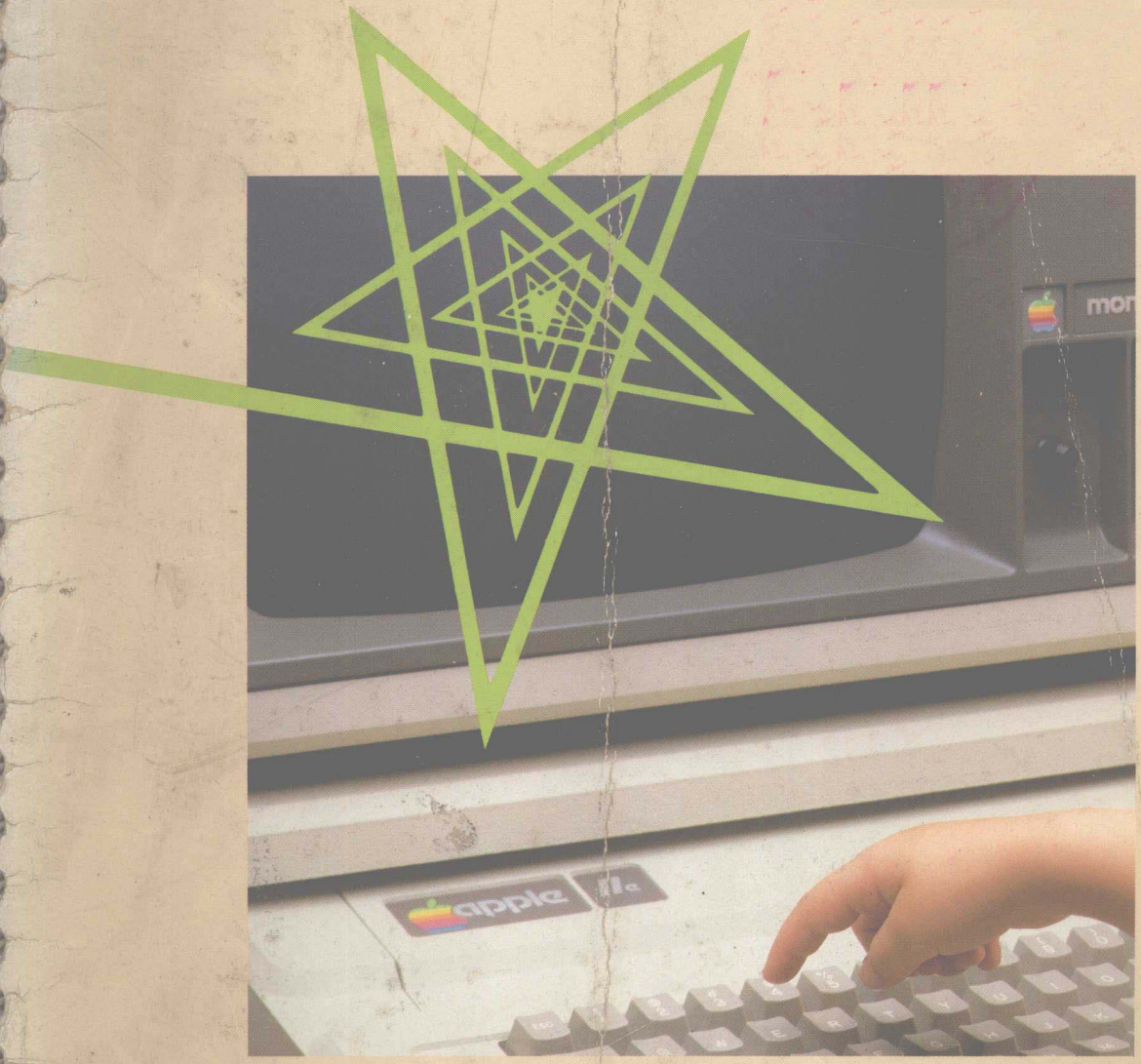
Apple Logo for Teachers



Earl Babbie

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David Grady
Consulting Editor

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About the Author

Earl Babbie's nine textbooks in sociology and social research are respected and used around the world. Students particularly appreciate his ability to explain technical material by making it simple but not superficial. For good reason, *Survey Research Methods* and *The Practice of Social Research* have become preeminent in the field of social research methods.

