MASTERING

# DATA PROCESSING

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BY THE SAME AUTHOR (with G. W. P. Davies)

A Handbook of Systems Analysis,
Planning for Data Communications,

# MASTERING DATA PROCESSING

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# PREFACE

The so-called 'information explosion' and 'computer revolution' have combined to raise data processing to a new level of importance in every organisation. New technology, not only in computers but also in data communications and office equipment, has simultaneously made the subject much more technical and complex than ever before. No longer is it possible, however, to leave these subjects entirely to specialists because part of the impact of the latest developments has been to make modern means of data processing available to users throughout the organisation. Minicomputers, microcomputers and terminals connected to remote mainframes have all contributed to this process which seems certain not only to continue but also to accelerate.

The consequence of these developments is that almost everyone working in commerce, industry or government is likely to become involved in using the new technology. It is only by understanding the basic concepts that underlie data processing that it will be possible to take full advantage of the opportunities available. Certainly, no accountant, administrator, banker, engineer, manager or scientist can consider him or herself to be fully prepared for the challenges of the coming years without a thorough grounding of data processing theory, techniques, equipment and practice.

It is to provide such a grounding that this book has been written. Aimed at both the advanced student and the general reader who wishes to broaden his or her knowledge of this important subject, the book covers all the main topics in this fascinating area.

The book is divided into five distinct parts, each dealing with a separate facet of the subject. Part I, An Introduction to Data Processing, examines the interaction between data processing and computers. Part II, The Tools of Data Processing, looks at the equipment, dealing with both the so-called 'Hardware' and 'Software'. Part III, Developing Systems, considers how an organisation can go about the task of analysing its activities to see whether they can economically and practically be performed by computers and details the steps and techniques necessary to achieve that aim. Part IV, Making Data Processing Work, examines the practical problems of data processing in an organisation, and Part V, The Applications of Data Processing, discusses the main uses of computers for data processing and identifies some of the most important systems-design features.

Although the five Parts follow a natural sequence, each may be read separately, in any sequence, if more appropriate to the existing knowledge or course of study being pursued by the reader.

Like all technological subjects, data processing has its own vocabulary which may at first encounter confuse the reader. The most important terms are explained at the appropriate place in the text, but as an aid to the reader a Glossary has been included and reference should be made to this when an unfamiliar term is encountered elsewhere in the text.

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My greatest debt is, however, once again to my wife Mollie, who not only typed the entire manuscript, but also carried out much of the research and data collection necessary.

**data processing** (n.): the converting of raw data to machine readable form and its subsequent processing (as storing, updating, combining, re-arranging or printing out) by a computer; **data processor** (n.).

*Webster's New Collegiate Dictionary*