

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

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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

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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 “Blog-rollers” group Winer created in 2003 where webbloggers 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.

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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 20six⁴⁷ 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

mediums, repositories, mail systems, and chat rooms. “It’s a tool for collaboration,” he writes. “In fact we don’t really know what it is, but it’s a fun way of communicating.”⁴⁸

“WhatIs.com” (an online information technology dictionary) defines them this way: “A wiki (sometimes spelled “Wiki”) is a server program that allows users to collaborate in forming the content of a Web site. With a wiki, any user can edit the site content, including other users’ contributions, using a regular Web browser.”

The crucial element is that any user can edit any page. The software keeps track of every change. Anyone can follow the changes in detail. As Cunningham so aptly puts it, all Wikis are works in progress.

The Wikipedia, a massive encyclopedia, is the biggest public Wiki, but far from the only one. There are Wikis covering travel, food, and a variety of other topics. You can find a Wiki category page on Cunningham’s site.⁴⁹ One of the best examples of a Wiki as a collaborative tool to create something useful is the WikiTravel site,⁵⁰ which brings together a variety of viewpoints from around the world.

Wikis are going private, too. They’re increasingly used behind corporate firewalls as planning and collaboration tools. And entrepreneurs are even starting to form companies around the technology, extending it for wider uses.

Wikis are making inroads on campuses as well. My lecturer at the University of Hong Kong set up a Wiki for our students to use as a planning platform for the 2003 class project. The project looked at a controversial proposal to fill in more of the harbor for development. Students posted their outlines and story proposals on the Wiki and used the site to flesh out the ideas. Instructors could watch over their shoulders without interfering except to offer guidance. The Wiki was perfect for this task.

Their use in journalism, at least the traditional kind, is almost nonexistent. But as Wikis become easier to use, they will

become a particularly well-suited tool to compile information from disparate sources, collected by people in different physical locations.

SMS

If weblogs are becoming the opinion pages and, sometimes, even the newspages of the Net, short message services (SMS) are becoming the headlines. For bulletins, there's nothing better.

Think of SMS as instant messaging without being tethered to a PC.⁵¹ SMS isn't a product *per se*. It's a service offered by network providers that allows customers to send text messages over their cell phones. About the only things that differ from carrier to carrier are price and the kind of device a customer will use.

SMS has been a staple of the information diet just about everywhere where mobile phones have penetrated markets, except in the United States. That is surely changing. Forward-looking newspapers in the U.S., along with other kinds of information providers, including companies that have time-sensitive information (such as airlines), have begun offering an assortment of SMS services. *The San Diego Union-Tribune's* SignOnSanDiego.com, for example, offers SMS alerts on local news. And I've signed up with United Airlines and American Airlines, the carriers I use most frequently, to be notified if flights are delayed.

Journalists can use SMS in any number of ways; again, this is much more common outside the U.S. The first inkling among journalists of China's SARS epidemic came in an SMS from sources inside the medical profession there. Was this significantly different than simple phone calls in its fundamental nature? Not really. But in a place where being overheard can lead to big trouble, it's much safer—as long as one's messages aren't being intercepted—to simply send a quick SMS.

Over time, perhaps the most important value of SMS will be of the kind described by Howard Rheingold in his prescient book *Smart Mobs*:⁵² a self-organizing information system in which individuals and small groups tell each other important news. Rheingold relates, among other examples, how citizens in the Philippines used SMS to organize and overthrow a corrupt government.⁵³ On a more prosaic level, young people in countries with advanced wireless communications have used SMS for social organization. We're just at the beginning of this technology's development. As networks and handsets improve, SMS will give way to video messaging, with yet to be understood implications.

Professional news people will need to be plugged into tomorrow's smart mobs, just as they must be plugged into today's informal organizations. This is already a natural state of affairs in much of Europe and Asia, which lead the U.S. in the development of wireless messaging; certainly it was for the Chinese journalist who received news of SARS via SMS. Technology moves so quickly that before long it will also seem natural to the men and women who enter professional journalism in America.

MOBILE-CONNECTED CAMERAS

Pictures are part of journalism, and most organizations employ professional photographers. As cameras become just one more thing we all carry everyday, everyone's becoming a photographer. We haven't begun to think through the societal implications of this fact, but the implications for journalism are serious.

