

4.6. Fitting polynomials

This is another special case which can quite easily be handled by a general program but which may merit individual treatment. The distinguishing feature is the extreme ill-conditioning that is likely to occur. A satis-

factory technique has been described by Forsythe (1957), and its implementation by Clenshaw (1960). A program of this kind can readily be extended to allow the fitting of surfaces in three or more dimensions (Cadwell and Williams, 1961).

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Book Review

Leo and the Managers, by J. R. M. SIMMONS, 1962; 174 pages. (London: Macdonald and Co. (Publishers) Ltd., 18s.)

In the first chapter, a series of jerky "flashbacks" take the reader back to 1896 and the Lyons Company's earliest interest in office mechanization. Although the form of presentation is not one which will commend itself to every reader, one is left in no doubt that the company has had a long and continuing interest in office efficiency. The link between LEO (Lyons Electronic Office) and the lessons of office efficiency is made clear. The reader who wishes to learn about the operation of LEO is referred to a long note at the end of the book.

In the succeeding three chapters Mr. Simmons develops his "general theory on the organization of business management" and in a final chapter relates his theory to LEO.

The original purpose of his book was to provide "something that could be used by the Central Training Unit of J. Lyons and Company Ltd. to supplement lectures that [he] was then giving to various Company courses on 'The Art and Techniques of Management'." Mr. Simmons has attempted to adapt and expand these lectures, written primarily for Lyons managers, to make them suitable for the general reader interested in the relationship between computers and management.

This creates a difficulty. Mr. Simmons' objective loses its clarity because he is trying to serve two very different audiences at once. The employees of the company should know, for example, when he writes about *actual* company policy and practice and when he is drawing on his imagination to develop his general theory of organization. The general reader cannot know. One cannot help feeling that the general reader would have been better served by an untrammelled description of the

Lyons Company organization and the way in which LEO actually assists it to operate effectively. We are, unfortunately, only given tantalizing glimpses of this large organization—for, naturally, all of Mr. Simmons' examples are drawn from it.

A second, and perhaps more fundamental, difficulty arises from the fact that, large as the organization is, it is, as far as one can see, operated as an entity. One thing which we do know about organization theory is that a general theory has not yet been developed from observation of one organization at work. Although such observations may give us some valuable insights into possible relationships, they are unlikely to give us a general theory.

We do, in fact, obtain these insights. Mr. Simmons' approach to the theory of what he describes as "Management Self-Accounting" is refreshing, and in one of the long notes (pages 134-6) the concept is fully described.

In the last chapter he suggests that, given a complex company structure similar to that of Lyons, "It is essential for the best use of a computer for it to be thought of as a means of controlling a decentralized organization and never as an instrument of centralization." To this one may link his final sentence, "If, but only if, the managers are trained to use LEO and they regard it as their own tool, it is capable of being made one of the most powerful management tools that has so far been devised". These thoughts run counter to those who suggest that the future lies in greater centralization. Mr. Simmons suggests that we should continue to push responsibility as far down the "chain of command" as we can. Who knows but that he may be right?

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