



PREFACE TO THE FOURTH EDITION (2 0 0 0)

The profession of editing has many similarities to, but does not completely coincide with, the *joy* of editing. There is something about watching recorded pieces of reality (or even a make-believe version of reality) and taking them apart and putting them together again. Telling a story in pictures and in sound. Any story. Any pictures and sounds. Interest in the Internet is no wonder. Building websites (particularly the “websites” of the future) is deeply intertwined with the joys of editing and post-production.

The future lies in the convergence of media: the useful control over images (still and moving) and sounds. The technology at this epicenter of media convergence must handle video and audio editing and synthesis. Technological wizardry allows more and more of these tasks to become integrated into a single “swiss-army-knife” of media control; economics makes this tool more and more available to the individual. And who is the *de facto* benefactor of all this control? Who holds the profession most like the MEDIA CONVERGENCE MASTER of the future? While he or she may come from any one or series of disciplines, I suggest that the profession *most like* this future job description is **nonlinear editor**. The editor sits squarely at the focus of media, art and technology. Today, I suggest, this is a particularly good place to be.

Post-production is not often written about with detached reverence. Sometimes it appears an embarrassment because it is less romantic than production. Production is where the *stars!* are. “Post” is a back room somewhere. Editing is more like watching TV than shooting a movie, even if it is perhaps the place where the movie is “made.”

In 1932 Ansel Adams was a pioneer of photography as something other than pictorialism and “pretty pictures.” He and the so-called “Group f64” were quiet, creative and technological radicals. The art community didn’t look at photography as art. Painting: *that* was art. Photography was mechanical. It was simply documenting a moment in the world, with no interpretation. It was a result of technology, of optics, of chemistry. The early creative uses of photography during the prior decades tried to imitate the impressionistic painting style of the day that was so popular. Group f64’s vision was in demanding that photography didn’t need to imitate painting. In the same way that the first television shows were often filmed versions of radio shows, and the first websites were little more than Internet newspapers and billboards, each new technology is often forced to

make a baby step from the technology it ostensibly replaces. The technology invariably exists before the vision of how to utilize it emerges. We don't yet know what kind of creative expression is possible with the technologies we are developing.

Ansel Adams called his style of working "pre-visualization." He worked out his vistas and ranges of light in detail in advance of opening the shutter on his 8x10" negative hand-built camera. While he was famous for this, it is less widely known that he did extensive work in the developing and printing of images to make them look so wonderful. His hallmarks were heavy dodging and complex exposure settings on different parts of the enormous negative. He and his printing assistants were masters of these exposures. He was famous for pre-visualizing, but his secret was "fix it in post."

If you are an editor today, you have access to the greatest quantity of affordable technology in history, with which you can edit your personal slice of the media pie. There is a lot of media out there, and it is BEGGING to be edited.

The Internet requires a great deal of graphic design sensibilities, which not all editors have. But those who can manage both the sense of story, pace, focus and time (from audio and video), to layout, readability and excitement (from publishing and design) will find this new medium interesting. Clearly, the more it evolves, the more moving images and sound can become a part, and the more editors will find it friendly and familiar territory. The Web will no doubt become something greater than a cool frame for streaming media: it will become its *own* medium.

And that's why this book is here. We love editing. We are unafraid of technology. We grow more and more able to afford the tools of our trade and hobby. This is a golden age. We contributed to its ascendance. We have a few useful observations and fundamental information for you that doesn't really go out of style, but continues to grow in relevance.

I hope this book and our website provide for you a Rosetta stone, a launching point, as well as an enjoyable romp in politics and business (a necessary side hobby of many an editor). Please let us know what we might improve, and we'll see what we can do. Until then, hang on, enjoy the ride, thank you and good luck.

