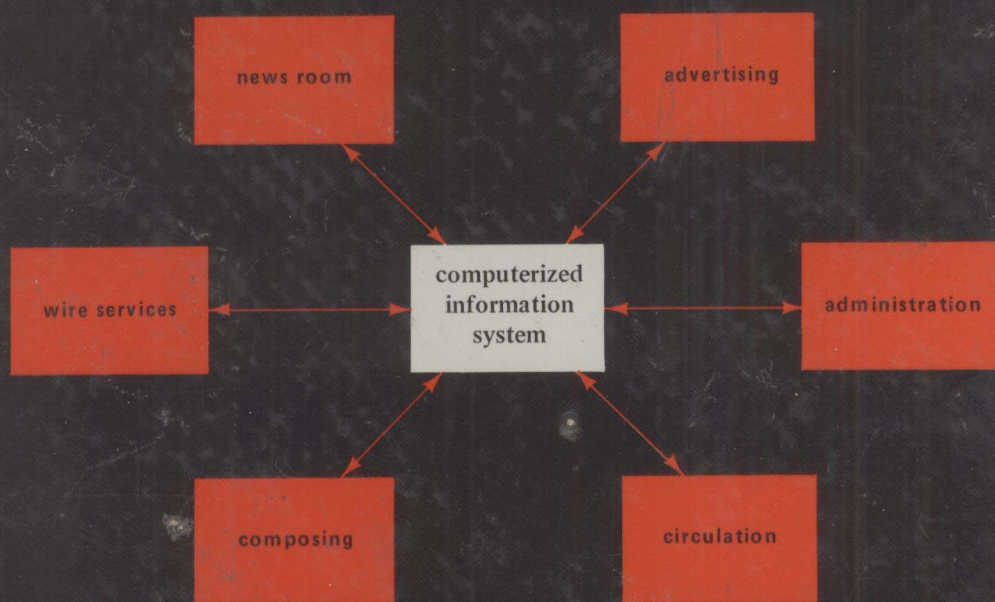


Computers in Newspaper Publishing

USER-ORIENTED SYSTEMS



Dineh Moghdam

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Computers in Newspaper Publishing

USER-ORIENTED SYSTEMS

**BOOKS IN
LIBRARY AND INFORMATION SCIENCE**

A Series of Monographs and Textbooks

EDITOR

ALLEN KENT

*Director, Office of Communications Programs
University of Pittsburgh
Pittsburgh, Pennsylvania*

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FOREWORD

The ultimate impact of computers on society is becoming apparent as applications proliferate. The impact of computers becomes much more evident when computer power is married to communications power. The impact has led to the coming of a new term "communications" to present this new kind of combined power. This marriage has stimulated the development of low-cost terminals, bringing computer power within easy reach of an increasing variety and number of industries. It is no longer speculative to plan seriously for the introduction of such power into the home. Also, the drama of being "on-line" is being felt by large numbers of students, who will further stimulate applications as they take their places in the working world.

The on-line revolution is well on the way!

One of the most exciting aspects of the on-line revolution is the application to the newspaper industry. Starting early in the game with the use of computers in business and accounting functions, the revolution began to take its present shape with on-line applications in the reportorial, editorial, typesetting, and selective distributing functions.

What will we mean by "newspaper" some years hence? Will the on-line revolution cause news to be delivered selectively and cost-effectively directly to homes? One can only speculate, but personally I hope this will happen soon, if for no other reason than to circumvent the newspaper delivery problem on rainy days, when hot news is too wet to handle. Also, the telltale news-

paper on my doorstep when I am on a trip will cease to be a security problem.

So it is time to step back to describe the on-line revolution in the newspaper field in order to provide practitioners with a context within which to make decisions in newspapers that have not yet been touched by this revolution. A text is also needed for those in educational institutions who aspire to enter the journalism profession. But there are others in the information field who can benefit from the lessons learned by newspapers.

It is for all these purposes that this book was written.

And now to the author. It was my privilege to work with Dr. Moghdam when she was a graduate student at the University of Pittsburgh some years ago. She was touched by the on-line revolution when *The New York Times* placed with the University its first experimental terminal (outside of its New York offices) to The Information Bank.

Dr. Moghdam lived through the debugging period and became expert in the activity. The experience awakened her interest in the on-line revolution in newspapers. This started her explorations which led to the preparation of this, her first book.

My excitement is hopefully understandable in having a former graduate student, of such unusual promise, use her expertise in writing this book. More important to the reader are the contents, which I hope and expect will be of unusual value.

Allen Kent

University of Pittsburgh

PREFACE

This text is primarily designed to look at the electronic "hows" rather than the theoretical "whys" of newspaper publishing. To provide the proper background for discussion, the introductory chapter offers a different approach to observing the organization of the newspaper.

