Nieman Reports

video games Facebook
semantic Web
sharing   serendipity   Net Generation
privacy   immediacy
news grazers   PowerPoint   trust
tweets   information overload   YouTube   computer science
interactive   augmented reality
multitasking
Google   storytelling
nowness   iPad
Pokémon
smartphone   absorb
iGeneration
deep reading
personalization   news literacy
distractions
connectivity
neurons
the brain   mashup
friends   think
engineers   e-paper
social media

What's Next for News?

The Digital Landscape

'to promote and elevate the standards of journalism'

Agnes Wahl Nieman
the benefactor of the Nieman Foundation

Hacks + Hackers

Digging Deeper: Our Digital Library

In assembling this edition of Nieman Reports, the magazine's contributors helped us create a collection of resources and articles that dig deep into the landscape of digital media and speak to the journalism issues written about on the following pages.

Visit our digital library via a link at **www.niemanreports.org/digital-library**. Once there, you will find volumes connected to topics covered in the magazine, such as youth & media, multitasking, the brain, and social media.

Over time we intend to expand this library and invite you to submit relevant articles, videos, blog posts, or stories. Send your links to **NReditor@harvard.edu** and we will put them in the appropriate digital volume.

Cover graphic and illustration for the Nieman Reports' Digital Library (above): Diane Novetsky/Nova Design

Fairness as an Essential Ingredient in News Reporting

The Nieman Foundation's Taylor Family Award recognizes journalistic fairness— and we learn from the stories it honors how newspapers achieve it.

By Bob Giles

For the past nine years, the Nieman Foundation has honored journalistic fairness with the Taylor Family Award for Fairness in Newspapers. Our goal is to encourage fairness and ethical practices in enterprising news coverage by drawing public attention to exemplary work. The award is given in the name of the Taylor family whose stewardship of The Boston Globe over four generations was anchored in the belief of Charles H. Taylor, the first publisher—that in the long run honest and fair dealing will win.

We had no specific definition for "fairness" when the competition began in 2001. To prepare their exhibits for the Taylor award judges, newspapers were asked to explain how stories were framed, reported and presented to readers in the context of fairness. It was our expectation that over time we would build a valuable base of knowledge about what constitutes fairness. A review of the award's winning entries does, in fact, reveal a range of journalistic practices that have met the test of fairness.

What Makes a Story Fair?

Les Gura of The Hartford Courant received the initial Taylor award for his meticulous account of the badly handled investigation into the murder of a Yale student; a promising young instructor was implicated but never charged. His story forced readers to consider fairness from every angle—by the news media, by the police, by the public, and by a prestigious university. He demonstrated how the Yale teacher's reputation had been shattered by the use of anonymous sources in other news coverage; he used the words of only those who would go on the record.

In 2003, The Boston Globe was honored for the fairness of its reporting about the sexual abuse scandal in the Catholic Church when it took on a highly sensitive subject in an environment of intense passions. Reporters examined the fact that other denominations had sex abuse scandals of their own, that the victims were not all young boys, that victims' lawyers were not without blame, and that phony changes against priests constituted a real danger. The Globe also sought to present the story from the perspective of the church and those who worked within it.

Reporter Robin Gaby Fisher and photographer Matt Rainey of The Star-Ledger in Newark, New Jersey won the 2005 award for a report on the lives of students and faculty at a New Jersey school that became known as "Last Chance High." During the more than 10 months they spent on the story, Fisher and Rainey were able to get close to students, teachers, administrators, parents and drug dealers. Their patient pursuit enabled them to tell a story that was honest but not judgmental, and accurate without romanticizing or denigrating the situation.

A different dimension of fairness emerged in the 2006 coverage by the Lancaster (Penn.) New Era for its series of stories about the shooting of 10 Amish girls in a one-room schoolhouse in rural Pennsylvania. The reporters faced a formidable obstacle: Many in the Amish community did not want their names or photographs published and the state police, out of respect for Amish religious traditions, would not speak for attribution. The solution was to report so exhaustively that the stories could be written confidently and compellingly, shedding light on a world usually hidden from view without revealing the identities of those who wished anonymity.

In 2008, Howard Witt of the Chicago Tribune was recognized for a body of work that focused on three Southern towns where he documented America's unfinished business of civil rights. Witt's stories were not simple tales of good and evil. He wrote nuanced accounts of young people with blemished records whose predicaments could be traced to racially unjust legal prosecutions or school discipline meted out in racially disproportionate ways.

The commitment The Charlotte (N.C.) Observer made to fully represent the perspective of a major North Carolina poultry producer was a key factor in the paper winning the 2009 award. The reporters began talking with company officials about health and safety violations nine months before the stories were published. The paper twice postponed publication to allow the company more time to respond to its questions. It posted full written statements from the company on CharlotteObserver.com.

This year, the Chicago Tribune won the award for a second time for an investigation revealing a secret admissions system that enabled children whose parents had political connections to be admitted to the University of Illinois although they did not meet basic academic requirements. The newspaper let university officials speak for themselves at length while protecting the students who had benefitted from the system but were not demonstrably culpable.

Each of these award winners has broadened our understanding of how fairness strengthens the impact and credibility of stories. After nearly a decade, this award affirms our belief that fairness will continue to be recognized in its different manifestations in the years ahead. ■

The Digital Landscape: What's Next for News?

Journalism resides in the technological landscape of its time. Whether on parchment or paper, via the telegraph, radio waves, or TV signals, significant occurrences and utterances of a community have been revealed through words, written or spoken, and images, drawn, filmed or photographed by the people observing them. In thinking about the telegraph's effect on 19th century communication, the late James W. Carey noted that by rendering geography irrelevant, what had been a personal connection of journalist to readers was severed. And the constraints of transmission, Carey wrote, "made prose lean and unadorned," while at the same time words were tugged away from their colloquial roots and pushed toward a style striving for the tone of objectivity. Familiarity no long seemed the right touch with the expanding breadth of audience. All of this, Carey concluded, "led to a fundamental change in news."

A decade into the 21st century, the contemporary digital conveyors of news and information only underscore in our minds the telegraph's slow and limited capacities. Yet as we think about our modern day digital landscape in the context of journalism's possibilities, perhaps it's wise to recall the interwoven tapestry of journalistic changes that Carey remarked upon as the use of the telegraph became widespread.

In this issue of Nieman Reports, journalists and commentators, teachers and high school students, reading researchers and neuroscientists trek through our contemporary digital landscape, mapping and exploring various pathways that journalists use or might soon discover. When phrases such as "information overload" and "news literacy" bump up against "augmented reality" and "semantic Web," it behooves us to ask how this digital landscape is affecting the experience of producing and consuming news and information. It's a good time to look, too, at what we are learning about the human brain's capacity to absorb and process what technology's advances make possible for journalists.

From finding out how the younger among us use digital devices to wondering whether any technology can replicate the experience of deep reading, our writers stretch their thinking and ours. A word of thanks is extended to Andrew Finlayson, a Knight Journalism Fellow at Stanford University, whose own thinking about this topic coincidently arrived one day in my e-mail just as we were starting this project. In turn, he led us to several other Knight fellows as well as professors and speakers he'd heard, and their words, like his, now contribute mightily to this conversation. ■—Melissa Ludtke

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Feeling the Heat: The Brain Holds Clues for Journalism

'This rise in emotional intensity poses a real problem for serious journalists … . The sciences of the mind offer a lot of help if we are willing to learn from them.'

BY JACK FULLER

Here is the deepest and, to many serious journalists, most disturbing truth about the future of news: The audience will control it. They will get the kind of news they choose to get. Not the kind they say they want, but the kind they actually choose.

To the extent that news needs to produce profits, the demand ultimately will shape the supply. But even if unlimited nonprofit funding for serious journalism were suddenly to appear, demand would still control. That is because, no matter what its business model might be, journalism will fail to deliver to the broad public the civic education our society requires unless it can persuade large numbers of people to pay attention to it. So the choice is not between giving people what they want or what they need. The challenge is to induce people to want what they need.

How to do that with everything in constant motion? New technologies, new services, new competitors seem to arise every day. All this activity can mask a more important trend—the audience itself is changing rapidly. As a consequence, the disciplined, professional presentation of news perfected over the 20th century no longer commands the widespread respect it once did. The influence of undisciplined news voices grows.

Journalists know all about responding to the next new thing. We leap like dalmatians at the sound of the fire bell. But to understand what is happening to the news audience today we need to get beyond the clang of the alarm. We have to get past the immediacy of each hot new idea and begin with something

deeper and more durable. We need to understand what the transformation of our information environment has done at the most fundamental level to the way people take in news.

Emotional Heat

My struggle with this question led me to the science of how the brain processes information, especially the way emotion directs attention. Of course, it did not take the rise of modern neuroscience to prove that emotion holds an audience. Sophocles knew that when he wrote his drama of incest and violence, "Oedipus Rex." So do the editors of supermarket tabloids. Count on fear and sex to attract the eye.

Evolution provides the reason: Our ancestors became our ancestors by being able to spot danger and the opportunity to mate. So it was inevitable that as competition for attention exploded with the revolutionary information technologies of the late 20th and early 21st centuries, message senders raised the emotional volume. Serious journalists tended to decry this as infotainment or worse. Perhaps they never themselves quite lived up to the professional ideal of utter disinterest and detachment, but they did learn to draw back from raw emotional appeals.

The audience did not. This baffled many of us. How could people be taken in by screaming commentators (on everything from health care to basketball), by celebrity gossip, by reports characterized at best by truthiness rather than the rigors of verification?

Here is where the implications of the rapidly developing science of the mind help. It turns out that certain kinds of cognitive challenges (challenges to our thinking) produce emotional arousal. And an emotionally aroused brain is drawn to things that are emotionally charged.

Give normal humans a tricky anagram or a long division problem involving two numbers out to six decimal points, and they will begin to show emotional arousal—think of it as stress. Give them a strict time limit, and their level of arousal will rise. Throw new information at them (some of it useful, some irrelevant, some just wrong) while they are working on the problem, and their emotional temperature will go up even more. Then distract them (say by calling their names or having their smartphones signal that somebody is trying to reach them), and their arousal level will soar.

If that sounds familiar, it is. All too familiar. Information overload, time pressure, and distraction characterize our era. The very nature of the information environment in which we all live creates emotional arousal. We are available every moment to everyone we know, and an enormous number of people we do not know. We continuously receive messages: messages of a particular sort—the kind that are directed specifically to us. They come from people who know us personally or from people or institutions that have learned something about what interests us.

In effect, these ubiquitous messages call out our names. Consequently we live in a continuous state of interruption and distraction. Time pressure is enormous. Even after leaving the Tribune Company to write books, I discovered that people expected me to respond to e-mails within a couple of hours, if not a couple of minutes, and were offended if I did not.

So not only has the explosion of competition among suppliers of information—news, advertising and entertainment—caused producers to increase the emotional temperature, the recipients of information have become more attracted to emotional heat. This helps explain why heavy

news seekers turn to the intensity of Fox News or MSNBC and away from CNN. (It also explains why the once rather restrained National Geographic channel has so many shows about predator species that prey on humans—species that include Homo sapiens themselves.)

Where Journalism Fits

This rise in emotional intensity poses a real problem for serious journalists, as I describe in my book "What Is Happening to News: The Information Explosion and the Crisis in Journalism."[1] We have been trained for many good reasons to shy away from it in the presentation of news. But we see our audience drawn to it. And we do not even have a way of discussing which uses of emotion are misleading or manipulative and which actually can help people understand their world.

The sciences of the mind offer a lot of help if we are willing to learn from them. They explain, for example, why the immediate crowds out the important. Why bad news attracts attention more than good news does. They can show us how emotion interacts with the human brain's inherent mental shortcuts to lead us systematically to erroneous conclusions. They can point us to the ways in which search algorithms interact with emotions and these mental shortcuts to mislead people about the relative importance of various pieces of information. They can even help us understand the way our ability and impulse to read other people's minds draws us to a story and light up other secrets of how and why narrative works.

It should be clear by now that the challenge for journalists from here forward is not only the steadfast adherence to the values of accuracy and independence and the social responsibility to provide a civic education but also the development of new

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[1] Chapter Six, "The Two Searchlights," in Jack Fuller's book describes neuroscience research about emotion and attention and how it is relevant to the way journalists present their stories. Read it online at http://www.press.uchicago.edu/Misc/Chicago/268989.html.

ways of thinking and talking about how to advance the social mission of journalism in a radically and rapidly evolving environment. The answer is not to figure out how to transport 20th century news presentation into 21st century delivery mechanisms but rather to create a new rhetoric of news that can get through to the changed and changing news audience.

To conclude where I began, the audience will determine the future of news. Serious journalists must understand to the very essence the minds that make up this audience in order to know how to persuade people to assimilate the significant and demand the accurate. Anything less is the neglect of our most important social responsibility. ∎

Jack Fuller, who won a Pulitzer Prize for Editorial Writing, was editor and publisher of the Chicago Tribune and president of Tribune Publishing Company. His book, "What Is Happening to News: The Information Explosion and the Crisis in Journalism," is published by the University of Chicago Press.

Our 'Deep Reading' Brain: Its Digital Evolution Poses Questions

'The reading circuit's very plasticity is also its Achilles' heel. It can be fully fashioned over time and fully implemented when we read, or it can be short-circuited ...'

BY MARYANNE WOLF

Will we lose the "deep reading" brain in a digital culture? No one knows—yet.

The preceding paragraph provides a legitimate synopsis of this essay. It also exemplifies the kind of reduced reading that concerns me greatly, both for expert adult readers and even more so for young novice readers, those who are learning how to read in a way that helps them to comprehend and expand upon the information given.

