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# Mind and Media

The Effects of Television,  
Video Games, and Computers

Patricia Marks Greenfield

Harvard University Press  
Cambridge, Massachusetts

To the memory of my mother,  
to Matthew, and to Robert

In their individual ways,  
each is a part of this book

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## Preface

This book represents the coming together of many strands in my intellectual and personal life. A common thread throughout my research career has been the "language-thought problem": what is the psychological relationship between language and other modes of thought? As posed in this book, the question has broadened to "What is the relationship between media of communication and the development of thought?"

In Senegal in 1963–64 I had the opportunity to observe the introduction of formal schooling and literacy into an oral culture. For the first time, I no longer took for granted the medium of print that was almost second nature in my own culture. My research on other media began in connection with the development of children's radio at KPFK, the Pacifica radio station in Los Angeles. My colleagues and I compared the effects of radio with those of television. From a theoretical point of view, print and radio provide natural foils to show what *difference* television has made as it has taken over many of the functions of these older media. This comparative perspective turned into Chapter 6.

The invitation to write this book came just as my son, Matthew, was dragging me into the computer age. I was curious to learn what microcomputers were all about

and what was happening to children like Matthew who were fascinated by them. I first envisioned one chapter on children and computer technology that would be a futuristic ending to the book. But the future arrived more quickly than I anticipated; and my planned chapter mushroomed into two. As Matthew guided me through the world of video games, what had been planned as a subsection of the computer chapter grew to be a chapter in itself.

These two chapters were difficult to write because I could not come to them as any sort of an expert. In the area of video games, there were not even any experts to consult. I could only approach the subject as an anthropologist coming into a foreign culture. I wondered about the nature of the motivations and skills that children in the video/computer culture have, skills that I, as a member of a different culture, lack. I wondered why skills that were so simple and obvious for my teenage son were difficult and sometimes impossible for me. The answers I came up with are contained in Chapters 7 and 8.

Without the generous help I received from many directions, this book would have been much the poorer. At the stage of research, I was very much aided by Valeria Lovelace and Mary Smith at Children's Television Workshop; Midian Kurland, Jan Hawkins, Samuel Gibbon, Cynthia Char, and Karen Sheingold at the Bank Street Center for Children and Technology; James Levin, a pioneer researcher on children and computers, at the University of California, San Diego; Sherman Rosenfeld, a specialist in children's informal learning of science and technology; Oliver Moles at the National Institute of Education; and Thomas Malone at Xerox Palo Alto Research Center, author of the first experimental research on children and video games.

The fun in writing the book came from the many

people with whom I discussed it. I talked about the first draft with my neighbor and friend Andy Weiss, a filmmaker and student of the media, who responded not only with support but with provocative examples that became part of later drafts. While I was writing, Matthew was taking a ninth-grade English course that combined film with literature. This class, the students' response to it, and discussions with its inspiring and knowledgeable teacher, Jim Hosney (an instructor at the American Film Institute, as well as at Crossroads School), both confirmed and extended my ideas about the educational role of television and film. Conversations with Tom Baum, my old junior high classmate, now a Hollywood screenwriter, were stimulating and enjoyable. Winifred White, a member of NBC's children's programming department, gave me another perspective on children's television, as well as some very useful information.

Hilde Himmelweit, a pioneering researcher on children and television, gave me important guidance to the history of research in the area and to the British perspective on the subject. Mallory Wober, of England's Independent Broadcasting Authority, generously filled in the holes in my knowledge of British television by sending me material and answering questions. He also helped me to rethink some thorny problems.

Susan Chipman, from the National Institute of Education, gave a tough and very useful critique of my computer chapters and thoughtfully sent me written material with which to answer the questions she raised, all within some very unreasonable time constraints that I imposed. Karen Sheingold also was influential in modifying Chapter 8, both through making comments on the chapters and through sending me the latest unpublished reports from the Bank Street Center for Children and Technology. Gavriel Salomon commented on a chapter, sent me

new and interesting material, and generously answered my questions about his work. Aimée Dorr provided hard-to-locate materials. Sylvia Scribner read the entire first draft; her comments simultaneously made me feel I was on the right track and provided extremely helpful suggestions for revision.

Jessica Beagles-Roos was my staunch colleague throughout the research on radio and television, which was supported by the National Institute of Education. She also read early drafts of several chapters and initiated and carried out data analysis that substantially modified Chapter 5. Wendy Weil, old friend, canoeing partner, and literary agent *par excellence*, gave me excellent advice at a number of crucial points. Paul Riskin skillfully did the computer printouts to illustrate the video game chapter. Richard Stengel came up with the book's title.