In *Apple Logo for Teachers,* Babbie brings his explanatory abilities to bear on the topic of computers. Babbie began working with computers in 1959, and his specialization in research methods has taken him from the early computers to large main-frame machines to today's increasingly powerful microcomputers. Appropriately, Babbie used three separate computers in writing this book.

Consulting Editor David Grady has special expertise in education and computers. As editor of *Learning Magazine,* Grady was a leader in making the world of computers available to the classroom. His articles have been published in *Personal Computing* and *Computer Update*. He currently serves on the Advisory Board of the California Association for the Gifted and is the publications manager for Electronic Arts.

Preface

As a social scientist, I've worked with computers for about twenty-five years. I feel especially fortunate to have started so early in the evolution of computers, and they have always been a continuing source of challenge, fascination, and satisfaction for me. Given the exponential evolution of computers during those twenty-five years, moreover, I have found every year offering new and more exciting possibilities.

I have naturally wanted to share my love affair with computers, and this book is evidence. Over the years, however, I have observed a very interesting relationship between people's response to computers and their age.

Here's an illustration. About ten years ago, I began working with the University of Hawaii's time-sharing system. In essence, I sat at a typewriter-like computer terminal, typed instructions that were carried over phone lines to the university's central computer, and received the computer's response almost instantly. It completely transformed my experience of computers.

Almost immediately, I began telling all my colleagues about time-sharing. Dragging them by ones and twos into the computer room and seating them at the terminal, I would attempt to instruct them. Their responses were almost always the same. When I would say, "Now enter a C," my colleague would hesitate and then turn to me and ask, "This one?" "Yes," I'd urge a little impatiently. Cautiously, he or she would reach to the keyboard and press the letter C, sitting there apprehensively.

"You have to hit RETURN to enter it," I'd prompt, impatience increasing. "This key over here?" "Yes!" "Just hit it?" "YES!!" On it would go. I found my colleagues' reluctance to play with

my new toy enormously frustrating, and I had made only one or two converts in five years.

Graduate students were a little better. When I invited them to the computer room, they came with little resistance. When I gave them explicit instructions, they generally complied. For the most part, however, I had the feeling they were merely submitting to my senior status. (After all, they might take a course from me or want to have me on their dissertation committee.) Few, if any, developed an independent interest in the computer.

Undergraduates were better than graduate students. When I taught a small seminar on the use of a computer system I had developed for analyzing social issues, about half the students in the class seemed genuinely interested in learning about the computer, although it was pretty rough at the start. Clearly, however, they were a bit less terrified of the computer than my colleagues and graduate students.

The real breakthrough in my sharing of computers with others came unexpectedly. As chairman of the Sociology Department, I received a call one day from a local elementary school to see if I'd be willing to meet with a delegation of fourth graders. The class had been broken up into small groups, and they were interviewing different professionals. I agreed to be their sociologist.

When the four young children arrived in my office at the university, I was all prepared to be a sociologist at the level of fourth graders. I invited them to sit down and began explaining sociology in my best Dick-and-Jane language. "Sociologists are interested in why people do the things they do. We mostly study the way people behave in groups."

Within a matter of minutes, I had crashed and burned. All four kids were fidgetting in their chairs, trying unsuccessfully to be polite. My attention was drawn especially to one little boy absentmindedly picking his nose and staring at the wall, obviously finding it more interesting than me. In desperation, I stopped midsentence to ask, "Hey, how would you like to see my computer?" They leaped from their chairs and ran to the door.

I led my now-very-much-alive little tribe across the hall and into the computer room. Before I could begin my lecture on how the terminal was connected by coaxial cables to the university computer, I found the kids shoving and pushing each other to gain control of the chair at the terminal. The boy who had minutes earlier been bored to death won the struggle and was soon leaning eagerly over the keyboard, his finger hovering over the keys, his eyes darting quickly from letter to letter.

As I began to instruct him in the complex log-on procedure, he shouted, "I'm going to type my name!"

"Don't do that. The computer won't understand. It'll just say you made a mistake."

My warning only provoked a staccato giggle from my little computer programmer. He proceeded to type his name. As soon as he hit RETURN on the keyboard, the terminal rattled its response: SYNTAX ERROR. Thus vindicated, I again began explaining that the computer was expecting a specific log-on code. Before I could finish, the little boy had entered his name again, producing shrieks of delight from all the other kids when the computer stubbornly insisted SYNTAX ERROR.