A newspaper is an information system in every sense of the word. Yet it is a social institution which defies much of the technical jargon associated with the mathematical and electronic theories of communication or information transfer. What seemed to be a mind-boggling array of electronic equipment in the late 1960s, however, has found a permanent home in most American newspapers today. The surge of new equipment specifically designed for newspaper production and the proof of their worth in everyday operations of hundreds of newspapers across the country have left few skeptics who yearn for the good old days of manual typewriters and Linotype machines.

Every new issue of the *Editor & Publisher* brings news of more newspapers converting to electronic systems. Inside stories of "how it ought to be done" abound in the literature. My intent is to synthesize some of these events and experiences into meaningful units which may provide the newcomer with some basic information on this topic. This book is a guided tour through the maze of electronic equipment and its accompanying acronyms, abbreviations, jargons, and technical specifications.

Once the flow of information through the newspaper plant has been established, chapter divisions follow this natural path from input and temporary storage through processing, storage, retrieval, and output. A look into the future finds a startling number of changes in store for the newspaper as we know it today.

One of the first areas to be touched by automation in any large organization is its business office. Personnel, payroll, and other data processing associated with income and expenditures have been the first candidates for computerization. This aspect of newspaper automation has been entirely omitted from this volume for two reasons. First, the object of this book is to deal with the actual production of the newspaper, rather than provide guidelines for handling the business aspects of the organization. It is also my belief that in its business aspects the newspaper is similar to any other business, and there are numerous books available on this topic which can satisfy the information needs of the reader. Therefore, "business" discussions are limited to those areas which overlap with the production process -- such as sharing the same central processing unit for both jobs, using the business computer as a backup for productions jobs, and the like.

This book is not meant to be an introduction to newspaper production or to automation per se. Both of these topics have been adequately dealt with in other publications, and a representative bibliography is offered here to the reader who wishes to pursue their study. Instead, this book is a compilation of basic information about major types of on-line or real-time newspaper equipment currently on the market or in the prototype stage. This information is given in a simple language which does not require prior knowledge of computer technology. A glossary is provided for those who feel there may be a conflict between the title of this book and the author's claim as to the simplicity of its contents. My aim is to satisfy the reader who is more

interested in operating the equipment or comparing one type of machine to another than in knowing what makes it tick.

The material contained in this volume is largely confined to the state of the art in the United States. Non-United States examples are provided only when they significantly enhance the topic under discussion.

It is my hope that even if the contents of this volume become history by the time of its publication, it will have at least brought the history of newspaper technology up to date.

I am deeply grateful for the guidance of Allen Kent, Director of the Office of Communications Programs at the University of Pittsburgh, and the editor of this Library and Information Science series. I am also indebted to the numerous organizations and individuals who gave freely of their time and resources to provide the necessary information for the manuscript. I would especially like to thank Peter Romano, Director of the Production Department of the American Newspaper Publishers Association Research Institute, and his staff for their unfailing assistance and generosity in providing some of the artwork and permitting the reproduction of certain *R. I. Bulletins*. A note of appreciation is extended to Jonathan Williams of the *Pittsburgh Post-Gazette* for his unfailing moral support and critical review of portions of the manuscript and to the production department of the *Pittsburgh Press* for allowing me the use of their facilities during the course of my research.

This research effort would not have been possible without the full support of my husband, Phillip J. Davis. His patience and understanding are sincerely appreciated.

Dineh Moghdam

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Chapter 1

INTRODUCTION

What was once a profession but is now
a business . . .

Oswald Garrison Villard

THE NEWSPAPER AS AN INFORMATION SYSTEM

The newspaper is in essence a vehicle for transmission of information. Within the context of the newspaper, information may be defined as facts or data presented in a manner which renders them meaningful and useful to the reader. This information adds to his knowledge. However, because of the infinitely varied needs of newspaper readers, it is difficult to assess the value of each item in print. Thus for the purpose of our discussion "information" will refer to the possible information content of news, features, or advertisements. In short any item which appears in the newspaper may be of possible usefulness to the reader, and as such it will be referred to as information.

Being wholly dependent on readership, a newspaper can survive only in an environment receptive to the type of information it carries. But newspapers cannot choose their readers, and communities do not grow around newspapers. It is up to the newspaper to remain alert to and reflect the needs of the

community in order to maintain its readership. This interaction between the newspaper and the community completes a cycle of acquisition, storage, processing, and dissemination of information. This cycle represents an information system. In generalized graphic terms we can identify the various elements of this information system through the closed loop represented in Figure 1.1.