My parents, David and the late Doris Marks, supported me throughout the writing and commented on a number of chapters. My mother also served as a volunteer research assistant for my radio-television project, accurately coding large quantities of data.

Others who were generous in reading draft chapters were: Edward Palmer, Thomas Malone, Laurene Meringoff, Kathy Pezdek, Jerome Johnston, Gordon Berry, Sherman Rosenfeld, and my editors Eric Wanner, Helen Fraser, Barbara Lloyd, Jerome Bruner, and Michael Cole. In addition, Eric's positive feedback at the early stages and availability throughout gave me the courage and enthusiasm to complete the project. My manuscript editor, Camille Smith, managed to make the book accessible to more readers, despite working with a temperamental author who didn't like her baby undergoing major surgery.

My children, Lauren and Matthew, were tolerant of being neglected while I was in the throes of writing.

Even more, both helped with the project itself. Lauren took pictures for the book and did library work and errands, even when she didn't want to. Matthew showed me how to play video games, introduced me to interesting new ones, read chapters, put manuscript corrections on the computer, ran chapters through the proofreading program, assembled the software references, and helped with illustrations for the video game chapter. Most important, he was a constant source of moral support to the very end.

I would like to express my thanks and appreciation for all of these contributions. I hope that each person who helped will find satisfaction in the final outcome of all of our efforts.

P.M.G.

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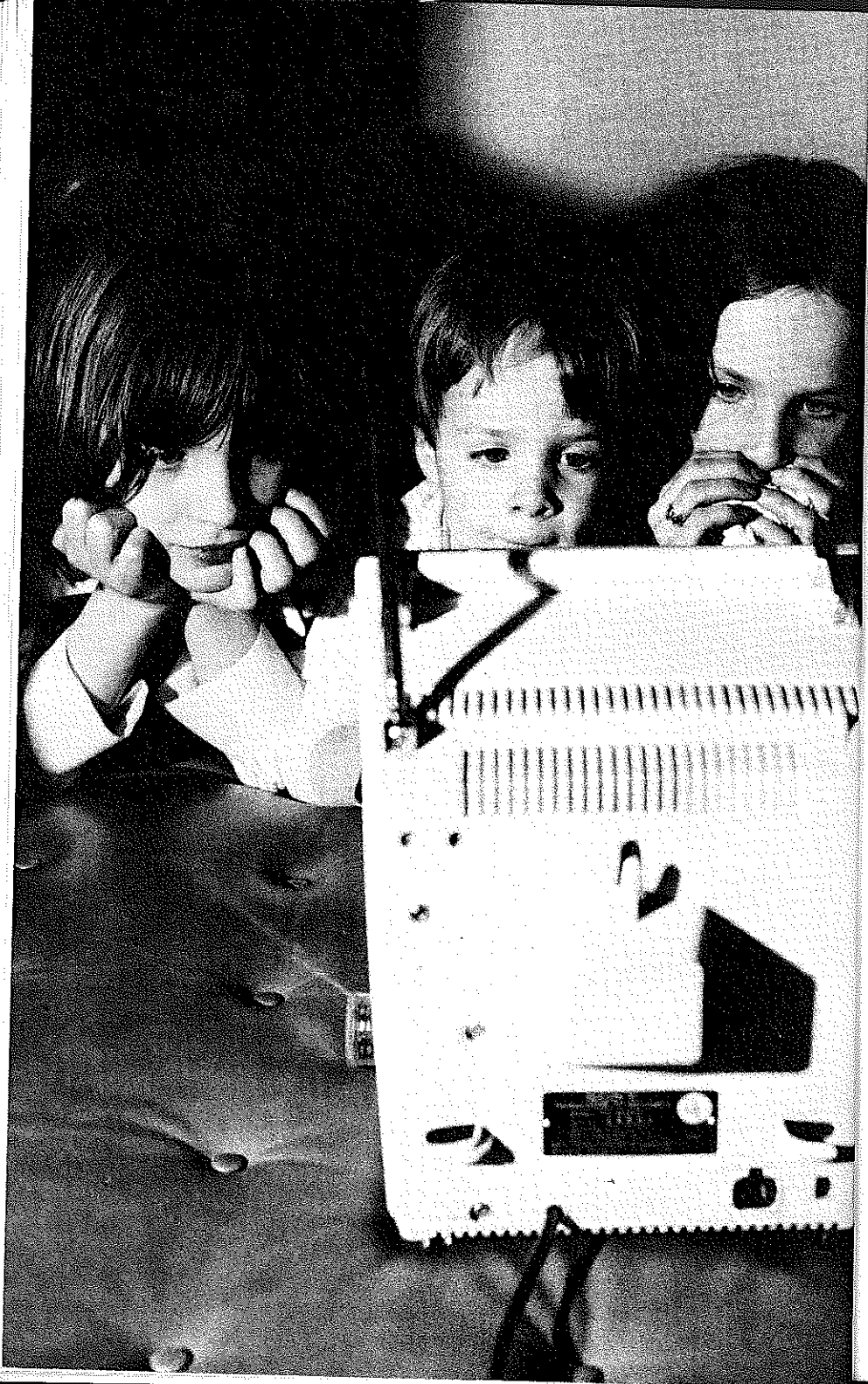
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The  
Developing  
Child