The challenges surrounding how we learn to think about what we read raise profound questions. They have implications for us intellectually, socially and ethically. Whether an immersion in digitally dominated forms of reading will change the capacity to think deeply, reflectively and in an intellectually autonomous manner when we read is a question well worth raising. But it isn't one I can answer now, given how early we are in the transition to digital content.

In my work on the evolution of the reading brain during the past decade, I have found important insights from the history of literacy, neuroscience

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The Story and Science of the Reading Brain

MARYANNE WOLF

"Wolf has a profound respect for the beauty and power of the reading brain as well as a great curiosity about the digital brain that may soon displace it."
–Boston Globe

and literature that can help to better prepare us to examine this set of issues. The historical moment that best approximates the present transition from a literate to a digital

culture is found in the ancient Greeks' transition from an oral culture to a literacy-based culture. Socrates, who was arguably Greece's most eloquent apologist for an oral culture, protested against the acquisition of literacy. And he did so on the basis of questions that are prescient today—and, in that prescience, surprising.

Socrates contended that the seeming permanence of the printed word would delude the young into thinking they had accessed the crux of knowledge, rather than simply decoded it. For him, only the intellectually effortful process of probing, analyzing and internalizing knowledge would enable the young to develop a lifelong, personal approach to knowing and thinking, which could lead them to their ultimate goals—wisdom and virtue. Only the examined word—and the examined life—was worth pursuing. Literacy, Socrates believed, would short-circuit both.

Using a 21st century paraphrase, the operative word is "short-circuited." I use it to segue into a different, yet concrete way of conceptualizing Socrates's elegantly described worries.

Modern imaging technology allows us to scan the brains of expert and novice readers and observe how human brains learn to read. Briefly, here is what we find: Whenever we learn something new, the brain forms a new circuit that connects some of the brain's original structures. In the case of learning to read, the brain builds connections between and among the visual, language and conceptual areas that are part of our genetic heritage, but that were never woven together in this way before.

Brain Pathways: Created By Reading

Gradually we are beginning to understand the stunning complexity that is involved in the expert reader's brain circuit. For example, when reading even a single word, the first milliseconds of the reading circuit are largely devoted to decoding the word's visual information and connecting it to all that we know about the word from its sounds to meanings to syntactic functions. The virtual automaticity of this first set of stages allows us in the next milliseconds to go beyond the decoded text. It is within the next precious milliseconds that we enter a cognitive space where we can connect the decoded information to all that we know and feel. In this latter part of the process of reading, we are given the ability to think new thoughts of our own: the generative core of the reading process.

Perhaps no one better captured what the reader begins to think in those last milliseconds of the reading circuit than the French novelist Marcel Proust. In 1906, he characterized the heart of reading as that moment when "that which is the end of [the author's] wisdom appears to us as but the beginning of ours." A bit more than a century later, in 2010, book editor Peter Dimock said that "[this] kind of reading, then, is a time of internal solitary consciousness in which the reading consciousness is brought up to the level of the knowledge of the author—the farthest point another

mind has reached, as it were ..."

The act of going beyond the text to analyze, infer and think new thoughts is the product of years of formation. It takes time, both in milliseconds and years, and effort to learn to read with deep, expanding comprehension and to execute all these processes as an adult expert reader. When it comes to building this reading circuit in a brain that has no preprogrammed setup for it, there is no genetic guarantee that any individual novice reader will ever f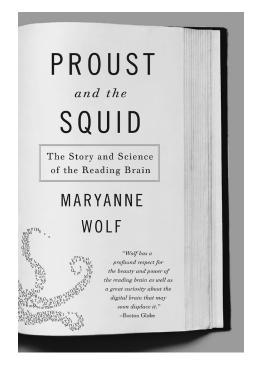orm the expert reading brain circuitry that most of us form. The reading circuit's very plasticity is also its Achilles' heel. It can be fully fashioned over time and fully implemented when we read, or it can be short-circuited—either early on in its formation period or later, after its formation, in the execution of only part of its potentially available cognitive resources.

Because we literally and physiologically can read in multiple ways, how we read—and what we absorb from our reading—will be influenced by both the content of our reading and the medium we use.

Few need to be reminded of the transformative advantages of the digital culture's democratization of information in our society. That is not the issue I address here. Rather, in my research, I seek to understand the full implications for the reader who is immersed in a reading medium that provides little incentive to use the full panoply of cognitive resources available.

We know a great deal about the present iteration of the reading brain and all of the resources it has learned to bring to the act of reading. However, we still know very little about the digital reading brain. My major worry is that, confronted with a digital glut of immediate information that requires and receives less and less intellectual effort, many new (and many older) readers will have neither the time nor the motivation to think through the possible layers of meaning in what they read. The omnipresence of multiple distractions for attention—and the brain's own natural attraction

to novelty—contribute to a mindset toward reading that seeks to reduce information to its lowest conceptual denominator. Sound bites, text bites, and mind bites are a reflection of a culture that has forgotten or become too distracted by and too drawn to the next piece of new information to allow itself time to think.

We need to find the ability to pause and pull back from what seems to be developing into an incessant need to fill every millisecond with new information. As I was writing this piece, a New York Times reporter contacted me to find out whether I thought Internet reading might aid speed reading.

"Yes," I replied, "but speed and its counterpart—assumed efficiency—are not always desirable for deep thought."

We need to understand the value of what we may be losing when we skim text so rapidly that we skip the precious milliseconds of deep reading processes. For it is within these moments—and these processes in our brains—that we might reach our own important insights and breakthroughs. They might not happen if we've skipped on to the next text bite. Tough questions. Rigorous research. These are what are needed now of us as we ponder the kind of readers we are becoming and how the next generation of readers will be formed.

Our failure to do this may leave us confronted with a situation that technology visionary Edward Tenner described in 2006: "It would be a shame if brilliant technology were to end up threatening the kind of intellect that produced it." ■

Maryanne Wolf directs the Center for Reading and Language Research and is the John DiBiaggio Professor of Citizenship and Public Service and professor of child development within the Eliot-Pearson Department of Child Development at Tufts University. She is the author of "Proust and the Squid: The Story and Science of the Reading Brain," published by HarperCollins. A version of this essay will be translated for the Frankfurter Allgemeine Zeitung.

Novelty and Testing: When the Brain Learns and Why It Forgets

Russell Poldrack is a professor of psychology and neurobiology and director of the Imaging Research Center at the University of Texas at Austin. In his research he uses imaging to understand the brain systems that underlie the human ability to learn new skills, make good decisions, and exert self-control. What Poldrack and his colleagues discovered in their investigations provides information useful to journalists as they look for ways to engage the minds of readers, viewers and listeners through digital media. This past October he began blogging for The Huffington Post about his research. The words that follow are adapted with the author's permission from two of his blog posts, one about the brain and multitasking, the other about what people recognize about their own learning.

The lighter regions in the brain's right hemisphere were more active for a group of individuals when they stopped themselves from making a movement. *Image by Eliza Congdon.*

As I set out to write about multitasking and information overload, let me admit that I am an information junkie. It's difficult for me to make it through an hour-long meeting without peeking at least once at my iPhone to check my e-mail and on more than one occasion I've come close to hurling myself down the stairs as I try to read e-mails while descending.

Why do I do things that place me in such clear social and physical peril? Part of the answer lies in the brain's response to novelty. After all, it is built to ignore the old and focus on the new. Marketers clearly understand this: Watch closely and you will notice that heavily-played television ads will change ever so slightly after being on the air for a few weeks. When our brain detects this change, our attention is drawn to the ad, often without us even realizing it.

Novelty is probably one of the most powerful signals to determine what we pay attention to in the world. This makes a lot of sense from an evolutionary standpoint since we don't want to spend all of our time and energy noticing the many things around us that don't change from day to day. Researchers have found that novelty causes a number of brain systems to become activated; foremost among these is the dopamine system. This system, which lives deep in the brain stem, sends the neurotransmitter dopamine to locations across the brain. Many people think of dopamine as the "feel-good" neurotransmitter because drugs that create euphoria, such as cocaine and methamphetamine, cause an increase of dopamine in particular parts of the brain. But a growing body of research shows that dopamine is more like the "gimme more" neurotransmitter.

Kent Berridge and colleagues at the University of Michigan have done interesting studies in which they videotape rats and then measure how often the rats exhibit signs of pleasure—what we call "affective reactions."[1] Blocking dopamine in the brain turns out not to affect how often the rats exhibit these pleasure responses but instead it reduces the rats' motivation, turning them into slackers. (Another neurotransmitter system in the brain, the opioid system, seems to be the one that actually produces the pleasurable sensations, though it has very close relations with the dopamine system.)

Dopamine also is very much involved in learning and memory, which occur in the brain through changes in the way that neurons connect to one another. We know that the brain can change drastically with experience. However, the brain needs some way to control these changes; after all, we wouldn't want our entire visual system to be rewired to see upside down after doing a single handstand. Dopamine is one of the neurotransmitters that controls this: When dopamine is released, it is a signal to the brain that it is now time to start learning what is going on.

So what do things happening inside the brain have to do with the way I

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[1] Video of these rats and their reactions can be viewed at http://www-personal.umich.edu/~berridge/.

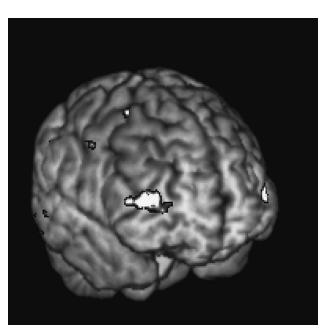behave with my iPhone? Well, it's hard to imagine a more powerful novelty-generating device. Every time it buzzes to signal a new e-mail or text message it is wiring even more firmly into my brain the desire to pick up the device and look for that precious nugget of new information, which often is only a reminder of another committee meeting. Although no research has yet been published on this, I am confident that we soon will see that our bond to these devices works through the same mechanisms in the brain that govern addiction to drugs, food and many other things.

Maximizing Learning

There is a second, related question of particular interest for journalists. How can news of importance be effectively conveyed through the digital clutter and information overload to people who are in constant novelty-seeking mode? Key to figuring out how to do this is gaining an understanding of why and how the brain responds to novelty—and then taking advantage of this knowledge in figuring out how to attract attention. However, it is equally important to be sure that once information breaks through the clutter that the person receiving it remembers it.

Unfortunately, our intuitions may lead us astray: Psychological research has shown that people are not very good predictors of their own or others' learning. A good example of this comes from a study done in 2006 by Henry Roediger and a graduate student, Jeffrey Karpicke, at Washington University in St. Louis. Using two different approaches, they taught students about the sun and sea otters by giving them a paragraph containing scientific information to read about each topic. One group of students had the chance to read the material four times. Another group was given

These highlighted regions in the prefrontal cortex were more active when a person silently counted backward than during a rest period. The largest of them is often active when people engage in mental activities that place heavy demands on working memory. *Image by Russell Poldrack.*

only one chance to read it, then was tested three times on how much they remembered.

Then, through a questionnaire, members of each group told the researchers how well they thought they had learned the material. The researchers also gave them memory tests within a few minutes after studying, as well as one week later so they would have objective data to evaluate along with the students' own subjective evaluations.

When questioned about how well they had learned the material, the people who had read the paragraph four times indicated that they felt much better about their learning of the material. They also performed better on the memory test right after studying. However, things were very different a week later. At that point, people who had studied the paragraph once and then been tested three times handily outperformed the overconfident paragraph-readers on the memory test for the material.

This kind of research is teaching us that often we can be overconfi-

dent about memories that are completely false and yet lack confidence about our ability to remember things we have actually learned well. In particular, we often confuse fluency (or ease) for ability. By its fourth time reading the paragraph, that group found it very easy, and this led them to think that it would be a snap to remember the material later. But it wasn't.

There is a growing body of research showing that things that are hardest are what make us learn best. This concept is known as "desirable difficulties." If something is too easy then we probably aren't learning very much. We have more to find out as we determine just how widely this idea applies. But there is enough evidence already assembled to give us reason to rethink how learning takes place in our daily lives.

The finding of desirable difficulties poses a serious challenge to journalists because things that make people remember best are also things that people are likely to avoid because they are difficult.

As researchers learn more about how learning and memory work, there may be additional clues about how to maximize learning. But there are already some tricks that can be used. For example, information is often remembered better when presented multiple times, but only when those different times are spaced apart from one another. Thus, presenting several versions of an idea in different parts of a story could help improve retention.

If journalism is about learning—about taking in news and information and understanding its relevance to our lives—then what neuroscientists and brain researchers are finding out about the brain and its capacity to absorb information surely matters. ∎

For more information about Russell Poldrack's research go to www.poldracklab.org.

Thinking About Multitasking: It's What Journalists Need to Do

Heavy media multitaskers 'are often influenced by intervening content. News articles are therefore going to require more recapitulations and reminders to help readers pick up where they left off.'

By Clifford Nass

When people multitask with media they are consuming two or more streams of unrelated media content. (Dealing with two related media streams has different dimensions.) It doesn't matter exactly what information they are taking in or what devices they are using; just the act of using two or more media streams simultaneously means that consumers are engaging in what is an increasingly frequent pursuit in our digital age. Perhaps they are searching on a Web site while texting on their phone. Or they are tuning in to a YouTube video while exchanging e-mails on a laptop. Maybe CNN is playing on their screen and they are tracking the news while chatting online about work in one window and connecting with a friend several time zones away via Skype.

Or maybe all of these things are happening at once.

