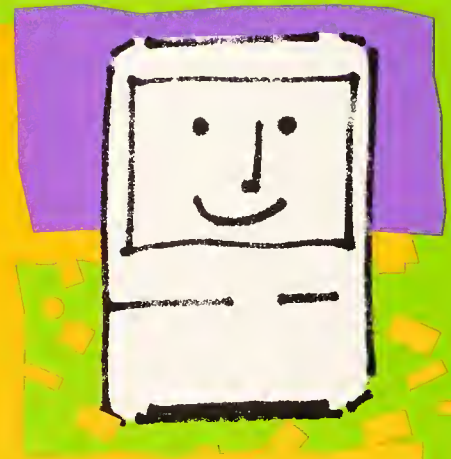# Bob LeVitus
Michael Fraase

Mac
Culture
from the
Inside

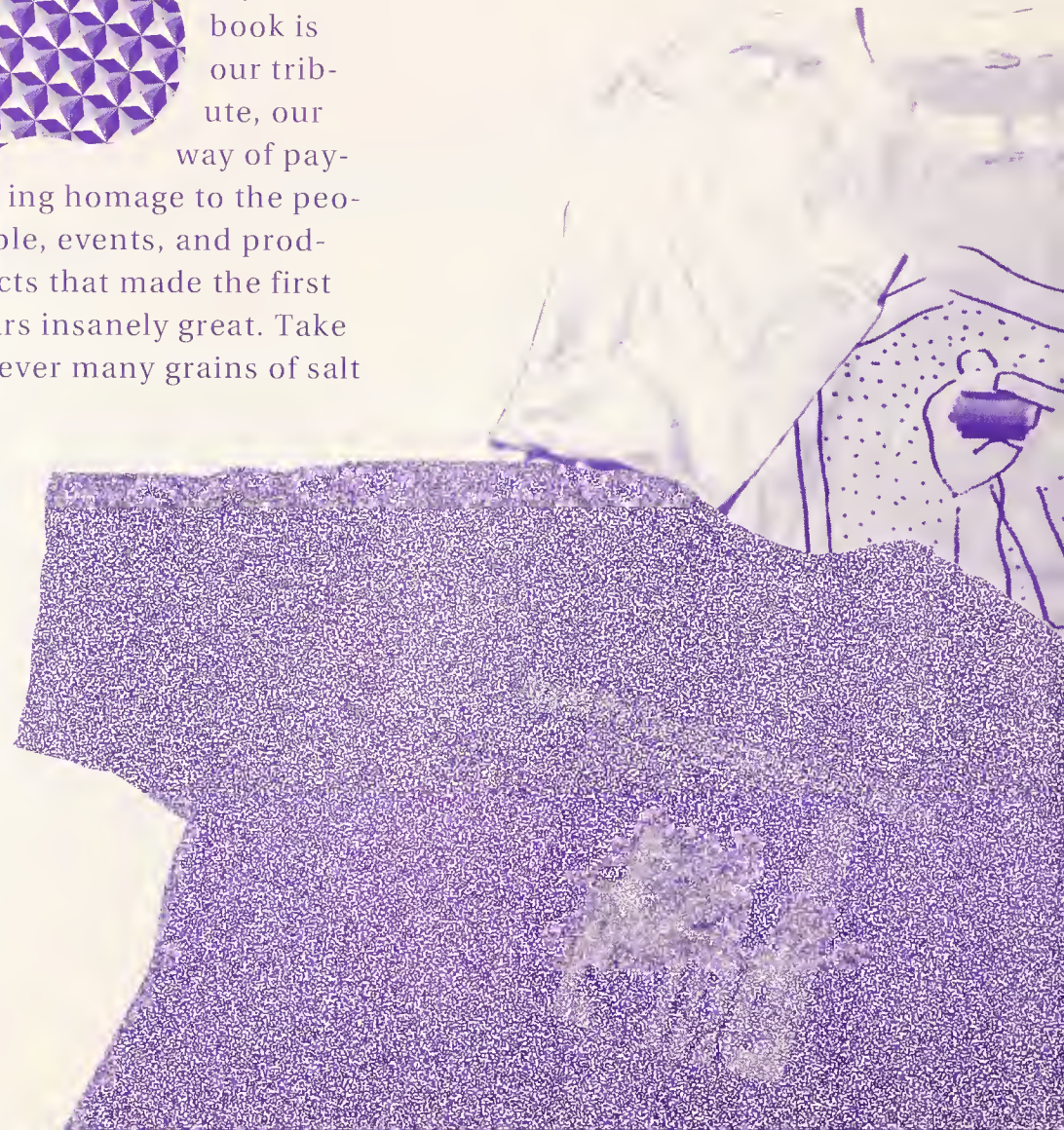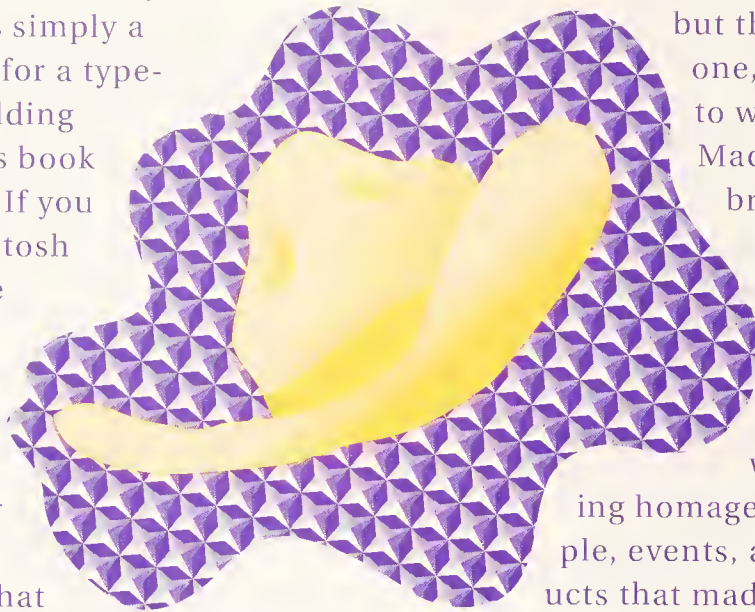## Guide to the
Macintosh®
Underground