Digital cameras are a staple of amateur photographers, and well-financed professional journalists use high-end digital cameras for their flexibility and the ability to transmit photos quickly. Video is also going digital at a rapid pace. The size of

high-quality digital cameras, still and video, is decreasing along with the cost. Connecting them to personal computers for image and video editing is simpler than ever, too. As broadband Internet access becomes more common, quick publishing becomes simple.

Now combine cameras with true mobility, and the ability to instantly send an image to someone else or to the Web. This is the world camera-equipped mobile phones are creating. The images from early models were low resolution and lacked professional quality, but even a bad picture can be newsworthy, and the quality of phone cameras is getting better at a rapid pace. Once again, it's vital to remember technology's rapid pace of innovation and improvement to understand just how soon it will be when most phones aren't just equipped with still cameras, but video cameras. Tomorrow's mobile phones will be able to send information and images to individuals and groups, and publish to web pages in close to real time.

Keep in mind that public photos and videos are not new. The beating of Rodney King captured on videotape is a precedent for what's coming. Citizens have been capturing videos of tornados and other natural disasters for years as well, and cable television caters to voyeurs with a variety of shows featuring citizen-captured police chases, embarrassing moments, and the like. News organizations have increasingly resorted to using hidden cameras—an ugly trend, in my view, because only in the most extreme circumstances, such as when someone's life is in danger, should reporters even consider such subterfuges.

We are only beginning to understand the consequences of this technological development. There will be gross invasions of privacy. The barring of mobile phones with cameras from health-club locker rooms is a testament to the improper ways people have already used these devices.⁵⁴ But faster networks and nearly ubiquitous cameras in the hands of average people means that big events—the ones that have some element that

can be captured on camera—will be seen, and captured, by several or many people. Keeping secrets, moreover, will be more difficult for businesses and governments. We'll look at these possibilities in the next chapter.

INTERNET “BROADCASTING”

At one time, Internet Broadcasting was seen as the next big thing, with individuals and groups spawning Internet radio and news stations with the same ease they create weblogs and Wikis. But the entertainment industry has all but killed the possibilities of Internet radio, at least the kind with music, by persuading copyright regulators in the U.S. to impose unaffordable royalties on Net radio.

News radio via the Net is another matter entirely, and there's a big opportunity for people to create their own shows featuring interviews, audio documentaries, and other formats in which royalty-free content is the goal. Christopher Lydon, a longtime professional journalist who has taken to blogging in a big way, posted a series of superb interviews on his “The Blogging of the President 2004”⁵⁵ site.⁵⁶ *IT Conversations*, a Net-only program, has been posting interviews in various audio formats along with transcripts.⁵⁷

Web-based talk radio is another possibility, and it doesn't need to be expensive. Two staff members on Howard Dean's 2004 presidential campaign created an Internet talk-radio program by patching together some low-cost equipment. They showed that anyone can do this, inexpensively and fairly easily. Look for others to put all the pieces together in a coherent package that anyone can use.

Internet video is a different matter. While the cost of producing video news programming is dropping all the time, delivering it online is extremely expensive, because Internet service providers charge for uploading bandwidth at rates amateurs

can't afford. This is where peer-to-peer networking may come into play.

PEER-TO-PEER

Remember Napster, the music file-sharing web site? It started a revolution with its file-sharing model, also known as peer-to-peer (P2P). If one person had a particular song on his computer, his Napster software would (if he allowed it to) tell a central computer at Napster that the song was available. Then other people who wanted the same song would check the Napster database, find who had the music, and log directly onto the computer of the person who was offering the song.

This system, while having some legitimate (and therefore theoretically legal) uses, was also a haven for copyright infringement. The music industry sued, ultimately killing the company. What the industry could not stop, however, was the idea, and other technologists filled the gap with increasingly sophisticated file-sharing systems, some of which will be difficult to stop because they'll have no central points of control.

