Chapter 2

The Read-Write Web

Technology that Makes We the Media Possible

I still remember the moment I saw a big piece of the future. It was mid-1999, and Dave Winer, founder of UserLand Software, had called to say there was something I had to see.

He showed me a web page. I don't remember what the page contained except for one button. It said, "Edit This Page"—and, for me, nothing was ever the same again.

I clicked the button. Up popped a text box containing plain text and a small amount of Hypertext Markup Language (HTML), the code that tells a browser how to display a given page. Inside the box I saw the words that had been on the page. I made a small change, clicked another button that said, "Save this page" and voila, the page was saved with the changes. The software, still in prerelease mode, turned out to be one of the earliest weblog, or blog, applications.

Winer's company was a leader in a move that brought back to life the promise, too long unmet, that Tim Berners-Lee, inventor of the Web, had wanted from the start. Berners-Lee envisioned a read/write Web. But what had emerged in the 1990s was an essentially read-only Web on which you needed an account with an ISP (Internet service provider) to host your web site, special tools, and/or HTML expertise to create a decent site.

Writing on the Net wasn't entirely new, of course. People had done it for years in different contexts, such as email lists, forums, and newsgroups. Wikis—sites on which anyone could edit any page—also predated weblogs, but they hadn't gained

much traction outside a small user community, in part because of the techie orientation to the software.

What Winer and the early blog pioneers had created was a breakthrough. They said the Web needed to be writeable, not just readable, and they were determined to make doing so dead simple.

Thus, the read/write Web was truly born again. We could all write, not just read, in ways never before possible. For the first time in history, at least in the developed world, anyone with a computer and Internet connection could own a press. Just about anyone could make the news.

About a year and a half later, on November 8, 2000, I was sitting at my desk at the University of Hong Kong where I teach part-time each fall. It was Wednesday morning in Hong Kong, Tuesday evening in the United States, and I was immersed in the U.S. elections muddle that left Americans unsure for weeks who their next president would be.

The U.S. television networks' news programming was unavailable in the university's Journalism and Media Studies Centre, and local media weren't spending as much time on the story as I, an American abroad, might have liked. So I made do with the tools I had—and I realized something that seems obvious only in retrospect.

I found a National Public Radio streaming-audio feed and listened to it. Meanwhile, I was visiting various web sites such as CNN and key newspapers such as the *The New York Times* for national perspective and my own *San Jose Mercury News* for California and hometown coverage. I watched as the map of blue states and red states changed, and drilled in on articles about individual state races.

I realized I was getting a better overall report than anyone watching television, listening to the radio, or reading a newspaper in the United States. It was more complete, more varied. In effect, I'd rolled my own news.

It was a convergence of old and new media, but the newest component was my own tinkering to create my own news

"product"—a compilation of the best material I could find. It was a pale imitation of what we'll be able to do as the tools become more sophisticated, but it worked.

My main focus in this book is on what happens when people at the edges participate in the news-gathering and dissemination processes. Of course, I have to remind myself that most people will remain—and I dislike this word—*consumers* of news.

Yet even if that's all they do, they can do it better than at any time in history because technology gives them more choices. (This is one reason why significant numbers of Americans, believing they weren't getting a fair perspective from the U.S. media, sought out international views during the 2004 Iraq War and run-up to it.)[35]

The news is what we make of it, in more ways than one.

To understand the evolution of tomorrow's news, we need to understand the technologies that are making it possible. The tools of tomorrow's participatory journalism are evolving quickly—so quickly that by the time this book is in print, new ones will have arrived. This book's accompanying web site (*http://wethemedia.oreilly.com*) will catalogue new tools as they become available. In this chapter, we'll look more generically at the fundamental technologies.

For people who simply want to be better informed, the Internet itself is the key. We have access to a broader variety of current information than ever before, and we can use it with increasing sophistication.

For those who want to join the process, the Web is where we merely start.

The tools of grassroots journalism run the gamut from the simplest email list, in which everyone on the list receives copies of all messages; to weblogs, journals written in reverse chronological order; to sophisticated content-management systems used for publishing content to the Web; and to syndication tools that

allow anyone to subscribe to anyone else's content. The tools also include handheld devices such as camera-equipped mobile phones and personal digital assistants (PDAs). What they have in common is a reliance on the contributions of individuals to a larger whole, rising from the bottom up.