Given what we're finding out about media multitasking, it is much more ubiquitous and involves many more streams of content than is commonly appreciated. Based on surveys we have done at Stanford University, the average university student is regularly using four different media streams; fewer than 5 percent of students report that they regularly use a single stream, and more than 20 percent are using six or more streams at one time. Other research suggests that this method of handling media is increasing across populations ranging from infants (e.g., breast-feeding babies will watch television when their mothers are doing so) to adults in the work force (e.g.,

WHAT MACHINES TEACH US ABOUT HUMAN RELATIONSHIPS

The } Man Who

Lied To

His Laptop

CLIFFORD NASS

with CORINA YEN

many companies require workers to respond immediately to multiple media channels, such as mobile phones, chat and e-mail).

Journalists are adapting—with varying degrees of frustration and consternation—to the unwillingness of the growing number of media multitaskers to focus on one stream of content, regardless of how engaging it might be. Given the urge to consume as much unrelated content as possible, readers demonstrate an unwillingness, for example, to stay with long-form journalism; the longer the article, the greater the frequency readers show of bouncing around and eventually drifting to other media streams. Similarly, how stories are

being told must become less complex as readers show an unwillingness to allocate enough attention to work through difficult material.

At a more macro level, one sees increasing concessions to heavy media multitaskers in the clustering of stories on the Web. In the early days of digital news, links would augment a story with supporting video or prior coverage on its topic. In the second phase, the number of links increased, and the relationships between the story and links became more tenuous (e.g., having "international news" or "politics" in common). Today, numerous links like Top Stories, Editor's Picks, and Articles You Might Be Interested In are scattered throughout each Web page and the relationship between the base story and the links tends to vanish.

Heavy Media Multitaskers

While these responses to changing reading styles are important to understand, journalists are now being confronted with an even more important situation brought about by this growth in media multitasking. Now evident to those of us who study media multitasking are fundamental changes in the way heavy media multitaskers (HMMs) process information. Research I did with Eyal Ophir and Anthony Wagner that we published in the Proceedings of the National Academy of Sciences shows that HMMs—who are already a large and rapidly growing part of the population—are much worse than previous generations of readers at three tasks that reporters have been

able to take for granted: filtering the relevant from the irrelevant, managing short-term memory, and switching from one task to another.

Because these changes affect the way people can consume media rather than how they wish to see media, the requisite changes will strike at the very core of how news can be written. What follow are implications for journalism based on what we've learned about the habits of HMMs.

Filtering Information: The HMM's inability to filter irrelevant information, even when it is labeled as irrelevant, is shocking. In one experiment people were asked to only pay attention to red rectangles and to ignore blue rectangles. While light media multitaskers (LMMs) were unaffected by the blue rectangles, no matter how many there were, the HMMs were consistently distracted by the blues: The more blue, the less attention they paid to the red rectangles.

With this inability to filter in mind, news stories and editorials must be highly focused. Filtering provides a sense of proportion that HMMs lack so secondary messages will tend to dilute the primary message. Also, readers will not distinguish between experts and nonexperts, even when the distinction is made clear in the story. For this reason, it is important to avoid using sources that are obviously unqualified to create balance. Finally, even engrossing stories are going to be competing with advertisements, e-mails, phone calls, Twitter and a host of other media streams since HMMs will be chronically seduced by the other: With HMMs, nothing grabs and sustains truly focused attention.

Short-term Memory: Another experiment examined the ability to manage short-term memory. Participants were shown a sequence of letters and were continually asked whether they saw a

given letter exactly three letters before. While LMMs did reasonably well at this task, HMMs did progressively worse with this task as a given letter appeared more frequently and as the number of letters grew.

If one thinks of the brain as a set of filing cabinets, HMMs—the readers of today and especially tomorrow—have messier cabinets and have a harder time finding what they need. This

> Journalists are adapting—with varying degrees of frustration and consternation—to the unwillingness of the growing number of media multitaskers to focus on one stream of content, regardless of how engaging it might be. ... the longer the article, the greater the frequency readers show of bouncing around and eventually drifting to other media streams.

inability of HMMs to manage short-term memory means that stories will be more effective if they take people step by step through an argument or time sequence because readers will get confused by interlocking content. On the other hand, the classic inverted pyramid will be very difficult for HMMs to follow because the interrelated content requires memory management and integration.

Switching Tasks: The final deficiency is ironic: HMMs are actually worse at switching from one task to another. This was demonstrated when participants were asked to perform a task that focused on either a letter or a number and then were presented with a letter/number pair. The HMMs were dramatically slowed down when the task randomly switched from letter to number or vice versa. Thus, as

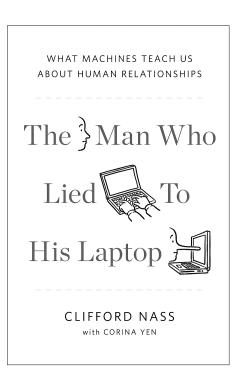HMMs switch from reading an article to consuming other media and then switch back—a very frequent occurrence—they are often influenced by intervening content. News articles are therefore going to require more recapitulations and reminders to help readers pick up where they left off. It will also help to ensure that the layout, font and other visual features of the article are radically different from the rest of the page, thereby reminding readers of the distinction between the story and all of the other streams that they continually encounter. Perhaps most ironic is that the juxtaposition of unrelated content, driven by a desire to satisfy HMMs, is going to make it harder for HMMs to understand the stories that they do read.

Journalists have long been responsive to changes in society, culture, and consumer demographics and preferences. The extraordinary growth of media multitasking means that there is now an unprecedented source of variance—the brains of news consumers—that is demanding change. This presents journalists with a critical challenge: How will the public be best informed given the emerging cognitive deficiencies created by chronic multitasking? Few questions are as necessary as this one for journalists to address. Given the pace at which media multitasking continues to increase, there is urgency in finding answers. ∎

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Watching the Human Brain Process Information

'We measure the amount of brain activity while somebody's doing something. You can't generate more activity beyond a certain point. There's an upper limit.'

Marcel Just is the director of the Center for Cognitive Brain Imaging at Carnegie Mellon University, where he and his team use functional Magnetic Resonance Imaging (fMRI) scans to examine brain activation as people perform various high-level tasks such as spatial thinking, problem solving, multitasking, and real-time, dynamic decision making. In a conversation with Nieman Reports editor Melissa Ludtke, Just describes what imaging has revealed—and what it one day might reveal—about how the human brain processes information. Just begins by talking about how the brain "codes" concepts. Edited excerpts follow:

Melissa Ludtke: When you talk about trying to unravel or study the code of the mind, what do you mean by "code"?

Marcel Just: Most people have seen the illustrations in magazines and newspapers of hot spots in the brain when a person is thinking. Those accurately depict where the activity is and tells which brain areas are in play. For the first time we've been able to identify what concept a person is thinking about from their brain activity. We use machine-learning algorithms to put together what is being coded in various places in the brain so that we can determine what concept the person is thinking about. In effect, we can read their mind.

The second finding is that the pattern of brain activity for one of these relatively concrete concepts is common across people. If we train the computer program to recognize the patterns for 60 words (concepts such as apple, shoe, tomato) on one group of people and then a new person comes in who has never been encountered before, the computer can tell what the new person is thinking fairly well.

It's the first time we've been able to answer the question that philosophers have been asking: Is your concept of something the same as my concept of it? For these concrete nouns it is. And if you train the computer to recognize those concepts in one language, it can then identify what the bilingual person is thinking about when he or she encounters those concepts in another language. So the brain representations are not only common across people, but they're common across languages for translation equivalents.

Ludtke: I'm wondering how you see the notion of multitasking in terms of brain function and how the brain copes with distraction.

Just: In many of our studies we are interested in finding out the upper limits of our thinking capability. We often put the brain on a mental treadmill and just see how high we can put it. With multitasking we ask people to do two relatively high-level tasks simultaneously. We've aimed at a real-world issue: using a cell phone while driving and we have measured the brain activity with people who are using a driving simulator while also listening to someone talk at the same time.

We find there's an upper limit to how much information a person can process per unit time. If you're working on two tasks simultaneously, you can do that, but there will be less activity allocated to each task. For example, when we compare how much brain resource allocation there is to just driving while listening to someone speak, we find that while listening to someone speak the amount of brain resources allocated to the driving goes down by 37 percent. It's an enormous difference, and it shows up in the driv-

ing simulator in how well you maintain your lane, whether or not you hit the side of the road. It's possible to drive while listening to someone talk. We all do it and sometimes using a cell phone. However, there's absolutely no question that it takes away from the quality of the driving.

You ask about distractions. Particularly with respect to automaticity, which we study, that's a very interesting question. There are drivers who say, "Oh, well, when the driving gets tough, I'll start ignoring my cell phone partner or my passenger or my talk radio and I'll just focus on the driving." We ran a study in which we told experienced drivers that they are going to hear someone speak but to just ignore them and do the main spatial task. But we found that they couldn't ignore the speaking because the processing of spoken language is so automatic that you can't turn it off. You can't will yourself not to understand a speaker's next sentence. It just gets in.

In watching the brain's activity, we can see this. When the next sentence starts, even though our subjects are poised to ignore it, the activation starts up in the language areas and the activation in the other areas of the brain—for the other task—goes down. There is no blocking out someone talking to you. It goes in and it consumes brain resources.

Ludtke: I've been reading about how people aren't processing things as effectively as they think they are when they're multitasking.

Just: There are dozens of cases where we overestimate our thinking ability. And it never goes in the other direction. It's always "Oh, yes, of course I can do this." However, in perceptual

judgments and cognitive judgments people always—probably 98 percent of the time—overestimate their abilities. It's not cheating, it's not bragging. It's an honest intuition that's wrong.

Ludtke: Does the brain reach a point where it's simply too stressed in ways that make it more difficult to take in and process information?

Just: In brain imaging we're actually measuring electrochemical activity. Like all biological functions it needs an energy source. We measure the amount of brain activity while somebody's doing something. You can't generate more activity beyond a certain point. There's an upper limit. You can sort of see it yourself when you're trying to do a digit-span task. Somebody asks you to repeat back five digits. It's not very hard. When they start going to eight or 12 digits, there's no more room for improvement and you just give up at eight or 10, or whatever your digit span is.

Ludtke: In speaking with Sherry Turkle who teaches at Massachusetts Institute of Technology and studies identity and self as it relates to digital media, we found out that she's not allowing the use of computers in her class. Students were trying to do e-mail and Twitter and Facebook and also listen and participate in class while occasionally looking down at their cell phone when it vibrated. She felt that all of this was leading to a diminution in terms of what she was able to teach and what they were able to take in. [See interviews with Turkle beginning on page 20.]

Just: Yes, I think the research supports what Turkle is saying. When I was a student, the problem was people reading the newspaper at the back of the room. Competition for a student's attention is an old problem, but now the media are so portable and interesting and flexible that it's even more tempting.

Ludtke: We've been talking about measuring and locating brain activ-ity, about upper limits of the brain's capacity and distractions. All of this relates to the tasks confronting jour-nalists as they compete for attention in a broader media universe.

Just: That's right. Now each of us is like an organization in that we have to prioritize and decide what would be the most beneficial way to spend our thinking time in the next five or 30 minutes. Because of the competition and the availability of various sources, I know that I have to be much more thoughtful about what would be the best use of my time, and such choices come up many times an hour. So we need to be more strategic, constantly deciding whether to click on this next thing or go back to what we were reading. It's wonderful to have so much information, but choosing and allocating our resources is a tough thing. The limiting resource now isn't the information; it's our time.

Ludtke: But it's also our brain, isn't it?

Just: Oh, yes, that's what I meant: our brain time.

Ludtke: There is a notion that in this time of information overload—of everyone trying to grab people's at-tention—that one thing that the brain is very pumped for is to take in emo-tionally charged information. Do you have any thoughts on this dynamic?

Just: Yes. One of the biggest contri-butions of brain imaging is to reveal how intensely social and emotional the human brain is. To me it was a very big surprise. Ask people to read some innocuous little narrative and the brain activity shows that they're computing things like the character's intention and motivation. I think there is a constant tendency to be processing social and emotional information. It's there and it's ubiquitous.

Ludtke: As journalism moved onto television, news began to be conveyed in visual ways and this often led to what is referred to as a "if it bleeds, it leads" style of reporting.

Just: Processing print isn't something the human brain was built for. The printed word is a human artifact. It's very convenient and it's worked very well for us for 5,000 years, but it's an invention of human beings. By contrast Mother Nature has built into our brain our ability to see the visual world and interpret it. Even the spoken language is much more a given biologically than reading written language.

Ludtke: Does this mean that as we move out of the era of print and paper and into the digital era with more visual media, it's going to be a more natural environment for humans to take in information than when it was the printed word?

Just: Yes, and it can be informative in a visual way. Now you can circumvent written language to a large extent. A lot of printed words are there to describe things that occur spatially. In many cases a picture is worth a thousand words. Now we can gener-ate these pictures and graphics and we can convey them to other people very easily. I think it's inevitable that visual media are going to become more important in conveying ideas and not just about raging fires.

Ludtke: Ideas?

Just: Ideas of physics and biology and politics and so on. Now I think there's a role for the printed word. I don't think it's going to go away.

Ludtke: With children gaining a facility with digital media that many in their parents' generation don't have, would you expect that years from now brain imaging is going to show the brain functioning in different ways because of this orientation?

Just: Yes, I think that's very plausible. Nobody has done that yet. But let me give you an analogy done without imaging. In the 1970's there was a psychologist who studied people who were illiterate in Portugal. He found a group of people who had never learned how to use written language.

He compared them to a control group who could read. He found that they processed things differently just as a function of having learned to read. I think that's a counterpart to your question.

