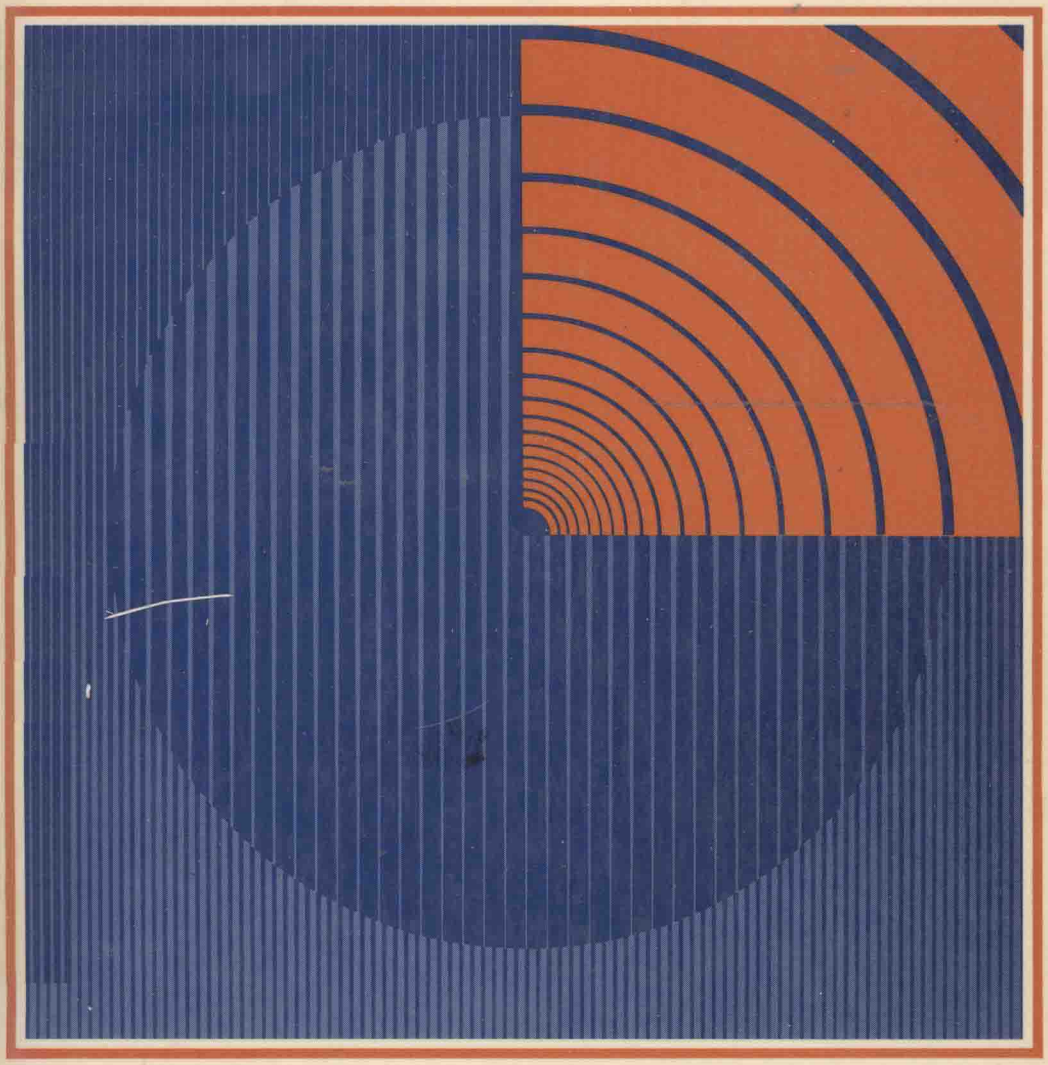
UNDERSTANDING THE NEW TECHNOLOGIES OF THE MASS MEDIA



GEORGE E. WHITEHOUSE

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preface

This book is written for those of you who are students or practitioners of any discipline in which you need a general understanding of the workings of the electronic media—especially the "new technologies." It is designed for those of you who have a need to understand the technologies, but have no technological background. It is, therefore, a survey "crash course" in understanding the media technologies for those who do not understand technology.

To be a more competent and competitive practitioner in any communications-related profession, you must understand the new technologies. In order to understand the new technologies, however, you must understand the "old" technologies from which they spring. And to understand any and all media technologies, you must understand the common denominator of all electronic technology: electromagnetic energy. To provide you with a comprehensive understanding, the book starts out with an explanation of what electromagnetic energy is, how it behaves, and how it is managed and harnessed for communications.

The book then proceeds by categorizing the different basic technologies. It is divided by these basic technologies into chapters, each chapter containing the discussions of all homogeneously-related and associated technologies and/or innovations. Further, each individual technology or innovation is contained within a separate section within the chapter. Generally, the first section within each chapter will be a discussion of the basic ("old") medium or technology to provide you with a foundation upon which to understand deviant or innovative developments. This is followed by other sections of shorter discussions of the

associated new technologies and innovations. In this way, you should develop not only an understanding of all present technologies (media), but the capability to adapt it to future developed technologies and applications as well. New technologies are not really revolutionary; they are revolutionary from basic principles. These principles do not ordinarily change radically, but remain applicable for years, to both present technologies and those related technologies and innovations developed in the future. What is learned from this book will therefore have diverse and lasting applicability.

This book is written for the student and practitioner who need instant understanding. It is not intended as a scholarly dissertation upon which subsequent scholarly research will be based. Consequently, brevity and simplicity are the key elements to promote this understanding. To this end, scholarly flair, authoritative footnoting, and other distracting literary "bells, lights, and whistles" have been sacrificed for brevity and simplicity. I have taken great editorial license with technical details and explanations for the sake of clarity and conciseness. I offer this as explanation and qualification to both my scholarly and scientific colleagues; however, I make no apology for the means to the end. The contents of the book are based upon about thirty-five years of education, research, training, and professional experience. Its presentational approach is based upon a nearly equal amount of teaching experience. This foundation should be sufficient for the purpose, and the book rests upon its own merits.

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illustrations

the basic principles of electronic media

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ELECTROMAGNETIC ENERGY

Introduction. It is certainly not necessary to be an electronics engineer in order to participate in electronic communications, any more than one must be an automotive engineer in order to drive a car—even a race car. In fact, too much technical knowledge can often sidetrack and distract one's attention from the operational or other endeavors with which he or she is involved. Often, the best discoveries or innovations are made by those who did not know it was technically not feasible or possible. Therefore, since this book is intended for those readers who are, or will be, involved in other than engineering aspects of communications, it will not burden those readers with unnecessary electronic theory, mathematical formulas, or surreal phenomena.

However, in dealing professionally with others within a sophisticated discipline, the better one understands its substance, the more he or she is able to become more professionally involved—either on a cooperative or competitive basis, or both. A knowledge of the general characteristics and of the language of electronic communication will provide a solid basis upon which to conduct other endeavors, whether they be in communications law, regulation, administration, management, operations, or economics. Fortunately, an adequate level of the necessary knowledge can be acquired without a technical background, if one merely has the patience, ambition, and dedication to endure some mechanical explanation.