It boils down to this. In the past 150 years we've essentially had two distinct means of communication: one-to-many (books, newspapers, radio, and TV) and one-to-one (letters, telegraph, and telephone).

The Internet, for the first time, gives us many-to-many and few-to-few communications. This has vast implications for the former audience and for the producers of news because the differences between the two are becoming harder to distinguish.

That this could happen in media is no surprise, given the relatively open nature of the tools, which could be used in ways the designers didn't anticipate. It's always been this way in media; every new medium has surprised its inventors in one way or another.

At their heart, the technologies of tomorrow's news are fueling something emergent—a conversation in which the grassroots are absolutely essential. Steven Johnson, author of *Emergence*[36]—a book about how rich, complex systems such as ant colonies come to exist—explained it this way in a 2002 O'Reilly Network interview:[37]

> Emergence is what happens when the whole is smarter than the sum of its parts…And yet somehow out of all this interaction some higher-level structure or intelligence appears, usually without any master planner calling the shots. These kinds of systems tend to evolve from the ground up.

In no sphere is the whole more intelligent than the sum of its parts than in digital networks, where the basic units are zeros and ones—and where, as David Isenberg explained in his pathbreaking 1997 paper, "Rise of the Stupid Network,"[38] the value soars when you move the intelligence to the edges and away from the center. The Internet, in particular, is becoming

the environment in which the new tools function, an ecosystem that is gaining strength from diversity. The Web, as it grew up in the 1990s, was a powerful publishing system that journalists of all kinds used to great effect, and still do. But the larger toolkit is part of an expanding, thriving ecosystem.

Let's look inside that toolkit.

MAIL LISTS AND FORUMS

Before weblogs we had mail lists, and they have not become less important. As noted in Chapter 1, Dave Farber's "Interesting People" mail list is a news source of enormous value to his readers. It is far from alone.

Because I spend time in Asia every year, including a month teaching in Hong Kong each fall, I was extremely interested in the rise of SARS. I wrote several columns about it in early 2003. Soon after one of the columns appeared, I received an email from a Harvard University bioengineering instructor, Henry Niman, who had created several mail lists. One called SARS Science, he said, "targets medical and scientific information on the epidemic. Members include molecular biologists and scientists from around the world who are studying coronaviruses as well as astroviruses and paramyxoviruses." Many of the reporters covering the outbreak also subscribed to this list. A second mailing list was for sending news articles about the disease. I joined both.

This sequence of writing about something and then hearing from an expert in the field has been a common one for Net-savvy journalists lately. But in a sense, journalists were late finding out what nonjournalists had been doing for years.

At last count, there were thousands of mail lists, covering just about every topic one can imagine. Mail lists differ from blogs and standard web sites in at least three respects. First, they serve a specific community, the subscribers, and the community

can make the list private. Second, they tend to be narrowly targeted, such as the SARS list. Third, they are "pushed" to subscribers' email inboxes. Some are moderated; most are not. The key thing about lists is that they tend to be populated by a combination of experts in a given field or topic, and by avidly interested lay people. This can be a potent combination.

In 2000, Yahoo! bought eGroups, a primary vendor of mail lists, renamed it Yahoo! Groups,[39] and now hosts thousands of lists. It's trivially simple to create a mail list.

Most mail lists have a small readership, such as the "Blogrollers" group Winer created in 2003 where webloggers tip each other about new postings they think might be especially noteworthy for their peers. Some mail lists have enormous readerships, such as Dave Farber's "Interesting People" list.

Unlike mail lists, online forums, such as Usenet newsgroups, are open to all comers. Individual forums are hosted by companies, user groups, activists, and just about any kind of interest group one can name. Some are moderated, and many are valuable for spotting trends and getting answers to specific questions.

From a journalism perspective, mail lists and forums can amplify the news. They can be an early warning. They can simply be excellent background data. But their value should never be underestimated.

WEBLOGS

Many to many, few to few. The blog is the medium of both, and all.

Weblogs and their ecosystem are expanding into the space between email and the Web, and could well be a missing link in the communications chain. To date, they're the closest we've come to realizing the original, read/write promise of the Web. They were the first tool that made it easy—or at least easier—to publish on the Web.