Nobody's done the brain research yet because it's hard to get a control group to really study this. But I think that learning about the organization of information in a particular way is extremely likely to affect the organization of the brain processing. Some things are going to stay the same, such as the coding of concrete concepts that we talked about earlier. But the notion of hyperlinks, of temporary diversions to get more information is, I think, a slightly different way of thinking that's likely to have an impact on the brain.

We're not going to change the brain, of course, just as reading doesn't really change the fundamentals of the brain. But you can repurpose some areas to do some things that nobody's done before.

Ludtke: Do you suspect that we're going to be able to push that upper limit that we talked about in terms of the multitasking?

Just: No. You can get more proficient with it, but we're never going to change the biological limits. However, if you practice a task, you can do it better and faster.

Ludtke: Larry Rosen, a psychologist who is the author of "Rewired: Understanding the iGeneration and the Way They Learn," has done some studies at the University of California, Dominguez Hills, in which he's found that mini-generational divides are determined, in part, by the amount of multitasking that young people say they are able to do; with each new mini-generation the number of simultaneous tasks increases. [See Rosen's article on page 24.]

Just: The possibility exists. Everybody sees young people with iPod earphones walking around. Does that decrease their capability to do other things? Some of my staff—very talented smart people—sometimes have an iPod bud in their ear while doing scientific work at a computer. I don't know whether this degrades their work.

Ludtke: These are questions that people

like you are going to be looking at?

Just: Yes. There are a number of studies starting. It's hard to get a really well-controlled study of this stuff, but it's very plausible we'll find changes in people's brains. Sixty years ago nobody knew how to do computer programming and now there are hundreds of thousands of people who can program. They had to have learned to think in a slightly different way.

People ask what's special about the human brain. It's that we can invent new things and learn to think about them, like computer programs and digital media devices and printed language. That's part of the genius of the human brain: new injections and this intellectual bootstrapping. We're obviously on this accelerated path upward. I can't guess exactly where it's going to take us, but almost certainly it's going to take us upward into a different place.

Ludtke: That's what we're exploring. I appreciate you bringing us along on your journey. ∎

A Big Question: 'How Is the Internet Changing the Way You Think?'

Edge posed this question; discover how a wide range of thinkers responded.

BY JOHN BROCKMAN

As each new year approaches, John Brockman, founder of Edge, an online publication, consults with three of the original members of Edge—Stewart Brand, founder and editor of Whole Earth Catalog; Kevin Kelly, who helped to launch Wired in 1993 and wrote "What Technology Wants," a book to be published in October (Viking Penguin); and George Dyson, a science

historian who is the author of several books including "Darwin Among the Machines." Together they create the Edge Annual Question—which Brockman then sends out to the Edge list to invite responses. He receives these commentaries by e-mail, which are then edited. Edge is a read-only site. There is no direct posting nor is Edge open for comments.

Brockman has been asking an Edge Annual Question for the past 13 years. In this essay, he explains what makes a question a good one to ask and shares some responses to this year's question: "How is the Internet changing the way you think?"

Responses can be read in their entirety at www.edge.org/q2010/q10_index.html.

It's not easy coming up with a question. As the artist James Lee Byars used to say: "I can answer the question, but am I bright enough to ask it?" Edge is a conversation. We are looking for questions that inspire answers we can't possibly predict. Surprise me with an answer I never could have guessed. My goal is to provoke people into thinking thoughts that they normally might not have.

The art of a good question is to find a balance between abstraction and the personal, to ask a question that has many answers, or at least one for which you don't know *the* answer. It's a question distant enough to encourage abstractions and not so specific that it's about breakfast. A good question encourages answers that are grounded in experience but bigger than that experience alone.

Before we arrived at the 2010 question, we went through several months of considering other questions. Eventually I came up with the idea of asking how the Internet is affecting the scientific work, lives, minds and reality of the contributors. Kevin Kelly responded:

John, you pioneered the idea of asking smart folks what question they are asking themselves. Well I've noticed in the past few years there is one question everyone on your list is asking themselves these days and that is, is the Internet making me smarter or stupid? Nick Carr tackled the question on his terms, but did not answer it for everyone. In fact, I would love to hear the Edge list tell me their version: Is the Internet improving them or improving their work, and how is it changing how they think? I am less interested in the general "us" and more interested in the specific "you"—how it is affecting each one personally. Nearly every discussion I have with someone these days will arrive at this question sooner or later. Why not tackle it head on?

And so we did.

Yet, we still had work to do in framing our question. When people respond to "we" questions, their words tend to resemble expert papers, public pronouncements, or talks delivered from a stage. "You" leads us to share specifics of our lived experience. The challenge then is to not let responses slip into life's more banal details.

For us, discussion revolved around whether we'd ask "Is the Internet changing the way *we* think?" or probe this topic with a "you" focused question. Steven Pinker, Harvard research psychologist, author of "The Language Instinct" and "The Blank Slate," and one of several distinguished scientists I consult, advised heading in the direction of "us."

I very much like the idea of the Edge Question, but would suggest one important change—that it be about "us," not "me." The "me" question is too easy—if people really thought that some bit of technology was making their minds or their lives worse, they could always go back to the typewriter, or the Britannica, or the US Postal Service. The tough question is "us"'if every individual makes a choice that makes him or her better off, could there be knock-on effects that make the culture as a whole worse off (what the economists call "externalities")?

Ultimately it's my call so I decided to go with the "you" question in the hope that it would attract a wider range of individualistic responses. In my editorial marching orders to contributors, I asked them to think about the Internet—a much bigger subject than the Web, recalling that in 1996 computer scientist and visionary W. Daniel Hillis presciently observed the difference:

Many people sense this, but don't want to think about it because the change is too profound. Today, on the Internet the main event is the Web. A lot of people think that the Web is the Internet, and they're missing something. The Internet is a brand-new fertile ground where things can grow, and the Web is the first thing that grew there. But the stuff growing there is in a very primitive form. The Web is the old media incorporated into the new medium. It both adds something to the Internet and takes something away.

Early Responders

Framing the question and setting a high bar for responses is critical. Before launching the question to the entire Edge list, I invited a dozen or so people who I believed would have something interesting to say; their responses would seed the site and encourage the wider group to think

Origins of Edge

The Edge project was inspired by the 1971 failed art experiment entitled "The World Question Center" by the late James Lee Byars, John Brockman's friend and sometime collaborator. Byars believed that to arrive at an axiology of societal knowledge it was pure folly to go to Widener Library at Harvard and read six million volumes. Instead, he planned to gather the 100 most brilliant minds in the world in a room, lock them behind closed doors, and have them ask each other the questions they were asking themselves. The expected result, in theory, was to be a synthesis of all thought. But it didn't work out that way. Byars identified his 100 most brilliant minds and called each of them. The result: 70 people hung up on him.

A decade later, Brockman picked up on the idea and founded The Reality Club, which, in 1997, went online, rebranded as Edge. ■

in surprising ways. Here are some of these early responses:

- Playwright Richard Foreman asks about the replacement of complex inner density with a new kind of self evolving under the pressure of information overload and the technology of the instantly available. Is it a new self? Are we becoming Pancake People—spread wide and thin as we connect with that vast network of information accessed by the mere touch of a button?

- Technology analyst Nicholas Carr, who wrote The Atlantic cover story, "Is Google Making Us Stupid?," asks whether the use of the Web made it impossible for us to read long pieces of writing. [See Carr's article on page 37.]

- Social software guru Clay Shirky says the answer is "'too soon to tell.' This isn't because we can't see some of the obvious effects already, but because the deep changes will be manifested only when new cultural norms shape what the technology makes possible. ... The Internet's primary effect on how we think will only reveal itself when it affects the cultural milieu of thought, not just the behavior of individual users."

- Web 2.0 pioneer Tim O'Reilly ponders if ideas themselves are the ultimate social software. Do they evolve via the conversations we have with each other, the artifacts we create, and the stories we tell to explain them?

- Stewart Brand, founder of Whole Earth Catalog, cannot function without the major players in his social extended mind—his guild. "How I think is shaped to a large degree by how they think," he writes. "Thanks to my guild's Internet-mediated conversation, my neuronal thinking is enhanced immeasurably by our digital thinking."

- Hillis goes a step further by asking if the Internet will, in the long run, arrive at a much richer infrastructure in which ideas can potentially evolve outside of human minds. In other words, can we change the way the Internet thinks?

The Conversation

The 2010 question elicited, in all, 172 essays that comprised a 132,000-word manuscript published online by Edge in January.

Kelly speaks about a new type of mind, amplified by the Internet, evolving, and able to start a new phase of evolution outside of the body. In "Net Gain," evolutionary biologist Richard Dawkins looks 40 years into the future when "retrieval from the communal exosomatic memory will become dramatically faster, and we shall rely less on the memory in our skulls." Nassim Taleb, author of "The Black Swan," writes about "The Degradation of Predictability—and Knowledge" as he asks us to "consider the explosive situation: More information (particularly thanks to the Internet) causes more confidence and illusions of knowledge while degrading predictability."

Nick Bilton, lead writer of The New York Times's Bits blog, notes that "[the] Internet is not changing how we think. Instead, we are changing how the Internet thinks." Actor Alan Alda worries about "[speed] plus mobs. A scary combination." He wonders, "Is there an algorithm perking somewhere in someone's head right now that can act as a check against this growing hastiness and mobbiness?" New York Times columnist Virginia Heffernan writes that "we must keep on reading and not mistake new texts for new worlds, or new forms for new brains."

Numerous artists responded in enlightening ways, as their evocative headlines suggest:

- Marina Abromavic: "My Perception of Time"
- Stefano Boeri: "Internet Is Wind"
- Tony Conrad: "A Question With(out) an Answer"
- James Croak: "Art Making Going Rural"
- Olafur Eliasson: "The Internet as Reality Producer"
- Eric Fischl and April Gornik: "Replacing Experience With Facsimile"
- Terence Koh: "A Completely New Form of Sense"

- Hans Ulrich Obrist: "Edge A to Z (Pars Pro Toto)"
- Jonas Mekas: "I Am Not Exactly a Thinking Person—I Am a Poet"
- Matthew Ritchie: "The Interface I Want Is the Real World."

My Favorites

I enjoyed the juxtaposition of responses by psychologist Steven Pinker, "Not At All," and Chinese artist and cultural activist Ai Weiwei, "I Only Think on the Internet." The response I most admired is George Dyson's "Kayaks vs. Canoes." It is a gem:

In the North Pacific Ocean, there were two approaches to boat-building. The Aleuts (and their kayak-building relatives) lived on barren, treeless islands and built their vessels by piecing together skeletal frameworks from fragments of beach-combed wood. The Tlingit (and their dugout canoe-building relatives) built their vessels by selecting entire trees out of the rainforest and removing wood until there was nothing left but a canoe.

The Aleut and the Tlingit achieved similar results—maximum boat/minimum material—by opposite means. The flood of information unleashed by the Internet has produced a similar cultural split. We used to be kayak builders, collecting all available fragments of information to assemble the framework that kept us afloat. Now, we have to learn to become dugout-canoe builders, discarding unnecessary information to reveal the shape of knowledge hidden within.

I was a hardened kayak builder, trained to collect every available stick. I resent having to learn the new skills. But those who don't will be left paddling logs, not canoes.

What do you think? ∎

Lessons for the Future From the First Post-Pokémon Generation

'Creating interest-driven content and programming that is easily shared, interactive and participatory is key to unlocking the power of networked media.'

BY MIZUKO ITO

A year and a half ago, my research team released the findings from a three-year study of how young people use new media in social and recreational settings. In summarizing findings from the Digital Youth Project, we wanted to focus press attention on the learning opportunities we had found being supported by interactive and online media. When I spoke with journalists about our research, I emphasized the need for adults to support the positive potential of informal and social learning online rather than assume that the time that kids spend with digital media is always a distraction or waste of time.

More often than not, however, teachers asked me about strategies to disengage kids from social media so they can focus on their studies. And journalists seemed most interested in how online networks escalate peer pressure and bullying. Whether it is teachers trying to manage texting in the classroom, parents attempting to set limits on screen time, or journalists painting pictures of a generation of networked kids who lack any attention span, adults seem to want to hold on to to their negative views of teen's engagement with social media.

This generational gap in how people regard social media means that kids and adults are often in conflict about what participation in public life means. Not surprisingly, cultural and educational organizations also seem out of step with how young people learn and access information. It is critical to acknowledge the radically different media environment kids inhabit today while also appreciating both the positive and negative aspects of these changes. Now young people can be connected 24/7 to peers, information and entertainment, and their attention is captured through visual media, participation and interaction.

All of these differences challenge journalists as they redesign their models of communicating news and information. In today's media environment, daily life is far more porous in accepting a diverse range of information and social interactions, and this circumstance can complicate and enhance the task of reaching and engaging youths. In fact, this isn't just about youths, though they are emblematic of these changes. All of us are living through a profound shift in how we engage with culture, knowledge, information, news, events, society and our social lives.

To create a digital public

![A large hall filled with children seated at long tables playing the Pokémon trading card game.]

Pokémon has become much more than a video game. It taught a generation of kids that they are more than consumers: They are participants, experts and creators of media. *Photo by Shea Walsh/AP Images for Pokémon.*

sphere that both engages and informs requires that we find ways of bridging the gap in our understanding of the networked world. Yet if we can capitalize on the potential of social media, we'll discover unprecedented opportunity in highly personalized and participatory public engagement.

Our study, the Digital Youth Project, was part of a larger effort by the John D. and Catherine T. MacArthur Foundation's digital media and learning initiative to understand how young people's lives are changing as a result of digital media. Our research involved hundreds of youths across the United States and relied on the efforts of 28 researchers and collaborators. While we did not examine their media practices with the journalism and news media industry in mind, our key findings can be of significant value to journalistic organizations that are figuring out how to bring news and information to the next generation.