There are a number of reasons why P2P is important for tomorrow's journalism. One of the most prosaic is cost, because P2P solves a serious problem: the more successful your web site becomes, the more it costs you to keep it going. Internet service providers charge web site publishers in several ways, but one way is based on how much traffic your site receives and the bandwidth required to serve the text, images, audio, and video to viewers. Even a modestly successful video can create a huge bill for the site owner. This is a unique situation in media history because in the past, the more successful you were, the lower your marginal costs.

P2P solves this by spreading popular material around the network. With technologies such as BitTorrent, a free software

product, every downloader's computer is also a content server.⁵⁸ So the more popular you are, the less it costs, not the other way around.

P2P is also valuable in a political sense. New P2P systems under development will provide the closest thing to anonymity that we've seen so far. Repressive governments want to keep Internet content under control, but anonymity will make censorship more difficult.

As we'll discuss in Chapter 11, the entertainment media barons of today utterly loathe P2P, at least the kind they can't control, largely because it can be a platform for copyright infringement. I also believe they fear it because of its assistance in democratizing media. Either way, they want to put a stop to it. They must not be permitted to succeed, however, because in the name of preventing copyright infringement, they are taking away other rights—including our right to make what's known as "fair use" for quoting and personal backups—and they could ultimately dampen or even wreck the possibility of grassroots journalism talking hold.

THE RSS REVOLUTION

For people who want to "roll their own" news reports, nothing may be more important for them to understand than a little known technology that is beginning to transform the delivery of Internet content. And they can thank the bloggers, in large part, for its growing success.

Early in the development of blogging software, programmers baked in a content-syndication format called RSS, which stands for (among other things) Really Simple Syndication. This syndication capability allows readers of blogs and other kinds of sites to have their computers and other devices automatically retrieve the content they care about. It's spawning a content revolution that is only now beginning to be understood and appreciated. It could

well become the next mainstream method of distributing, collecting, and receiving various kinds of information. If the Web is a content warehouse, the blogging world is a conversation—and RSS may be the best way to follow the conversation.

Imagine your own “Presidential Briefing”—with only the topics you want, updated whenever you want, and with the added ability to drill down for details. No need to go to your browser and reload a bunch of sites. RSS does the heavy lifting.

So don’t think of RSS as just another technology abbreviation. “Think of it as a Rosetta Stone to tomorrow’s information—or at least some of it,” said Chris Pirillo, founder of LockerGnome, a provider of tech-oriented email newsletters.⁵⁹ “RSS suddenly makes the Internet work the way it should. Instead of you searching for everything, the Internet comes to you on your terms.”

RSS, or a technology like it, is baked into almost every weblog software product. Create a blog, and you’re creating RSS. There is a critical mass of content just from bloggers. But traditional news organizations and businesses are realizing its value, too, and they’re creating RSS “feeds,” as the files are called, of their own material.

If you want to see the RSS feed of my (or any other) weblog or other RSS-enabled web site, you have to subscribe yourself. I can’t force it on you. This is one reason why RSS is so important: the user is in control.

The web site accompanying this book has links to a variety of RSS-related software and how to use it. But let me offer an example to demonstrate how simple it is to get it running. In my own case, on a Macintosh computer, I downloaded and installed NetNewsWire,⁶⁰ a type of program known as a news-reader or aggregator. NetNewsWire came with a large collection of RSS feeds to which I could subscribe with a couple of mouse clicks. For several that weren’t included with the software, subscribing was trickier. I had to find each site’s RSS feed web address, copy it, and paste it into NetNewsWire’s subscription chooser.

Like other newsreaders, NetNewsWire has three “panes,” much like most email programs. In the lefthand pane is a list of sites I follow. I click on one of those site names, and the pane at the top right of the screen shows the headlines from that site. I click on a headline, and in the bottom-right pane I see a summary of the article or the entire piece, depending on what the owner of the site has decided to provide. If I want to see the original page or article, I need only double-click on the site name or headline.

Because newsreaders pull together various feeds into one screenful of information, they are incredible time savers. I can pull the headlines and brief descriptions of postings from dozens of blogs and other sites into a single application on my Mac. I don’t need to go surfing all over the Web to keep an eye on what all the people I’m interested in are writing. It comes to me.