Facts and information originate continuously from a variety of sources, but they must be reported to the information system in order to affect it. The accumulation of such facts and information within the organization forms a "data base" which can be relied on to furnish the materials necessary to produce the newspaper. Such a data base may contain all reports originating from the newsroom as well as those received from wire services and syndicates. It may also include all business-related information generated from the various sections of the business department, such as the classified and display advertising and circulation and distribution information. If all this information, regardless of its source, is gathered and organized in one pool, the newspaper will have an *integrated information system*. However, in most newspapers today there is a *distributed information system* which allows individual departments to operate and control their own data base. In such cases a limited amount of information is allowed to flow through to the rest of the organization. The advantages and disadvantages of each system are discussed in Chapter 3.

To observe the newspaper information system at work, let us take a sample news story through the system, using Figure 1.1 as our guide. Stan Mooter, a reporter at the city desk, has been assigned to report on the progress of the city's public housing project which is rumored to be far behind its construction schedule due to an unforeseen shortage of funds. The investigation reveals a series of curious coincidences which

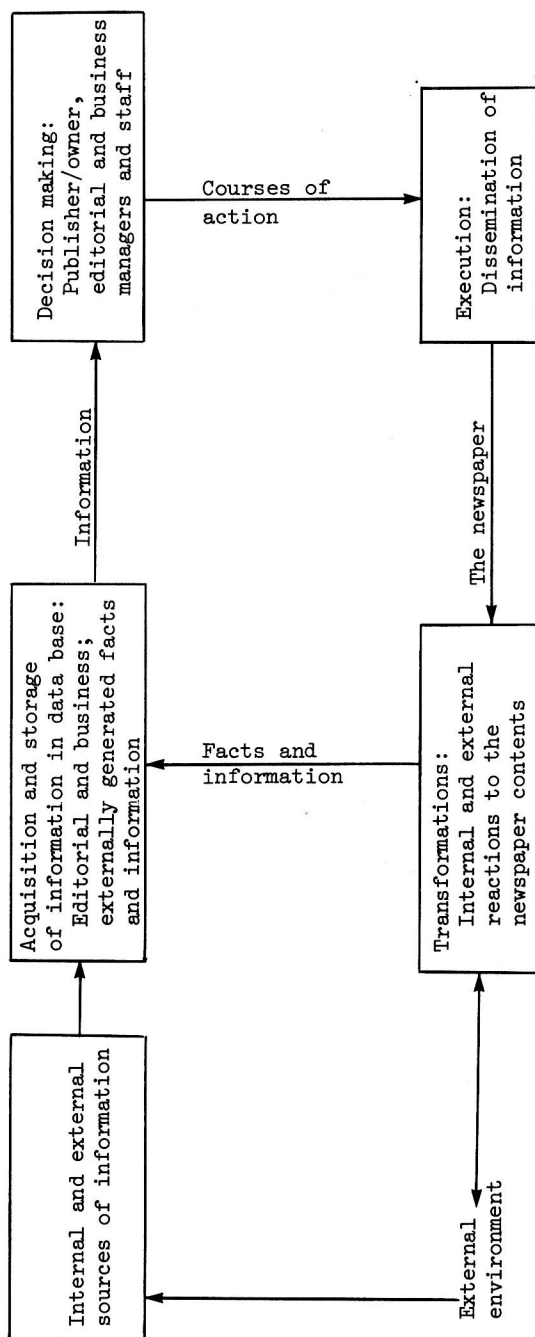


Figure 1.1 The newspaper as a closed-loop information system.

imply shortsightedness on the part of the city officials in their dealings with the construction company.

Mooter's story is filed at the city desk, completing the first phase, or the *acquisition* function, of the information system. While reviewing the newly *stored* items on his desk, the editor is attracted to the public housing story. After making minor revisions, the editor releases the story for the next edition of the newspaper. This *decision-making* function of the information system, carried out by the editor, initiates a *course of action*: the copy flows from the newsroom through the various mechanical departments of the newspaper and reaches the pressroom as a part of the completed edition. The *execution* of the editor's instructions is observable to the public in the form of the printed newspaper which has been *disseminated* through the various channels open to the newspaper's mailroom and circulation departments.

At this point many external forces come into play to produce a *transformation* of the information contained in Mooter's story. Public reaction may come through letters to the editor or perhaps through a call from a source close to one of the principals in the case. The source may be calling to supply further information on the topic or simply to inform Mooter that he is being sued for libel. Reactions may also be forthcoming from various city officials or those connected with the construction project. Such feedback from the external environment will lead to new information which can be incorporated into the data base, perhaps providing the basis for a follow-up story.

Of course, not all information appearing in the newspaper will result in such a direct feedback. National and international news coverage is a case in point. Notwithstanding the *Washington Post's* experience in its Watergate cover-up investigation, reporters and editors do depend on the reaction of their peers in judging the newsworthiness of a story. Reports from other