10 11 14 16 26 33 36 36 45 46 47 60 61 62 63 71 80 95 96 98

only 61 cells available

List fail   No more cells available

List post mortem

1	67	−1
2	54	70
3	1	0
4	24	−1
5	2	74
6	4	8
7	74	−1
8	5	3
9	7	72
10	97	−1

etc.

Book Reviews

The Impact of Computers on Accounting, by T. W. McRae, 1964; 304 pages. (London and New York: *John Wiley and Sons Ltd.*, 42s.)

The avowed object of this book is to interest accountants in the things that can be done with computers.

In early chapters Mr. McRae seeks to outline the basic ideas involved in computers themselves and in their applications. He then passes on to consider Operational Research, the Audit question, and the economics of E.D.P. The rest of the book, the more satisfactory part, is concerned with the impact of E.D.P. on management, particularly the accountants' share in management, the problem of education, and the future demands on the accountant.

The book seeks to cover a wide, perhaps too wide, field, and could have a better title. Indeed at the end of a chapter the author uses the words—"This chapter is concerned with the impact of computers on accounting." The overall target is more probably management, particularly as exercised or influenced by the accountant.

The case for an increased appreciation of the computer is well put, and the extent of current possibilities, on the whole, are well described. On the other hand, despite the obvious efforts to avoid it, the descriptions and in some cases opinions are oriented towards one manufacturer's ideas.

One is surprised to find that punched cards are the sole means of feeding a computer, and paper tape is condemned as slow and relegated to applications where it can arise as a by-product. The needs for random access are stressed and the author doubts the efficiency of exception reporting as a means of minimizing this need.

There is a good attempt at a classified Bibliography, but the Glossary and Index are weak.

Notwithstanding these criticisms the accountant with the patience to follow the arguments may well feel that the author makes his case for the profession to think anew regarding its own basis of training, its system of qualification, and indeed its basic philosophy. He may be less inclined to accept the solutions proposed.

E. C. Lay

Data Acquisition and Processing in Biology and Medicine— Volume 3, edited by K. Enslein, 1964; 344 pages. (Oxford: *Pergamon Press Ltd.*, 100s.)

This volume reports the proceedings of the third Rochester Conference. The subjects covered include diagnostic routines, multivariate analysis as used in diagnosis, literature retrieval problems, machine analysis of heart sounds, limitations of various data-acquisition and analysis methods, and a rather thorough treatment of statistical computer methods for diagnosis. The emphasis is mostly on clinical medicine.

There are several excellent papers on the diagnosis of disease by using what is essentially classificatory statistical techniques and information-retrieval methods. There is more than one claim that computer diagnosis can be made more reliable than human diagnosis, especially in fields where specialists do not encounter very many cases. As one contributor puts it: "In actual usage, the computer has proved a wise colleague to the pediatric cardiologist, and a superior consultant to members of a general hospital staff specifically interested in congenital heart disease."

The book reflects the state of mathematical infiltration into medicine. As yet statistics has made the greatest contribution to medicine, and applied mathematicians have still to make any great contribution via model making and analysis. This is coming in, but this volume, like its predecessors, does not find much space for it.

This is a worthwhile volume, and I can recommend it. The papers on information retrieval and maintenance of case histories can be profitably read by anyone studying computer documentation in general.

Andrew Young