Are You an Outlaw?

This book is for Macintosh fanatics, Macintosh infonauts, and Macintosh outlaws. If you use a Macintosh as simply a replacement for a typewriter and adding machine, this book isn't for you. If you have a Macintosh with a simple gray desktop or a standard system beep, this book isn't for you. If you understand that the Macintosh is an information tool and that we're all infonauts, this book *is* for you. If you look for a File menu with Open… and Save… commands while you're dreaming, this book is for you, too. Finally, if you're looking for a book that explains how to accomplish tasks—click here to make this happen—this book isn't it. (Buy our other books for that.)

This is it—the slightly twisted collection of essays about the Macintosh experience you've been waiting for. This is a book by two Macintosh outlaw fanatics written for other Macintosh outlaw fanatics. This is a Macintosh book that we wanted to read, but there wasn't one, so we had to write it. As Macintosh celebrates its tenth birthday, this book is our tribute, our way of paying homage to the people, events, and products that made the first ten years insanely great. Take it with however many grains of salt you like.

The Macintosh is a seed. This book is proof that Ken Kesey was right when he said that you can count how many seeds there are in the apple, but not how many apples there are in the seed.

Contents at a Glance

Macintosh HYPERtext

From
Vannevar to HyperCard,
hypertext and hypermedia have
always been a couple of the best
reasons to own a computer.

The concept of non-linear writing
and reading of information was first
formalized by Vannevar Bush in the
1940s and subsequently has been elaborated
upon by visionaries such as Doug Engelbart and Ted Nelson.

In the mid-1940s, most of America's efforts were focused on ending
World War II. Vannevar Bush was Franklin Roosevelt's head of the Office
of Scientific Research and Development. Bush was deeply concerned
about the amount of information being generated by members of the
scientific community on behalf of the war effort. More importantly, Bush
was concerned about managing the data and making it accessible to
those who needed it.

As a result, Vannevar Bush made a series of assessments and predic-
tions—including high-resolution screen displays, fast information
retrieval, and the mass storage of information—that proved to be
remarkably prescient.

In 1945, Vannevar Bush wrote an
article entitled "As We May Think"
(*The Atlantic Monthly*, August, 1945)
that changed forever the way we look
at the organization, storage, and
retrieval of large amounts of informa-
tion. Bush was aware that the human
mind operates largely by association
and that—by extension—people work
best using associative properties of
thought. He speculated that an asso-
ciative selection process could be
mechanized and that such a process,

while significantly slower in performance than the human mind, would be permanent rather than transitory (as are human associative thought processes). Any specific bit of data could be accessible by entering a code and the document would be displayed on the screen. Margin notes and comments could be added at virtually any point and associations could be freely drawn between any two documents and displayed on adjacent screens.