Ours is in many ways a hopeful story. Our research leads us to believe that organizations and institutions that serve youth can still have their best days ahead of them if they engage with youths' peer cultures and social communication. Creating interest-driven content and programming that is easily shared, interactive and participatory is key to unlocking the power of networked media.

Learning From Pokémon

Before we explore what's taking shape today, let's look back to the late 1990's when Pokémon swept through childhood culture. Those who are graduating from college now are the first post-Pokémon generation. These are kids who grew up with ubiquitous social gaming and convergent media as a central part of their peer culture.

Pokémon incorporated video games, trading cards, a television series, movies and a wide range of merchandise. It also broke new ground by placing gaming and social action at the center of the transmedia equation. Its content invites collection, strategizing and trading activity, and as such it is a form of media that is not an end in itself. Instead, it mobilizes youth to do something with it.

What is different about contemporary social media such as Pokémon is that personalization and remix is a precondition of participation. At its core, it is about engagement and communication. And this is what social media means for this generation—not just media that are about social communication but also media that invite social exchange. Marketers talk about this as viral or contagious media. For kids, it means media that have social currency. They are consumers, but more importantly they are participants, experts and creators.

There is much we can learn about kids' learning and engagement with Pokémon. What follows are a few of the lessons that relate directly to the tasks of journalism:

- Skills and literacy are a byproduct of social engagement. Kids are not playing Pokémon with the explicit goal of learning skills or gaining knowledge. We're starting to see some research coming out about the kinds of complex language skills and visual literacy that kids pick up with complex gaming environments like Pokémon or Yu-Gi-oh. But again it is a byproduct, not a focus of the engagement.
- The focus is on demand, not supply. In their new book, "The Power of Pull," John Hagel, John Seely Brown, and Lang Davison write about a cultural shift from supply-push to demand-pull. Instead of working to build stable stocks of information in kids' heads—in supplying a standardized body of knowledge—demand-pull is about giving kids skills and dispositions to be able to access and draw from a highly dynamic and unstable information environment that is too massive for them to internalize.
- Sources of expertise come from peers, not institutionalized authorities. Kids occasionally consult rule books, but they will far more often look to their peers for knowledge. Certain kids in a given peer culture will gain reputations as Pokémon experts, and the more advanced of these will be posting walk-throughs, reviews and cheats on Web sites that a much broader range of kids will be accessing. It's about peers assessing and providing feedback rather than relying on institutional gatekeepers. The excitement comes from taking on the roles of participants, experts and knowledge creators, not simply knowledge consumers.
- Networked games support specialization, the development of personalized relationships to the content, and subject matter expertise. Instead of being asked to master a standardized body of knowledge that is the same for all their peers, measured against prescribed benchmarks, these more informal digital environments allow kids to choose their own areas of interest and engagement. One kid can develop a reputation as a water Pokémon trainer and expert; another can master the universe of cheat codes.
- The overall knowledge ecology is highly distributed. The circulation of information and knowledge and the learning is distributed across different kids, different sites, and different media platforms.

What Lies Ahead?

As kids grow older, they bring experiences from media like Pokémon to their participation in the teen social scene. Just as with childhood play, teenage peer sociability takes place in networked and digital environments. Negotiations over status and popularity that once happened in school lunchrooms and hallways now migrate to MySpace, Facebook and text messaging. For the post-Pokémon generation, these online community spaces are seamless with the offline settings of their daily lives.

Although peer spaces involving teen friendship are quite different from those that center on interests like Pokémon, peer culture operates in similar ways in both. And what happens in these social media spaces differs from what takes place in spaces presented to them by most adults.

With mainstream media, as with other content and activities adults offer, teens find themselves acting primarily as consumers of information. In their media environments they are producers and distributors of content, knowledge, taste and culture; they make decisions about how to craft their profiles, what messages to write, and the kind of music, video and artwork they want to post, link to, and share. These choices about what media to display and circulate are made in a public (nonprivate) space and have consequences for their reputation in the social circles that matter to them the most.

Where are things headed? It's good to remember that these are still early days of social media and our experimentation with harnessing digital media in the service of communication, engagement and knowledge acquisition. And many of us still carry the weight of assumptions, practices and institutions that no longer fit well with the emerging digital environment.

Historically we also have separated our kids' peer cultures from their learning and engagement; this has created antagonism between education and entertainment media and demarcated boundaries separating adult-mediated institutions from youth-produced ones. These are major encumbrances as we move forward. Yet for those willing to experiment and seize the opportunities that today's always-on, fully networked technology offers, tremendous opportunity exists to expand our reach to a new generation. ∎

Mizuko Ito is a cultural anthropologist who specializes in digital media and youth culture. She is research director for the Digital Media and Learning Research Hub, a MacArthur Foundation-funded effort at the University of California Humanities Research Institute that is analyzing the impact of the Internet and digital media's evolving relationship to education/learning, politics/civics, and youth. More information about initiatives at this research hub can be found at DMLcentral.net.

Digital Demands: The Challenges of Constant Connectivity

'We're becoming quite intolerant of letting each other think complicated things.'

Sherry Turkle is Abby Rockefeller Mauzé Professor of the Social Studies of Science and Technology at the Massachusetts Institute of Technology and the founder and director of the MIT Initiative on Technology and Self. Since 1995, Turkle has studied adolescents and adults in the culture of connectivity. In her forthcoming book, "Alone Together: Sociable Robots, Digitized Friends, and the Reinvention of Intimacy and Solitude," to be published in January by Basic Books, she explores how humans have come to expect more in terms of relationships from machines and less from each other. Among her key questions are these: What are the limits of "relationship" with a machine? What is intimacy without privacy? What is democracy without privacy? How do the always-on/always-on-you demands of digital life interfere with people's need for solitude, the kind that refreshes and restores?

In these edited excerpts from Turkle's interview with Frontline's TV/Web report "Digital Nation," she speaks about young people's relationships with digital technology and how this affects their lives and learning. The entire interview is available at http://to.pbs.org/cnrYYm.

Sherry Turkle: What I'm seeing is a generation that says consistently, "I would rather text than make a telephone call." Why? It's less risky. I can just get the information out there. I don't have to get all involved; it's more efficient. I would rather text than see somebody face to face.

There's this sense that you can have the illusion of companionship without the demands of friendship. The real demands of friendship, of intimacy, are complicated. They're hard. They involve a lot of negotiation. They're all the things that are difficult about adolescence. And adolescence is the time when people are using technology to skip and to cut corners and to not have to do some of these very hard things. One of the things I've found with continual connectivity is there's an anxiety of disconnection; that these teens have a kind of panic. They say things like, "I lost my iPhone; it felt like somebody died, as though I'd lost my mind." The technology is already part of them.

And with the constant possibility of connectivity, one of the things that I see is a very subtle movement from "I have a feeling. I want to make a call" to "I want to have a feeling. I need to make a call"—in other words, people almost feeling as if they can't feel their feeling unless they're connected. I'm hearing this all over now so it stops being pathological if it becomes a generational style.

Frontline: Some would say most of the [university] lectures, most of the classes, most of the books are

Generational Divide: Digital Technology's Paradoxical Message

In an interview Sherry Turkle did with Aleks Krotoski for a BBC project, "The Virtual Revolution," she spoke about how young people think about privacy and how their experiences with digital technology shape their connections and exchanges with others. The entire interview can be viewed at http://bit.ly/aMFePy. Edited excerpts follow:

Sherry Turkle: This generation has a sense that information wants to be free and information about them wants to be free. People put their lives on the screen, they put intimate details of their lives out there with very little thought that there might be people using that information in ways that are not benign.

I interviewed a 16-year-old, and he talked about how he knows that people can read his e-mail. Somehow he senses that his texts are being saved in some server in the sky. When he wants to have a private conversation he goes to pay phones. He feels the pay phones are the only safe place for him to talk.

My grandmother, who came from a European background, taught me how to be a citizen at mailboxes in New York City. She brought me down to the mailbox and she said unlike in Europe where bad governments would read your mail and open your mail, in America it's a federal offense to read somebody else's mail. That kind of privacy is what gives you rights as a citizen.

In a way, I learned to be an American at these mailboxes as a kid. I don't know where to take my daughter to teach her that. When we take the Mass Pike we use E-ZPass and surveillance cameras track my car. We're both giving up unprec-

edented amounts of information and profiling.

It's hard to teach the relationship between privacy and democracy; and it's also hard to teach the relationship between intimacy and privacy. What is intimacy without privacy? I think this is a really important question for this generation.

Aleks Krotoski: It's almost as if it's a feedback loop: I give you a bit more information; you then give me more information, which then creates this

> **They'll text, but they won't talk. Philosophers tell us that we become human when we're confronted with another face, with a voice, with the inflection of a voice; these kids don't want to see a face, they don't want to hear a voice. They want to text. In a way we're no longer nourished but consumed by what we've created.**

incredible flood of information. As a recipient of all of this information, how do you think this is affecting me?

Turkle: You start to want to hide. At first, it's all good. You get what seems like a virtual cycle of more and more and more; but as we see what this generation looks like as it grows up with it, we find they are now a generation in retreat. They'll text, but they won't talk. Philosophers tell us that we become human when

we're confronted with another face, with a voice, with the inflection of a voice; these kids don't want to see a face, they don't want to hear a voice. They want to text. In a way we're no longer nourished but consumed by what we've created. It's not all good. I see people in retreat as much as they are in advance now that they have all this information.

Krotoski: Do you feel that we are experiencing information overload or that we can parse it?

Turkle: Totally experiencing information overload. It's become a cliché. In a word I see people defining a successful self as one that can keep up with its e-mail. There's kind of a velocity and a volume that keeps people on a kind of hyperdrive of connectivity. In the end, they find a way to withdraw.

If the velocity and volume is such that I send you a tweet and I send you a text, then you have to answer me back. Nobody answers a text by saying I have to think about that for two weeks. The communication demands a response. But that means that we start to ask each other questions that are easy to answer.

We live in a kind of paradoxical time. We're giving young people a very paradoxical message: The world is more and more complex; on the other hand, we're only going to ask you a question that you can answer in two seconds. We leave ourselves less and less time for reflection because our communications media push us to quick responses. Quite frankly, the questions before our planet right now are not questions that should be answered or thought about in the time space of texting. ∎

Afghanistan Stability / COIN Dynamics

Legend:
- // = **Significant Delay**
- Population/Popular Support
- Infrastructure, Economy, & Services
- Government
- Afghanistan Security Forces
- Insurgents
- Crime and Narcotics
- Coalition Forces & Actions
- Physical Environment

ANSF TACTICAL

ANSF INSTITUTIONAL

COALITION CAPACITY & PRIORITIES

CENTRAL GOV'T

OVERALL GOVERNMENT CAPACITY

COALITION DOMESTIC SUPPORT

TRIBAL GOVERNANCE

POPULATION CONDITIONS & BELIEFS

POPULAR SUPPORT

OUTSIDE SUPPORT TO INSURGENT FACTIONS

INSURGENTS

NARCOTICS

INFRASTRUCTURE, SERVICES & ECONOMY

WORKING DRAFT – V3

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MIT professor Sherry Turkle finds the prevalence of PowerPoint in grade school classrooms "distressing," yet PowerPoint is ubiquitous. It has gained adherents in the federal Office of the Joint Chiefs of Staff who use it to brief military commanders.

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unnecessarily long and boring, and the stuff that's great you could fit in a couple of hands, and that's the stuff they should really commit to and memorize and study. The rest of it is better short and quick and to the point. Look at haiku. It's much harder to do something quickly than it is to do something for hours. And who's to say that it's better to take your time and not be distracted?

Turkle: The ability to trace complicated themes through a literary work, through a poem, through a play—these pleasures will be lost to us because they become pleasures through acquired skills. You need to learn how to listen to a poem, read a [Fyodor] Dostoevsky novel, read a Jane Austen novel. These

are pleasures of reading that demand attention to things that are long and woven and complicated. And this is something that human beings have cherished and that have brought tremendous riches. And to just say, "Well, we're of a generation that now likes it short and sweet and haiku. Why? Just because the technology makes it easy for us to have things that are short and sweet and haiku." In other words, it's an argument about sensibility and aesthetics that's driven by what technology wants.

I don't really care what technology wants. It's up to people to develop technologies, see what affordances the technology has. Very often these affordances tap into our vulnerabilities. I would feel bereft if, because technol-

ogy wants us to read short, simple stories, we bequeath to our children a world of short, simple stories. What technology makes easy is not always what nurtures the human spirit.

I've been an MIT professor for 30 years; I've seen the losses. There's no one who's been teaching for 25 years and doesn't think that our students aren't different now than they were then. They need to be stimulated in ways that they didn't need to be stimulated before. No, that's not good. You want them to think about hard things. You want them to think about complicated things. When you have the ability to easily do showy, fabulous things, you want to believe they're valuable because that would be great. I think that we always have to

ask ourselves, when technology makes something easy, when its affordances allow us to do certain things, is this valuable? What are the human purposes being served? And in the classroom, what are the educational purposes being served?

One of the most distressing things to me in looking at K-12 is the use of PowerPoint in the schools. I believe that PowerPoint is one of the most frequently used pieces of software in classrooms. Students are taught how to make an argument—to make it in bullets, to add great photos, to draw from the popular culture, and show snippets of movies and snippets of things that [he or she] can grab from the Web, and funny cartoons and to kind of make a mélange, a pastiche of cropped cultural images and animations and to make a beautiful PowerPoint. And that's their presentation.