MHR
July 2000

PREFACE TO THE FIRST EDITION (1 9 9 1)

At this year's National Association of Broadcasters show I met many videotape editors who thought the new digital editing systems they saw were the first nonlinear products. I met film editors who didn't know the difference between hard disks and laserdiscs. As I walked the exhibit floor, it became apparent that editing and editing systems were about to get ... confusing ... if they weren't already.

For over six years I have been actively involved with nonlinear editing, and only today it seems the editing community is sitting up and saying, "Hey, look at this nonlinear thing ..."

If you are finally discovering nonlinear editing (or only now find it ready for you), you are probably in need of a perspective on these systems: where they came from, how they do what they do, how to work them, and which is the right one for you. So where can you turn for help?

No person in the business can give you an objective overview. Although I promise to try, it probably won't be absolutely evenhanded. No one is unbiased and few know all the systems well.

Not the *trade press*—they have magazines to sell and advertisers to please.

Not the *manufacturers*—they really don't know much about any editing systems other than the ones they make (and sometimes don't know that much about their own).

Facilities? They tend to get informed once they've owned a piece of equipment for awhile (often knowing it better than the manufacturer) but will have only a very selective knowledge about any other systems.

Producers? Their principle concern, and rightfully so, is cost. Their judgments are important, but their bias is toward economic and logistic features more than editing functionality.

Editors? Most who edit nonlinearly have fallen in love with the first system they learned and rarely want to venture out much farther. There is a growing body of editors who started on film, experimented with videotape (but generally rejected it), and then discovered nonlinear video. Of this group, most have edited on two or three different systems at different times, giving them a somewhat diverse knowledge of system functionality. These are good people to talk with. You will find their recommendations

divided between the system they like the most and the system that most productions want them to use.

No system is perfect. Everybody wants different things and every system offers different things. The “right” features are in at least half a dozen different editing systems but no one system has them all. Today there are at least twelve significant manufacturers of nonlinear electronic editing systems. By the time you read this, there may be twelve others. Though the specifics of each system may be different, there is much background that is fundamental to all of them.

This book does not presume to teach anything about the aesthetics of editing. It arose simply from a need to demystify the myriad editing equipment choices an editor has today, to bring to editors a unified terminology and a basis for learning more about systems not yet developed. Technology happens whether we like it or not. Consequently, this book was designed for (1) film editors who need to understand more about the world of “electronic film” editing—to develop some understanding of the techniques, vocabulary, and technologies of the video world; (2) videotape editors who want to investigate the stylistic power and history of nonlinear editing; and (3) producers and directors who are baffled by their electronic options.

As the decade progresses, videotape and film editors will be more and more in the same ship—learning new ways from each other about editing in the future. I hope this book will begin the foundation for that new community.

MHR
November 1991

I N T R O D U C T I O N

No book can replace actually working in post-production and with nonlinear editing. The purpose of this book is to familiarize the reader with fundamental concepts associated with nonlinear post-production. It should be read in conjunction with class training or real-world experience.

For learning how to operate any of the available nonlinear systems, manufacturers sponsor classes, the Editors Guild supports training, and most universities and community colleges (and even high schools) offer programs. However, technical background is often passed over in the classroom setting for a more direct “how-to” application of knowledge.

NONLINEAR is not meant to be read cover-to-cover like a novel. It is completely random-access and, well, nonlinear. The reader should feel free to peruse sections and find topics that are of particular interest.

Many topics are repeated in different chapters and in slightly different ways. Film, video and computer people often have vastly different backgrounds, and some will need more explanation on certain topics than others. NONLINEAR assumes the reader has only a rudimentary knowledge of either film, video or computer concepts and terminology.

New in this edition comes a relationship to the web. Check out the nonlinear4 website—at www.nonlinear4.com—where updated information, resources, and greater detail on many topics is provided.

This “primer” is neither intended to teach you how to edit on any particular system nor to convince you which system is “best.” It will discuss the history of the nonlinear systems and give an overview on how they work. When appropriate, I will offer my opinions on the good and the bad, hopefully without proselytizing and without malice.