The "memex" was the machine that Vannevar Bush visualized as being capable of providing this associative mechanical thought. The memex was based on the then state-of-the-art technology of the microfilm reader coupled with navigational levers. Although the memex machine was never manufactured, another of Vannevar Bush's concepts, the Bush Rapid Selector, was developed and marketed by Kodak and others. We now know the Bush Rapid Selector as the microfilm reader with index strips along the side of each film. Bush's concept of trails or marks and sequencing cues are now known as paths, tours, and webs in hypermedia.

Ted Nelson *and Universal Hypertext*

No discussion of hypermedia or interactive multimedia would be complete without a mention of Ted Nelson, one of the most brilliant minds of our time and originator of the term **"HYPERTEXT "**

Ted Nelson, influenced by the work of Vannevar Bush and Douglas Engelbart, first used the term hypertext in the mid-1960s to describe a form of non-sequential writing. His written works, most notably *Computer Lib/Dream Machines* and *Literary Machines,* have served to influence the current generation of hypermedia pioneers more than any other works.

Project Xanadu

Xanadu, Nelson's project of the past 30 years, is a global information repository and network he refers to as the "magic place of literary memory." Using his concept of "universal hypertext," Xanadu will consist of thousands of nodes throughout the world, some of which will exist as fast-food-franchise-like establishments Nelson refers to as "Silver Stands." When Xanadu becomes a reality, many thousands of users will have simultaneous access to mountains of information, through which they will be able to create their own knowledge trails and endless document revisions.

The Origins of Hypertext and Hypermedia

When referring to hypertext, Ted Nelson means non-sequential writing and, by extension, non-sequential information retrieval and perusal. He has said,

"Well, by 'hypertext' I mean non-sequential writing—text that branches and allows choices to the reader, best read at an interactive screen. As popularly conceived, this is a series of text chunks connected by links that offer the reader different pathways."

We can also extend the definition of hypertext to cover hypermedia by simply adding animation, sound, and full-motion video to the recipe.

Quick to point out that hypertext can include sequential text within its realm, Nelson referred to hypertext as "the most general form of writing," since it is not limited by sequence and other external structures and conventions. Hypertext is a more enjoyable experience for the reader because she chooses a pathway of her own, rather than being forced to follow the one provided by the author as in more conventional forms of communication. "Unrestricted by sequence, in hypertext we may create new forms of writing which

better reflect the structure of what we are writing about," wrote Nelson, "and readers, choosing a pathway, may follow their interests or current line of thought in a way heretofore considered impossible."

Most writings—and most multi-media presentations—are sequential, according to Ted Nelson, because they grow out of speech-making (as opposed to conversation) and because books are easier to read in a sequential manner. He also says, however, that the structure of ideas is not sequential at all, but more like a jumble of coat hangers (showing the interconnectedness of our ideas). He also credits the concept of the footnote as a break from the sequential, but says it is not hypertext because it cannot be extended.

Similarly, non-sequential presentation enables the viewer to form impressions and bounce around, trying different tacks until finding the one that's most interesting or the most germane to her immediate interests. Hypermedia allows for an arbitrary information structure, thereby opening many doors rather than just one.

Ted Nelson foresaw that once we were liberated from the pestilent confines of the printed page, our writing and presentations would flow in a naturally interconnected manner. In addition, a body of text can be written without regard to a target market or "average" reader. Any level of detail can be achieved without concern for violating the supposed rules of general interest. Documents can be modeled after an onion rather than a potato. Layers of detail can be peeled back and readers can immerse themselves deeper and deeper into the work. Again, Nelson waxes eloquent:

"I wanted everyone to see that we were going to the extended, generalized form of writing: no longer held to the conve- nient sizes by printing and marketing considerations, no longer restricted to a single expository stream, no longer breaking the true interconnec- tions of a subject to make a sequence (like branches snapped into sticks and put into a row)."
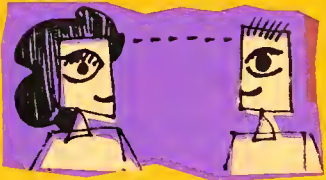
Dear Readers:

If you know that IBM sucks but you aren't sure why, read this book. If you still harbor the delusion that Steve Jobs was a nice guy who got screwed by Sculley, read this book. And if you aren't sure what virtual sex is, you should most definitely read this book.

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-Bob LeVitus & Michael Fraase

Guide to the
Macintosh® Underground

Some of what's inside:

Why 1984 wasn't like *1984*

When it comes to paradigms... shifts happen

Dumpster Diving and why it's important

Bill Gates: winner or weiner?

Everything you ever wanted to know about the greatest show on Earth (Macworld Expo)