PowerPoints are about simple, communicable ideas illustrated by powerful images, and there's a place for that. But that isn't the same as critical thinking. Great books are not fancied-up PowerPoint presentations. Great books take you through an argument, show how the argument is weak, meet objections, and show a different point of view. By the time you're through with all that, you're way beyond the simplicities of PowerPoint.

Computers are seductive; computers are appealing. There's no harm in using the seductive and appealing to draw people in, to get them in their seats, and to begin a conversation. The question is, what happens after that?

Frontline: What about multitasking?

Turkle: Because technology makes it easy, we've all wanted to think it is good for us, a new kind of thinking, an expansion of our ability to reason and cycle through complicated things—do more and be more efficient. Unfortunately, the new research is coming

in that says when you multitask, everything gets done a little worse; there's a degradation of all functions. Did we need to really go through 10 years of drinking the Kool-Aid on the educational wonders of multitasking and forgetting about everything we knew about what it takes to really accomplish something hard?

At MIT, I teach the most brilliant students in the world. But they have done themselves a disservice by drinking the Kool-Aid and believing that a multitasking learning environment will serve their best purposes because they need to be taught how to make a sustained, complicated argument on a hard, cultural, historical, psychological point. Many of them were trained that a good presentation is a PowerPoint presentation—you know, bam-bam-bam—it's very hard for them to have

Sherry Turkle spoke on Frontline's "Digital Nation" about how adolescents and adults interact with technology. *Photo courtesy of Frontline.*

a kind of quietness, a stillness in their thinking where one thing can actually lead to another and build and build and build and build. There are just some things that are not amenable to being thought about in conjunction with 15 other things. And there are some kinds of arguments you cannot make unless you're willing to take something from beginning to end.

We're becoming quite intolerant of letting each other think complicated things. I don't think this serves our human needs because the problems we're facing are quite complicated. To hear someone else out, you need to

be able to be still for a while and pay attention to something other than your immediate needs. So if we're living in a moment when you can be in seven different places at once, and you can have seven different conversations at once on a back channel here, on a phone here, on a laptop, how do we save stillness? How threatened is it? How do we regain it?

Erik Erikson is a psychologist who wrote a great deal about adolescence and identity, and he talks about the need for stillness in order to fully develop and to discover your identity and become who you need to become and think what you need to think. And I think stillness is one of the great things in jeopardy.

[Henry David] Thoreau, in writing about Walden Pond, lists the three things that he feels the experience is teaching him to develop fully as the man he wants to become. He wants to live deliberately; he wants to live in his life; and he wants to live with no sense of resignation. But on all of those dimensions, I feel that we're taking away from ourselves the things that Thoreau thought were so essential to discovering an identity.

We're not deliberate; we're bombarded. We have no stillness; we have resignation.

Kids say: "Well, it has to be this way; we have no other way to live. We're not living fully in our lives. We're living a little in our lives and a little bit in our Facebook lives." You know, you put up a different life, you put up a different person. So it's not to be romantic about Thoreau, but I think he did write, as Erikson wrote, about the need for stillness; to be deliberate; to live in your life and to never feel that you're just resigned to how things need to be.

When we're texting, on the phone, doing e-mail, getting information, the experience is of being filled up. That feels good. And we assume that it is nourishing in the sense of taking us to

a place we want to go. And I think that we are going to start to learn that in our enthusiasms and in our fascinations, we can also be flattened and depleted by what perhaps was once nourishing us but which can't be a steady diet. If all I do is my e-mail, my calendar, and my searches, I feel great; I feel like a master of the universe. And then it's the end of the day, I've been busy all day, and I haven't thought about anything hard, and I have been consumed by the technologies that were there and that had the power to nourish me.

The point is we're really at the very beginning of learning how to use this technology in the ways that are the most nourishing and sustaining. We're going to slowly find our balance, but I think it's going to take time. So I think the first discipline is to think of us as being in the early days so that we're not so quick to yes, no, on, off, good, good, and to just kind of take it slowly and not feel that we need to throw out the virtues of deliberateness, living in life, stillness, solitude.

There is a wonderful Freudian formulation, which is that loneliness is failed solitude. In many ways we are forgetting the intellectual and emotional value of solitude. You're not lonely in solitude. You're only lonely if you forget how to use solitude to replenish yourself and to learn. And you don't want a generation that experiences solitude as loneliness. And that is something to be concerned about, because if kids feel that they need to be connected in order to be themselves, that's quite unhealthy. They'll always feel lonely, because the connections that they're forming are not going to give them what they seek. ■

Understanding the iGeneration—Before the Next Mini-Generation Arrives

'As the pace of technological change accelerates, mini-generations are defined by their distinctive patterns of media use, levels of multitasking, and preferred methods of communication.'

BY LARRY ROSEN

Three decades have come and gone since I started to explore the impact that technology has on us. Back then we didn't have desktop computers; the idea that one day soon we'd hold a computer in the palm of our hand seemed like something out of "Star Trek." As I look back on these years—and on the various directions my research about the psychology of technology has taken me—I realize how strongly connected my focus in research is to changes I've experienced in my daily life.

When students refused to use keypunch machines, I studied computerphobia. When microwave ovens, fax machines, and desktop computers arrived, I switched to studying technophobia. And when technology became ubiquitous, I moved on to examining technostress. This happened at a time when the conversation wasn't so much about the stress of having to

UNDERSTANDING THE iGENERATION AND THE WAY THEY LEARN

R**e**wired

Larry D. Rosen, Ph.D.

use technology, but about what happens when people do, including the information overload they experience, Internet addiction, the presence and fear of online sexual predators, and cyberbullying.

At home I glimpsed these rapid technological changes through the eyes of my children. When my older son, now 34, was a teen and my younger son, now 22, a preteen, they played video games constantly, blasting aliens and splattering blood. Not surprisingly, I was drawn to studying the impact of games. Later they joined the herd in finding their way to MySpace, Facebook, IMing, texting, iPhones, and nearly everything with an "i" in it (iPod, Wii). There were times when to get my teenage daughter's attention, I had to text her to come out of her room to join us for dinner.

Even though I'm technologically sophisticated, my kids left me in the

dust—though they did so in different ways and to varying degrees. And this difference became a fascination of mine as I set out to untangle why and how the younger ones related to and handled this technology much differently than my older ones did—even though only 15 years separates them.

Waves of Technology

On the day local news reported that a man was seen walking around my campus with a gun, how I connected with members of my family signaled a turning point for me in recognizing what I'd come to understand through my research as mini-generational differences. Told to remain in my shuttered office, I e-mailed my two older kids and texted my younger ones. (Of course, I phoned my elderly parents.)

For each family member, my message was the same, "I'm O.K. Don't worry." Only how I relayed it was different, and that got me thinking about how rapidly changes in how we communicate are taking place. In "The Third Wave," written in 1980, Alvin Toffler outlined his view about how waves of technology have defined our world. Toffler identified three major waves: the 3,000-year agricultural era, the 300-year industrial era, and the (projected) 30-year computer era that was on the upswing. Each wave rose and fell as new technologies arose.

Extrapolating from the pace of Toffler's waves (dividing by 10), the fourth wave would be predicted to last for three years, the fifth for about four months, and so on. But judging from consumer product penetration rates, we were not seeing technological change taking place in months; rather, the data showed cycles of three- to five-year waves. A product is considered to have penetrated society when it reaches 50 million people. Technologies such as radio, television, and phones took more than a decade to reach this level of penetration.

As we move closer to our time, we find technology barreling its way into our society. With the Internet, instant messaging and iPods, it took only four years. Blogs took three. With MySpace,

50 million profiles were created within two and a half years: in its early years MySpace added 100,000 (mostly young) members a day. YouTube hit 50 million unique viewers in one year; in April 2008, 73 million people tuned in to YouTube videos, with teens watching an average of about 70 per month. And when the iPad went on sale in April, more than 300,000 were sold on the first day, even before the 3G model arrived in the stores.

Texting settled into the typical teen's neighborhood even faster. Data from the Nielsen Company shows that as of late 2009 teens on average sent and received 3,186 text messages a month compared with receiving and making 196 phone calls. That works out to 10 text messages per waking nonschool hour, although we know kids text during school hours and some sleep with their cell phones so they don't miss text messages. It is interesting to note that their Net Generation siblings—only a few years older than they are—text half as much. At the start of 2007 the monthly average for teens was 435 text messages and 255 phone calls.

Mini-Generations

As the pace of technological change accelerates, mini-generations are defined by their distinctive patterns of media use, levels of multitasking, and preferred methods of communication. Among these mini-generations, differences are also being found in their values as well as levels of social and political activism. Since Generation Xers (born between 1965 and 1979), we have seen a rapid emergence of two mini-generations, and maybe even a third. There is the young adult Net Geners (born between 1980 and 1989) followed by teen iGeners (born from 1990 to 1999), and the first generation born in the 21st century, yet unnamed and still too young to fully define.

There are some things we are starting to find out about this yet-to-be-labeled generation. Nielsen's texting data show an average of 1,164 monthly texts for children and preteens. And the popularity of preteen and child-based

social networks (e.g., Club Penguin, Barbie Girls) and the dramatic changes in media (e.g., 3-D kids' movies) lead us to believe that their ways of communicating and approach to getting and sharing information will be different from their teen siblings.

How this generation adapts to technology—and the impact it has on family dynamics, on the classroom experience, and on what entertainment looks like and how it is consumed—is what I am focusing on in my current research. My last book, "Me, MySpace, and I: Parenting the Net Generation," was written with parents in mind. My new book, "Rewired: Understanding the iGeneration and the Way They Learn" is aimed at a different audience. It portrays teen lifestyles in the sea of technology and challenges parents and educators—and anyone, such as journalists, who might be looking for constructive ways to interact with this generation—to take this knowledge about the intersection of technology and learning and use it to find the most effective ways to teach and communicate.

Meet the iGeneration

In studies of thousands of children, teens and young adults we've completed at California State University, Dominguez Hills, my colleagues and I have found that massive amounts of media are being consumed daily. The iGeneration is already setting itself apart in its consumption patterns. Here are a few of the generational differences:

- **Increased media consumption:** In anonymous online surveys, we asked about daily hours online and a number of activities, including music listening, video game playing, talking on the telephone, IMing and chatting, texting, sending and receiving e-mail, and watching television. While we computed a total score, we know that many of these activities are done simultaneously. Net Geners and older teens spend more than 20 hours per day using media and technology followed by

younger teens who spend slightly more than 15 hours per day.

- **Multitasking:** Older teens report doing the most multitasking; according to them, they perform nearly seven simultaneous tasks. In "Rewired," I argue that they are not really doing them at the same time, but they are simply better task switchers. This constant multitasking among teens compares with six and a half simultaneous activities for younger teens and six for Net Geners. Baby boomers like me report being able to do about four and a half things at the same time.

- **E-communication:** Baby boomers prefer face-to-face or telephone communication along with e-mail. Gen Xers embrace cell phones, e-mail and instant messaging. It is with the Net Generation that different communication approaches emerge, including social networks, IMing, Skyping and texting. But it's the iGeneration that is rapidly redefining digital communication. To them, a phone is not a phone. It is a computer (or likely soon to be a tablet) that they use to tweet, Facebook and, of course, text, text, text. For them, peer relationships are all about connecting by any electronic means. To them, WWW stands for whatever, whenever and wherever.

- **Socializing:** The two recent mini-generations are more technologically social than any that came before them. For them, connecting is what digital technology was invented to do. They built MySpace and Facebook; nearly every one of them has a page on one or both. Upward of two hours each day are spent connecting online with their community of friends, whether they are RL (real life) or SL (screen life) friends. (In 2009, "unfriend" was the word of the year added to the New Oxford American Dictionary.)

- **Creativity:** They make their own YouTube videos, post photos, mash up music, create multimedia presentations, and develop personalized content. In their eyes, the "i" in iGeneration stands for "individual-

Questions about kids and multitasking, explored in a 2006 Time cover story, are still being asked today.

ized." iGeners have their own iPhone apps, their own song mixes, and have forced developers to mine their products for personalized applications.

- **Writing:** Some argue that LOL, JK, and OMG are symptoms of an illiterate generation of teen texters. Research is showing that isn't true. This generation writes more than any other and whether it is text-based writing or formal writing, it is still writing. And writing begets writing. Interestingly, they also read more, particularly if you expand the concept of reading to include online content rather than just books in print.

- **Motivation:** iGen teens are highly motivated, as evidenced by the content that they post daily online. They are not, as some people have asserted, lazy. In contrast, other generations—particularly baby boomers and Gen Xers—are as interested in process as they are in product. Young adults and teenagers hate meeting to discuss how they are proceeding; if forced to meet in person, they'll usually pull out their Blackberries and iPhones so they can multitask. They do not like interim deadlines and prefer to be held accountable for the entire project executed well and on time. They thrive on positive reinforcement for their completed work, but tend to downplay praise for subproducts along the way. From all of my research, as long as adults let teens work on their time schedule, using high-tech tools they prefer, teachers and employers will most often find that iGeners and Net Geners will come up with an excellent final product.

Lessons for Journalists

What do such findings mean to journalists? In short, the answer is a lot. In reporting and distributing news and information—and in their interactions—journalists need to understand how younger generations use technology, what they expect to do with it, and what they expect to receive through it. If journalists want their words and images to be engaging to Net Geners and iGeners, they need to figure out how teens and young adults operate in their high-tech world. And they need to keep up with the distinctive digital habits of mini-generations.