So what is a weblog, anyway? Generally speaking, it's an online journal comprised of links and postings in reverse chronological order, meaning the most recent posting appears at the top of the page. As Meg Hourihan, cofounder of Pyra Labs, the blogging software company acquired by Google in February 2003, has noted, weblogs are "post-centric"—the posting is the key unit—rather than "page-centric," as with more traditional web sites. Weblogs typically link to other web sites and blog postings, and many allow readers to comment on the original post, thereby allowing audience discussions.

Blogs run the gamut of topics and styles. One blog may be a running commentary on current events in a specific arena. Another may be a series of personal musings, or political reporting and commentary, such as Joshua Micah Marshall's TalkingPointsMemo.com. A blog may be pointers to other people's work or products, such as Gizmodo, a site devoted to the latest and greatest gadgets,[40] or a constantly updated "what's new" by a domain expert, such as Glenn Fleishman's excellent Wi-Fi Networking News and commentary page.[41] While some blogging software permits readers to post their own comments, this feature has to be turned on by the blogger, and a significant number of prominent bloggers have not enabled the comment feature. At the other extreme, the Slashdot weblog, featuring news about technology and tech policy, is essentially written by its audience.

What the best individual blogs tend to have in common is voice—they are clearly written by human beings with genuine human passion.

Blogs are, as New York University's Jay Rosen puts it, an "extremely democratic form of journalism." On his PressThink blog,[42] a site that has become essential for anyone looking at the evolution of journalism, he offers 10 points to explain why. Here are the first three:

1. The weblog comes out of the gift economy, whereas most (not all) of today's journalism comes out of the market economy.

2. Journalism had become the domain of professionals, and amateurs were sometimes welcomed into it—as with the op-ed page. Whereas the weblog is the domain of amateurs and professionals are the ones being welcomed to it.
3. In journalism since the mid-nineteenth century, barriers to entry have been high. With the weblog, barriers to entry are low: a computer, a Net connection, and a software program like Blogger or Movable Type gets you there. Most of the capital costs required for the weblog to "work" have been sunk into the Internet itself, the largest machine in the world (with the possible exception of the international phone system.)

The nature of journalistic authority is shifting, he told me.

In a "bottom-up, chaotic system like weblog world, certain sites are important without anyone designating that," Rosen said. Moreover, when the people formerly called the audience are now participants, "that's a different kind of relationship."

Businesses have joined the conversation because blogs fill a gap. A few years into the commercial Internet, companies discovered the value of email for marketing and customer support, not to mention internal communication. Then came the plague of spam, which threatens email as a tool for external contacts. Most corporate web sites, meanwhile, are like most annual reports: static, stiff, and turgid, with the most revealing information hidden in footnotes—sometimes to disguise the truth, not tell it—and led by a "Letter from the Chief Executive" (or vacuous mission statement) that appears to have been written by a committee of lawyers and marketing people.

To the extent that even a business blog can bring information to the audience—internal or external—with more style than we tend to see on business web sites, enterprises will benefit. But what brings people back to personal weblogs is their individualized perspective.

Personal blogs also tend to be part of running conversations. One blogger will point to another's posting, perhaps to agree but often to disagree or note another angle not found in the original piece. Then the first blogger will respond, and other bloggers may join the fray. As tools are developed to help people follow those discussion threads across different sites, the cross-fertilized conversations will spread both in numbers and complexity even more quickly than they do today.

To date, blogs have been a medium mainly for individuals, though group blogs are proving to be a smart medium in some circumstances. The most popular individual bloggers draw tens of thousands of visitors daily. It's safe to say that several million people have at least tried blogging. How many do it regularly is unclear, but the best bet is several hundred thousand.

The addition of audio, video, animation, and other multimedia to weblogs has been an obvious move. But it's taken some time for these mediums to become part of the blogging toolkit. Bandwidth (or lack thereof) is the main reason. But as networks improve, we can take for granted that what technologists call "rich media" formats will infiltrate. (I've added audio and video to my own blog, with limited success.)

Blogging software has evolved a great deal from the first products of Dave Winer, Evan Williams, and other pioneers to the genre. The most popular, as of this writing, are Movable Type from SixApart;[43] Radio UserLand,[44] Live Journal,[45] and Blogger,[46] but a number of competitors such as 20six[47] have emerged.

WIKI

Can absolute editorial freedom result in anything but chaos? Yes, when it's in a Wiki.

Ward Cunningham, who invented Wikis, defines them in many ways, calling them composition systems, discussion