The formatting and structure of an RSS feed tends to be bare bones, making RSS a great way to make material available on non-PC platforms such as smart phones and handheld organizers, as well as providing a way for web sites to syndicate content from one another. For example, I have an RSS reader on my Treo 600, a combination phone and personal organizer. It scoops up a bare minimum of material from the RSS feeds—just the headlines and summaries—and provides a great service.

The extensibility of RSS creates some drawbacks. Many weblogs expose only headlines and summaries to newsreaders, requiring the user to click through to the source (the original web site) to read the full text. The irony here is that the newsreader actually undoes the idiosyncratic feel of many weblogs by stripping them of visual elements such as layout or logos, as well as eliminating the context produced by blogrolls (blog authors’ links to other weblogs) or the author’s biographical information (and any advertising). The same drawback, or benefit, exists with text versions of email newsletters.

Newsreaders also assign equal weight to everything they display. So the headlines and text from Joe’s Weblog receive roughly the same display treatment as material from, say, *The*

New York Times. For some users, this will be entirely appropriate. But others will demand—and vendors will surely provide—more nuanced newsreading tools, with the ability to highlight by topic, by writer, by metrics such as how many other people subscribe to a particular blog (its popularity), or by other parameters. The world is waiting for such creative approaches, and RSS and related tools will make them possible. Nick Bradbury, who wrote the popular HomeSite HTML editor and site-design tool, has taken the first steps in that direction with FeedDemon,⁶¹ a Windows RSS reader that creates a newspaper-like view of RSS content; for better or worse, it controls display details and takes layout flexibility away from the human reader.

As exciting as RSS has become in the personal weblog context, its possibilities are much wider. Information from all kinds of sources can and should be syndicated this way. *The New York Times* makes some of its content available via RSS. Microsoft, while slow to embrace weblogs, latched onto RSS recently in a way that was useful and honored the spirit of the community. The company is making available feeds of its Microsoft Developers Network (MSDN) articles, so a programmer can subscribe to MSDN rather than hunting through the Microsoft site. Similarly, Cisco Systems has begun making some material available via RSS. Several sites provide lists and descriptions of what's available, including NewsIsFree⁶² and Syndic8.⁶³

MAKING SENSE OF IT ALL

If tomorrow's journalism is an infinitely complex conversation, keeping track of it will require an assortment of new tools going well beyond RSS that will allow us to search for and organize what we discover. A few have already arrived in what can only be called "Version 0.5"—what techies call beta form: promising and useful to a degree, but not quite ready for the average user.

One that shows the way is Feedster,⁶⁴ a web-based application that indexes RSS files. I've found it useful for keeping track of what some bloggers are saying about my own work. Feedster has been experimenting with aggregating and sorting through discrete collections of RSS feeds to create what it calls "Feedpapers," which the site calls up-to-the-minute digests of RSS-based news and blog commentary.

Another is Technorati,⁶⁵ which mines information about the weblog world. It was designed by San Francisco technologist Dave Sifry to fill a personal need. "I had been running my own blog for about a year, and referrer logs [information about site visitors and the pages they viewed on the site] weren't enough," he said. "I wanted to know what people were talking about, and what they were saying about me, and about the people I cared about." So he wrote some code to crawl the blogs and find out.

The Feedsters and Technoratis, and projects like them, have become a vital part of a larger ecosystem. But like mail lists, blogs, Wikis, SMS, and the other tools of our journalistic future, they are only tools. They must not be confused with journalism itself. Certain values must remain: fairness, accuracy, and thoroughness.

At the same time, services such as Feedster and Technorati are helping us envision what amounts to a new architecture for tomorrow's news and information. They may enable "consumers" of journalism to sort through the opinionated conversations and assemble something resembling reality, or maybe even truth, if they are willing to seek out sources from a variety of viewpoints. We'll look at this architectural potential in more detail in Chapter 8.

More intriguingly, we have to ponder a world where many kinds of devices connect relatively seamlessly, and where social and business networks can be formed in an ad hoc way. The spreading of an item of news, or of something much larger, will occur—much more so than today—without any help from mass

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media as we know it. The people who'll understand this best are probably just being born.

In the meantime, even the beginnings of this shift are forcing all of us to adjust our assumptions and behavior. The people who make news, as we'll see next, are at the forefront of this adjustment.