Information is power, but first it needs to reach an audience. Whether the vehicle is Facebook or its next iteration—perhaps now in the making as an app—we know that as digital platforms change, so does the psychology of readers. And this includes how they relate to and deal with information. Each mini-generation is showing itself to be different—in big and discernible ways, and what makes them so different surely matters to those who are trying to reach them. ■

Larry Rosen is a professor of psychology and past chairman of that department at California State University, Dominguez Hills. He is a research psychologist, computer educator, and the author of four books. His most recent is "Rewired: Understanding the iGeneration and the Way They Learn," published in March by Palgrave Macmillan.

Revealing the Digital News Experience—For Young And Old

In surveys and analysis, the Pew Research Center illuminates the ever-changing course of Americans' digital habits.
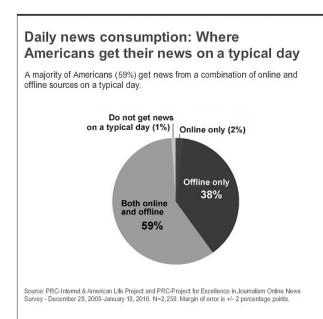
By Amy Mitchell

The Internet and cell phones are changing people's relationship to news—when, how and where they consume it. The emerging digital devices also dramatically alter how journalists gather the news and what happens to their reporting after it appears.

Just how much all of this is changing—and what it means to Americans' news habits—is revealed in a joint survey released in March by the Pew Research Center's Project for Excellence in Journalism and the center's Internet & American Life Project. Here are some of its findings:

- On a typical day, 61 percent of Americans get news online. This means that the Internet is now just behind television as a news source and ahead of newspapers.
- Thirty-seven percent of adults now access the Internet on their cell phones and PDAs.
- Digital news consumers tend to be younger than the general population—68 percent are under 50 and 29 percent are under 30. But the movement toward online news is evident in all age groups.

Technology is fueling these developments as it reshapes in profound ways the news ecosystem. Social media tools and mobile connectivity provide citizens with a deeper and more direct relationship with the news. Consumers search and filter, then react to and share news they find interesting or vital with followers and friends. This is especially true among the young, whose social networks often become personal "editors" who determine their front page information.

Daily news consumption: Where Americans get their news on a typical day

A majority of Americans (59%) get news from a combination of online and offline sources on a typical day.

Do not get news on a typical day (1%) | Online only (2%)

Offline only 38%

Both online and offline 59%

Source: PRC-Internet & American Life Project and PRC-Project for Excellence in Journalism Online News Survey - December 28, 2009-January 19, 2010. N=2,259. Margin of error is +/- 2 percentage points.

A major survey released in March looked at Americans' changing news habits. *Courtesy of Pew Research Center's Project for Excellence in Journalism and the center's Internet & American Life Project.*

Two surveys of teens and adults released early this year by the Pew Internet Project found that nearly three-quarters of 12- to 17-year-olds who are online and an almost equal number of young adults (ages 18 to 29) use social network sites. In contrast, 40 percent of those who are over the age of 30 used social networking sites in the fall of 2009. (These findings emerge as part of a yearlong Pew initiative to develop a portrait of "generation next.")

Grazing With News

In this digital media environment, Americans have become news grazers but not aimless wanderers.

Most people are comfortable using a number of platforms for their news. On a typical day, according to our surveys, nearly half of Americans are drawn to news stories on four to six platforms, including online, TV and print. Most also turn to multiple sources within those platforms. Only 21 percent tell us that they tend to rely primarily on one destination; when asked if they have a favorite online news source, a surprisingly small segment of online news users (35 percent) say they did. These users are the most active in consuming news online—individuals who explore the greatest variety of topics online and use the greatest number of online sources.

Still, we found that online news grazers do not stray far. Fifty-seven percent rely mostly on two to five Web sites. Only 12 percent use more than six. They also turn to the Web for a wide variety of news topics. In our survey we questioned participants about 12 topics. Forty percent said they explored at least nine of them, with weather and national events being the most popular.

For now, legacy-based Web sites get most of the online news audience. The 35 percent with a favorite news site most often named Web sites of major national television news organizations such as CNN and Fox
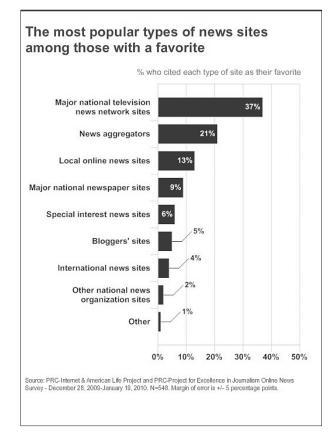
The young are most interested in many features

% of online news users who say these features are important

	All online news users	Age 18-29	Age 30-49	Age 50-64	Age 65+
Links to related material	68%	72% *	72% *	63% *	50%
Multi-media content like photo essays or video clips	48%	57% *	51% *	39% *	22%
Being a portal site or news aggregator that gathers news from all over the internet	48%	55% *	49% *	43% *	31%
Being able to easily share the sites news content with others, through emails or posting to other websites like Facebook	44%	57% *	45% *	35% *	24%
Being able to customize the news you get at the site	42%	48% *	46% *	34% *	25%
Interactive material like charts, quizzes, graphics, and maps that you can manipulate yourself	38%	45% *	39% *	31%	26%
Opportunities to comment on stories	37%	51% *	33%	33%	25%
Being able to follow the news site through social networking sites like Facebook or Twitter	25%	39% *	25% *	14% *	7%

* indicates a statistically significant difference.

Source: PRC-Internet & American Life Project and PRC-Project for Excellence in Journalism Online News Survey - December 28, 2009-January 19, 2010. N=1,582. Margin of error is +/- 3 percentage points.

The most popular types of news sites among those with a favorite

% who cited each type of site as their favorite

Major national television news network sites	37%
News aggregators	21%
Local online news sites	13%
Major national newspaper sites	9%
Special interest news sites	6%
Bloggers' sites	5%
International news sites	4%
Other national news organization sites	2%
Other	1%

Source: PRC-Internet & American Life Project and PRC-Project for Excellence in Journalism Online News Survey - December 28, 2009-January 19, 2010. N=548. Margin of error is +/- 5 percentage points.

The young are more interested than older Internet users in commenting on and sharing news stories, according to the survey results at left. Many online news consumers favor the sites of the major television news networks, as is shown at right. Charts courtesy of Pew Research Center's Project for Excellence in Journalism and the center's Internet & American Life Project.

News. In a separate analysis that the Project on Excellence in Journalism conducted this year using Nielsen's NetView database of online audience measurements, we found that Web sites tied to legacy news organizations like newspapers or cable stations attract 67 percent of the news traffic.

Yet there is evidence that this dominance could change. The next favorite kind of news site among those who have a favorite is a news aggregator such as Yahoo! News, Topix and GoogleNews. And when asked what sources people use on a typical day (not just their favorite site), portals top the list with more than half of those surveyed visiting daily. Among 18- to 29-year-olds, 68 percent typically access news aggregators for their news, and there are signs that they often go no further, deciding that all they need is the headline, byline and first sentence of text.

The implications of such emerging habits for both the content and financial strategies of those who report news and convey information are extraordinary. And mobile devices are adding yet another significant platform for audiences and bringing new information sources into the mix. Our survey illuminated this trend with a variety of responses:

• Twenty-six percent of Americans say they get some form of news today via a cell phone. That amounts to 33 percent of cell phone owners. (About 80 percent of American adults have cell phones.)
• There is every reason to think this number will rise significantly as more and more people get smartphones, such as the iPhone and those with Google's Android and Microsoft's Windows Mobile operating systems on them.

• In the topics mobile phone users seek out, weather again takes the lead, but news and information about current events comes in second.

Keeping an Eye on Readers' Habits

When it comes to figuring out who the new news consumers will be and where they will land, the Web is showing itself to be a place where visitors don't linger at any one place for very long. The in-depth examination of Nielsen's data shows that the average visitor to the top 199 news Web sites stopped there for only three minutes and four seconds per session. This represents a fraction of the time that readers, on average, have spent with a print newspaper; in the Northwestern University Readership Institute's 2008 study that examined newspaper and online reading habits

in 100 U.S. communities, people who read newspapers said that they spent an average of 27 minutes doing so on weekdays and 57 minutes on Sunday.

We will continue asking questions about people's digital media experience—and reporting what we learn—just as news organizations will add

to this knowledge base by observing and measuring their audience's habits. Another key component, though, which cuts across all platforms, is the content itself. Technology and consumer habits require adaptation and evolution, but journalists' fundamental role remains the same—reporting, assembling and

disseminating information the public seeks about their communities, our country, and our world. ∎

Amy Mitchell is deputy director of the Pew Research Center's Project for Excellence in Journalism.

Journalism: English for the 21st Century

'The two main drives in teenagers' lives are for independence and acceptance; our approach to journalism supports these drives through favoring freedom of expression and showcasing student work on a variety of public platforms.'

BY ESTHER WOJCICKI

In an age when many people, especially journalists, are worried about the future of the profession and of democracy, questions I'm asked on a regular basis include, "Why teach journalism since there are no jobs out there? Don't you feel guilty misleading your students?"

Good questions, but in fact journalism is not dying, at least not in Palo Alto, where I teach journalism at the public high school. The media program at Palo Alto High School is the fastest growing program in the school with more than 500 students out of a student body of 1,900 electing to take journalism on one platform or another. In fact, more students than ever want to participate. And the way I see it, journalism is alive and well throughout the United States; it is just changing platforms from paper to digital, and the majority of writers are no longer professionals but citizen journalists.

Twenty-five years ago journalism in Palo Alto was very different. When I first came to the school, 19 students were in the program and our school paper was put together on a typewriter and pasted up on a pasteboard with hot wax. Through the years, as technology changed, I added Apple computers

and Adobe software and the program grew. Between 1998 and 2005 as the numbers in my Advanced Journalism program exploded, I created four more programs and we hired four more teachers to handle the increased demand. Today we publish a two-section broadsheet every three weeks, and an 80-page feature magazine and an 80-page sports magazine every six weeks. (The publications are online at http://voice.paly.net.)

Our Web journalism program publishes daily, just as our television program broadcasts every day, and our video program teaches kids how to produce videos. In January the Palo Alto Board of Education approved a 24,000-square-foot two-story $11 million media center to house the program.

So why are all these kids electing to take journalism? What are we doing at Palo Alto High School to get students excited about learning to write when nationwide few students sign up for writing classes?

Here is the main reason: At Palo Alto High School, we respect the First Amendment and give students the full rights accorded them in the U.S. Constitution. That means they can write about issues of importance to

them. That means we respect their opinions and showcase their work in a variety of platforms.

I can hear people saying that freedom alone would not account for such large numbers of students. We must be doing something else. It must be teacher dependent. Don't be fooled by the simplicity of the answer; it is freedom. Sometimes it's good to just remind ourselves that there were people who risked their lives and gave up their homes to come here seeking the freedom to pursue the American dream, which includes freedom of speech and freedom of religion.

Freedom of Expression

That drive for independence and freedom is alive and well in our teenagers today; if we enable it in our schools, students will respond. Yet far too often schools squelch students' drive for independence and do what they can to control them. We teach to the test while failing to pass on to them skills relevant to the times and world they live in. Most schools do not allow their students access to an uncensored Web; this is a trait we usually ascribe to China and rarely acknowledge about ourselves. Schools even subscribe to

netTrekker and Gaggle, services that sanitize the Web. Cell phones are confiscated, and Facebook and other social platforms get blocked. Computers are used as word processors.

Certainly this isn't the case in every school or classroom. There are administrators and teachers who understand the power of the Web as a teaching tool and use the Internet as a source of information and the "cloud" to store documents. There are those who don't try to censor the Web for students, are

states, anything the principal deems inappropriate is removed and entire stories can be censored. Given these circumstances, is it a surprise that many students are not interested in taking journalism?

The Student Press Law Center writes about the Hazelwood decision and its impact on the present generation:

The Hazelwood decision is now two decades old. An entire generation has lived its entire

the budget. It brings the community into the school and the school into the community. Being involved in the advertising program teaches kids important skills about business.

The easiest way to pass on the skills and purpose of journalism is to have an online program, which is, after all, the future. Our digital journalism program is free—at least in the tools and supplies we need to run it. It costs the school nothing; in fact, our Web site makes money using Google Ad Sense and it provides a dynamic platform for showcasing student work. Digital journalism is the future so kids are learning how to publish on the Web using Blogger or WordPress. If they want to publish books, they can use print on demand services like Lulu, Blurb or Qoop.

Today's journalism curriculum can revolutionize English education by making the writing curriculum relevant and exciting. In the process, it can also train an entire generation of citizens—many of whom will be doing what

Students at Palo Alto High School publish a magazine called Verde that tackles issues such as whether California should legalize marijuana; The Viking, a magazine about high school sports that was founded in 2007; and The Campanile, a newspaper with roots that date to 1931.

familiar with Google Apps for Education, and encourage kids to use Flip cameras to make videos. They are the exception, however, and not the rule.

The two main drives in teenagers' lives are for independence and acceptance; our approach to journalism supports these drives through favoring freedom of expression and showcasing student work on a variety of public platforms. Yet in 43 of the 50 states students do not have legal protection to guarantee freedom of expression in schools. The Hazelwood v. Kulhmeier Supreme Court decision in 1988 gave administrators and teachers the right to "prior review" of student work, and that often leads to kids not being able to write about issues of importance to them. The states with laws that protect student free speech are California, Arkansas, Colorado, Iowa, Kansas, Massachusetts and Oregon. In other

academic life—and is now moving into the professional ranks—under Hazelwood's influence. Far too many of our future journalists, citizens and leaders unquestioningly accept that school administrators—government officials—should have the authority to dictate what they read, write and talk about. What this means for the future of press freedom in America remains unknown …

Journalism as Education

How can schools afford these programs when budgets are falling? All the print publications at Palo Alto High School are self-supporting through advertising from the community. The kids learn what it means to sell advertising, create ads, service an ad contract, and balance

journalists do today—to be responsible contributing members of the digital society. I see what we do in our journalism program as being a good way to teach all students important thinking and writing skills along with journalism 2.0 skills, which includes knowing how to use Creative Commons (CC) licenses to share, remix and spread creative works.