Soon he had given up his position at the controls, and each of the other kids took their turns entering their names, roaring ecstatically every time the computer protested. At last I had found a willing audience not the least intimidated by the computer. Whereas the adults would have been totally invalidated as human beings by committing a SYNTAX ERROR, the fourth graders were absolutely clear about who was in charge. They could command the computer to say SYNTAX ERROR any time they wanted.

Computers are here to stay. Computers already inhabit most corners of our lives, and they will continue to spread. While many adults are intimidated by computer technology, children are not. For them, computers are grand toys. With a little support, today's children will take command of the new technology and use it to improve the quality of life for us all.

Years after my encounter with that adventurous fourth-grade class, I found myself struggling to learn a new programming

language called Pascal. I had been told it was the language of the future and had invested in five or six manuals, all purporting to teach me Pascal. No matter how much I read and experimented at the keyboard of my new microcomputer, I just couldn't get it. Finally, in desperation, I called my local computer store for advice and guidance. I reached the manager and explained my plight.

"Don't worry, our Pascal consultant is a real pro. I'm sure Eric can help you out."

"Great! can I speak to him?" Informed that Eric was out of the office, I asked when he was expected back.

"He doesn't get out of school until three. Why don't you call back around three-thirty." Two hours later, fifteen-year-old Eric patiently explained what I was doing wrong.

The ultimate purpose of this book is to make the computer experience available to children. More specifically, it is designed to enable teachers, parents, and others to teach the computer language Logo to children.

There are a number of good manuals already available as reference books on Logo, and this book is not intended to replace the existing manuals. In fact, I have not attempted to cover the more esoteric aspects of Logo. My purpose, instead, is to help you *learn* Logo and to prepare you to *teach* it. Rather than replacing the existing manuals, this book should prepare you to take full advantage of them.

My ultimate purpose in this book is to make computers available to children: as something that empowers rather than burdens them. If you are reading this book, then you share that intention. Since Logo supports children in mastering computers more than any other computer language, I am delighted to share Logo with you and to start our partnership on behalf of the children.

There are a number of people who have contributed immeasurably to this book. To begin, I want to acknowledge Jean Piaget, whose lifetime of research laid the philosophical foundation for Logo. Seymour Papert had the vision that computers could become tools of learning for children and made that vision real by creating Logo. While neither Piaget

nor Papert had anything to do with the writing of this book, there couldn't have been such a book without their work.

Several people at Wadsworth Publishing Company were intimately involved in the creation of *Apple Logo for Teachers*. Steve Rutter, editor-in-chief, first suggested that I write the book, and Bob Podstepny, education editor, carried the project from start to finish. I'm especially grateful to Bob for his absolute commitment to the book through good times and bad.

Bob's efforts were joined by the dedication and good judgment of Debbie Fox, editorial associate; MaryEllen Podgorski, senior designer; and Debbie Oren, production editor. The most powerful thing I can say about the Wadsworth team is that we took this project from conception to bound books in less than a year.

Dave Grady has been a real partner by serving as consulting editor. He brought together expertise in computers and in education; his contributions have been invaluable.

Many reviewers around the country provided feedback on several drafts of the book, making it better at every turn. I appreciate their commitment to a book that would be of maximum value to both students and teachers. Special thanks to William Brown, Old Dominion University; Ricky Carter, Lesley College; Francis P. Collea, California State University, Fullerton; Suzanne Damarin, Ohio State University; Robert Goodson, Hyde Junior High School, Cupertino, California; Shirley Hill, California State University, Fresno; Leonard Kennedy, California State University, Sacramento; Mary Male, San Jose State University; Leah Rampy, University of Houston; Tim Riordon, Alpine Educational Computing Services, Eugene, Oregon; Ann Rule, St. Louis University; John C. Russell, University of Wyoming; Sally Standiford, University of Illinois; Pat Sturdivant, Houston Independent School District; David B. Thomas, University of Iowa; and Frank J. Watson, University of Vermont.

Finally, I want to thank my family—Sheila, Aaron, and Marion—for their direct contributions to the project and for putting up with my general absence during the past year. Happily, "absence makes the heart grow fonder" prevailed over "out of sight, out of mind."

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