Mind and Media



# 1 / The Electronic Media

In California there is a group called the Couch Potatoes, who consider themselves "the true televisionaries." They take their name from their favorite place for vegetating in front of the TV set, and from a vegetable with many eyes. An ad to recruit members for the group goes like this: "Do you enjoy excessive amounts of TV viewing? Were some of the most enjoyable times of your life experienced in front of your set? Were your formative years nurtured by the 'electronic babysitter'? Are you annoyed by crybaby intellectuals who claim that TV viewing is counterproductive and a waste of time? Like to do most of your living on the couch?"

Asked by a reporter to comment on a two-way cable TV system that allows viewers to talk back to the television, one of the Couch Potatoes responded: "Why watch TV if you have to think and respond? As far as I'm concerned, the main point of watching TV is that it lets you *avoid* having to do that. To put it another way, if you're going to have to respond to your TV, you might as well go out and cultivate friendships or read a book or something."<sup>1</sup>

The Couch Potatoes consciously caricature, by carrying to an absurd extreme, the idea that television is a passive, anti-intellectual medium, a medium that en-



courages people to vegetate. This opinion is shared by many others who consider the dangers of television too serious to make fun of. Falling scores on standardized tests, rising levels of violence in society, college students' inability to write well—these and other trends are blamed on the long hours recent generations of children have spent watching television.

In the past few years a new medium has come along to fascinate young people and worry their elders: video games. Some adults fear that, even more than television, the games are at best frivolous and at worst mindless, numbing, and violent. While many see the popularity of microcomputers among the young as a promising trend, others fear that they reinforce asocial or even antisocial tendencies.

My own opinion is that the damaging effects the electronic media can have on children are not intrinsic to the media but grow out of the ways the media are used. Much of the content of commercial TV shows may have a negative effect on children's social attitudes. Commercials themselves use sophisticated techniques to manipulate viewers into wanting certain products, and young children have no defenses against such techniques. And television watching *can* become a passive, deadening activity if adults do not guide their children's viewing and teach children to watch critically and to learn from what they watch.

But television and the newer electronic media, if used wisely, have great positive potential for learning and development. They give children different mental skills from those developed by reading and writing. Television is a better medium than the printed word for conveying certain types of information, and it makes learning available to groups of children who do not do well in traditional school situations—and even to people who cannot read. Video games introduce children to the world

of microcomputers, at a time when computers are becoming increasingly important both in many jobs and in daily life. The interactive quality of both video games and computers forces children actively to create stimuli and information, not merely consume them.

The idea that television can be a positive force in children's lives has been around for decades. A classic study was done in England in the 1950s, when less than 10 percent of English families had TV sets and it was still possible to compare children who had television with children who did not. The authors suggested that parents and teachers inform themselves about television, not just to prevent children from seeing harmful programs, but to encourage them to watch worthwhile ones. They recommended discussing programs at home and in school, both to counteract one-sided views and to reinforce the impact of good programs. And they recommended teaching children critical viewing skills that would help them, for example, distinguish fantasy from reality. A study done in the United States a few years later emerged with many of the same suggestions.<sup>2</sup>

In the years since these early studies, television has become virtually universal in both Britain and the United States. Yet little progress has been made in using it positively, while awareness of its dangers has mushroomed. Much has been written about the negative effects of television on children: the titles of two popular and interesting books on the subject, *The Plug-In Drug* and *Four Arguments for the Elimination of Television*, carry the message.<sup>3</sup> But we do not have the option of getting rid of television. Television, video games, and other computer technology are here to stay, and their growing pervasiveness makes it all the more urgent that we discover how best to use them.

## THE MESSAGE OF THE MEDIUM

Twenty years ago Marshall McLuhan advanced the revolutionary thesis that "the medium is the message."<sup>4</sup> His idea was that each medium of communication produces social and psychological effects on its audience, particular social relations and a particular form of consciousness or way of thinking, that are quite independent of the content being transmitted. These effects constitute the message of the medium. McLuhan's famous phrase is widely quoted (even if not widely understood). But his own work, consisting mainly of literary analysis and artistic intuition, provided more free-ranging speculation than scientifically grounded information about the nature of these effects. Moreover, two closely related media that are now of great and growing importance, video games and other uses of computer technology, did not exist as mass media at the time McLuhan wrote. Today, research into the effects of the media is a thriving field, but we are only beginning to understand from a scientific perspective what the media, from print and radio to television, video games, and computers, do to our consciousness.

In this book I attempt to spell out the message of each medium as it concerns children and their development. (Although its focus is children, the book is really about how all of us, children and adults, are socialized by the media. It concerns the media and *human*, not merely *child* development.) The largest number of pages is devoted to television, the medium with which children spend the largest number of hours. (In general, I include film as a subpart of television, rather than treating it as a separate medium.) Next in emphasis is computers—video games and other uses of computer technology. These media are too new to have been much studied. Whereas my analysis of the effects of television is sup-

ported by a large body of empirical data, the discussion of computer technology is necessarily more speculative.

Two other media, print and radio, are brought in mainly for comparative purposes. Print was the first mass medium historically, and it was closely tied to the rise of formal education. Radio was the second mass medium and is currently the major one in many Third World countries. In order to understand the psychological changes brought about by television, it is crucial to compare its effects with those of the media that preceded it.

For many people print is still the hallmark of education and the standard against which all other media tend to be measured. Those with this world view often perceive television, film, and the newer electronic media as a threat to print. In fact, however, each medium presents its own point of view on a subject.<sup>5</sup> It makes little sense to give one point of view a privileged status, as intellectuals and the educational establishment have done with print. As McLuhan puts it, "we have confused reason with literacy, and rationalism with a single technology."<sup>6</sup>

Although I have been socialized and educated mainly through print, my goal in this book is to maintain a balanced view of the various media, profiling the distinctive strengths and weaknesses of each as a means of communication and learning. Each medium has a contribution to make to human development. One medium's strength is another's weakness; thus the media are complementary, not in opposition. Balanced development requires a balanced diet composed of the various media. Growing up exposed to a variety of media, children may not emerge from their education as specialized for reading as they once were. But they will have a more diversified set of skills than was possible when print was the dominant mass medium.

As each new medium comes to prominence, the preceding ones tend to take on new functions or to become specialized in what they do best.<sup>7</sup> With the coming of television, radio became specialized for music. Reading has become more associated with education, while the reading of serious novels for pleasure has to some extent been supplanted by movies. It is time to consider whether print has not, in our educational system, been assigned tasks that other media can do better.

I do not want to give the impression of being a media Pollyanna. Each medium has problems as well as possibilities. Some children watch far too much television, and need to have their viewing restricted: in one experiment, cutting six-year-olds' normal viewing time caused shifts from a more impulsive to a more reflective intellectual style and produced increases in nonverbal IQ.<sup>8</sup> It is also important, for a number of reasons, to guide children away from violent programs.<sup>9</sup> Literacy is vital in modern society, and the newer media should not be allowed to take the place of reading and writing for our children. Learning is impossible without active participation and mental effort, so the passivity encouraged by television must be overcome if television is to be a tool for learning.

But such negative reactions, important as they are, have been heard many times before. The greater need is for positive ideas that can help make television and the newer electronic media constructive forces in children's lives. In this book I emphasize the potential of each medium rather than its most typical uses. I delineate the positive role each can have in an essentially multi-media world. For the most part, I do not seek solutions to problems of children and the media by suggesting improvements in the media themselves. While a number of such suggestions will be found throughout the book, my dominant emphasis is to pick out positive

instances, positive effects, and constructive uses of each medium, alone and in combination. For the present this seems a practical approach, for the media themselves are generally beyond the control of individuals to change, and parents and teachers have to cope as best they can with the actual media environments available to children. Nevertheless, by calling attention to the positive aspects and uses of each medium as it now exists, I hope to contribute to an expansion of these positive practices and examples.

Properly used, every medium, without exception, can provide opportunities for human learning and development. The task now is to find a niche for each medium, so that each can contribute to a creative system of multimedia education.