Creative Commons is a nonprofit organization that offers licenses allowing creators to specify which rights they reserve and which rights they waive for the benefit of other creators. Students in Palo Alto use a license each time they upload a story to the Web site; this means they license each story individually or not at all, and they are the ones who make that decision.

Critical thinking skills are essential for work in the 21st century, and journalism is all about picking out

what is important and figuring out how to write a lede. It's also a way to learn civic engagement skills; practicing journalism gets students involved in local, state and national issues. (Assignment: read two online papers daily and two magazines per week.) It's about teaching writing skills and motivating kids to write news, features, reviews, opinion. It's about learning grammar skills since writing can be an effective way to motivate kids to use grammar well. (With their byline there, they are motivated to make sure there are no errors.) It's a way to teach Web skills—how to search, blog, practice Web ethics, and share. Journalism also teaches kids how to collaborate both online and offline and how to work effectively with their peers both as leaders and as participants. These are skills employers are seeking in prospective employees.

All students need these skills, not just journalism students. I am so passionate about this notion that I piloted teaching journalism-Web skills in my ninth-grade English classes this past school year. The kids loved it. They said it was much more exciting to write opinion pieces about issues they cared about than the typical five-paragraph response-to-literature essay. They liked the curriculum so much that the majority of them are signing up for journalism next fall.

The students' response delighted me so much that I decided to write a grant proposal for a 12-week media curriculum that can be used either as a 12-week unit or individual modules to be spread over the year for ninth-through 12th-grade English or social studies. It's aimed at teachers who are interested in getting their students excited about writing and engaged as members of a digital generation. In May I was awarded a Knight Foundation grant to support the development of this journalism curriculum, an example of project-based learning that will be freely available under a CC license. This approach to classroom instruction is commonly used in countries such as Finland, Japan and Canada, in which students score the highest on the Program for International Student Assessment.

America is a nation that thrives on independence and on the entrepreneurial spirit. Yet our schools' curricula do just the opposite by driving teachers to teach to the test and kids to be effective multiple choice test takers. Let's offer our kids at least one opportunity in school each day in which they truly act with an independence of mind and with freedom to speak to the issues in their lives. That course should be journalism. ∎

Esther Wojcicki directs the journalism program at Palo Alto High School and is chairwoman of the nonprofit Creative Commons. She is a recipient of a John S. and James L. Knight Foundation grant in support of her work developing a project-based journalism curriculum for English or social studies classes.

E-Textbooks to iPads: Do Teenagers Use Them?

'… I didn't anticipate the heated debates we would have about the impact of these emerging digital platforms or the intensity of our discussions about the future of e-textbooks, journalism, and reading in general.'

BY ESTHER WOJCICKI

In February I happened across Josh Quittner's story "The Future of Reading" in Fortune magazine and thought students in my high school journalism and English classes would enjoy it since they are concerned about the future of journalism. I sensed that his article would be controversial—given his perspective that reading tablets are likely to revive print journalism's content—but I didn't anticipate the heated debates we would have about the impact of these emerging digital platforms or the intensity of our discussions about the future of e-textbooks, journalism, and reading in general.

Students hold strong and passionate opinions about e-textbooks. While a majority dislikes e-textbooks, about 20 percent believe that they are the future—and should be.

Perhaps I should have predicted such a reaction given that early in the school year many of these students had written a fiery editorial about e-textbooks in their social studies classes. In part it read, "… online textbooks hinder study habits and force the use of computers. … and are detrimental to learning and inconvenient." The edito-rial concluded with these words: "If the school wishes to cultivate the use of e-books, it should at the very least offer students the option to continue using the old, hardcover books."

I thought things had calmed down in the intervening six months as the students had become accustomed to using e-textbooks. Soon we discovered that was not the case. Several students said that the only reason they would want an e-textbook was if it has "added value, like videos or interactivity." "We learn better from real textbooks," most of them said. E-textbooks might work

better for math and science, some said, because it appears those e-textbooks are likely to be interactive.

At one point, we did a straw poll with the option of a free Kindle with all their books loaded on it or their old textbooks. The result: 100 percent voted for their heavy, old textbooks.

This overwhelming show of support for print on paper shocked me.

Students were adamant that it was "much easier to learn" from a textbook. (Several students did say that they don't like carrying heavy books.) With hardcover books, they told me, they can highlight sections and flip through and scan pages more easily; reviewing the highlighted pages helps them remember facts. Portability also was an important factor: With a textbook they could study in random places like at after-school games or practices or they could take it with them to a friend's house, and no one would ever want to steal it, unlike a Kindle. They said that digital devices in general were hard on the eyes, hard to read outdoors, required dealing with a battery, and are fragile.

Meet the Skeptics: Teenagers

I grew concerned that the students were classifying all reading material into the same category so I decided to break our discussion into four parts—textbooks, news, magazines, novels. This helped to clarify the issues and calmed the conversation. Here's their view of the other categories:

- **News:** My students overwhelmingly preferred the Internet. They want the story fast and short but they preferred to lounge about and read the newspaper on the weekends. They like to relax with the paper just as their parents do so they wanted both options. Kids claimed they read a greater variety of articles in newspapers; online, they read just what they target.

- **Magazines:** Timeliness was not an issue. "Who would want to snuggle up with a laptop on the beach or in bed to read a 2,000-word article?" they asked rhetorically. The answer among them was no one. They all liked the feel of paper and being able to flip through the magazine. They felt that magazines are a leisure activity and they like reading them in hard copy.
- **Novels:** Opinion was split on novels. Some kids thought they wouldn't mind using a Kindle; others said no. They said if they needed to

> My students overwhelmingly preferred the Internet. They want the story fast and short but they preferred to lounge about and read the newspaper on the weekends. ... they read a greater variety of articles in newspapers; online, they read just what they target.

mark up the book for school they would rather have a book.

Our discussions began before the iPad was released, and few students could afford to buy one once they went on sale. Some had gone to the Apple store to try it out and liked it but still did not feel compelled to buy one. Their general consensus was "It looks cool, but I don't know what I would use it for. It is too big to put in my pocket and I already have an iPod."

Even Steve Jobs has indicated that he isn't sure what consumers are going to use the iPad for, according to Lev Grossman in Time magazine. Those few students interested in buying one said things like they "want to be the first one to have it" or "it looks cool for games." But none want to read magazines or novels on it or get their textbooks on it. They don't see it as a "game changer," as Walt Mossberg wrote in his gushing column in The Wall Street Journal, "Apple iPad Review: Laptop

Killer? Pretty Close," parts of which I read to my students. Kids who had tried it at the store complained about the keyboard, about the fact that the keys are so big someone (like their parents) could see what they are typing, that it did not have Adobe Flash, and that they could not watch their favorite program on Hulu.

These kids do not see it as a replacement for their laptop or netbook but as a separate digital species that was as yet unclassified. Their main complaints are its size (too big) and that it isn't a phone. They see the iPad as a good device for games and something they would want to give to their grandparents who "need to have big type and like to look at pictures." They also think it would be a good device for their younger siblings since the screen is so big and they could access picture books.

As I listened, I wondered why they are so reluctant to progress. Do they really find it easier to learn from a textbook and more pleasant to read a novel they can hold in their hands? Only time will tell.

I asked my son-in-law, Gregor Schauer, an Internet analyst, for his thoughts on what I am hearing. "They are just wrong. ... just plain wrong. They don't know because they can't even conceptualize what is coming," he said. In the long term he might be right, but so far the teens in my classes don't even want to conceptualize. They are happy with their iPod, especially with its latest features.

Clearly the iPad arouses conflicting opinions, as New York Times technology columnist David Pogue observed when he wrote that "[in] 10 years of reviewing tech products ... I've never seen a product as polarizing as Apple's iPad." Pogue classified people into two groups: the haters, who tend to be techies, and the fans, who tend to be regular people. We can now add one more group: the skeptics, otherwise known as teenagers. ∎

The Future of News: What Ninth-Grade Students Think

Esther Wojcicki's ninth-grade students at Palo Alto High School, most of whom are 14 years old, wrote essays about "The Future of Reading," a Fortune magazine article by Josh Quittner that they read and discussed in class. Excerpts from four of these essays follow, and the complete texts are available at www.niemanreports.org.

The future of news will be online. Newspapers will slowly begin to put more resources into online media and spend less time designing their latest layouts for their paper newspapers. Most people read the news to get a better sense of what is happening around them. They don't read it for in-depth analysis of topics. Therefore, a quick scan of a short article is normally all that people desire. One of the reasons news will slowly move to the Web is because there are many news sources around the globe, each with their own viewpoints and subject preferences. Reading news online allows readers to read from multiple news sources and get multiple viewpoints without having to buy five different newspapers. Another reason is the fact that the news changes almost every day. People will not want to buy a newspaper every day to find out about (normally) boring news, such as if a dictionary wants to add an extra word to their tomes or if Comcast and ESPN are in an argument over profits, when they can just get news online for free. It is much more convenient to be able to read news online. Finally, advertising is much more effective online, where the advertisements are scrolling down next to the text. There they are visible yet unintrusive. In newspapers, the ads are normally grouped together in an advertisement section. Most people simply skip over this.
—Aaron Chum

The Internet Age will probably change news stories and publications the most. News stories do not need to be read thoroughly to be enjoyed, and the easy accessibility of the Internet makes it ideal for breaking news. Although some printed newspapers probably will still exist, they will be (and arguably have been) replaced by digital media. So now the real question is whether newspapers and news media companies will be able to adapt to the Internet more fully. The New York Times, desperate to save its sinking business, has decided to implement more pay-for-view articles on its Web site, and The Wall Street Journal requires online payment. Still, it is too soon to see whether people will want to pay for their news. Although it seems unlikely, Josh Quittner in Fortune magazine makes an interesting point: People will pay for media if they believe that the price is reasonable, simply because it is more convenient. Jimmy Wales, founder of Wikipedia, echoes this idea: "Anytime I want I can go on the Web to read the same content for free, but it's not really about that. It's about the package and delivery." Basically, if newspapers make a stronger effort to entice readers to want to pay for a service, readers will pay. However, a certain amount of adaptation will be necessary in order for news media corporations to remain relevant.
—Ana Carano

Adapt. This is the power behind the human brain. Humans have natural instincts to adapt to their surroundings. Their temptation to always receive more and more causes humans to create new and useful ways to benefit themselves. Literature has survived many centuries, from as long ago as the time of the Egyptians, but will the new technology change literature as we know it? Many people think that our current development in technology will kill reading, because one item after another is being digitized. Ranging from newspapers to textbooks, written text has been transferred to be accessible on computers and soon almost everything will become available online. People today all wonder how the future of reading will come to exist and whether books will survive our era of technology. The destiny of literature will change and configure over time, mainly affecting newspapers, textbooks and magazines. News will thrive further on the Internet, online textbooks will eventually cause personal computers to become a necessity for all students, and magazines will survive mainly in print, despite the growing technology.
—Diana Connolly

One area that is growing rapidly is online and digital news. Though there is still some debate about other media forms, news online is becoming the norm for many people these days. The Web is perfect for people who want to know the basics of a story. There even seems to be a different, shorter writing style developing specifically for online news, as "people typically spend two minutes or less on a site." However, this isn't to say that printed journalism will become entirely dead—it all depends on the type of article you're looking for. Here is the classic depth versus breadth issue, where Web sites provide lots of articles quickly while printed works let you actually learn about the story. In the near future it seems as if online journalism will become increasingly popular for its accessibility and speed, while print will become more of a leisure activity, unless you are looking for a lengthy article.
—Emily Rosenthal ■

News Literacy Project: Students Figure Out What News and Information to Trust

'Without a demand for quality journalism (on any platform) from the next generation, what future will it have?'

By Alan C. Miller

"People who are citizens in an information age have got to learn to think like journalists."
    —Kathy Kiely, USA Today reporter
    and News Literacy Project fellow

The News Literacy Project was conceived when I discovered that I could speak to my daughter's sixth-grade classmates about my job without embarrassing her.

In 2006, I spoke to 175 students at Thomas W. Pyle Middle School in Bethesda, Maryland about what I did as an investigative reporter for the Los Angeles Times and why journalism mattered. Julia's hug told me that I had succeeded with her; the thank-you notes that followed told me that I had connected with her classmates.

Concerned with both the implosion of the news business and the challenges posed to Julia's generation by the explosion of news and information sources, I began to think about the prospect of journalists, both active and retired, teaching students in classrooms across the country how to sort fact from fiction in a digital world. Two years after talking with those sixth-graders, I exchanged my 29-year newspaper career for a new journalistic mission.

That germ of an idea has evolved into a national program that recently completed its first full year in the classroom. In the 2009-10 school year, the News Literacy Project worked with 21 English, history and government teachers in seven middle schools and high schools in New York City, Bethesda and Chicago, reaching nearly 1,500 students. More than 75 journalists spoke to students and worked with them on projects.

We provide original curriculum materials that we adapt to the subject being taught. Whatever the underlying subject matter, our curriculum focuses on four pillars:

- Why does news matter?
- Why is the First Amendment protection of free speech so vital to American democracy?
- How can students know what to believe?
- What challenges and opportunities do the Internet and digital media create?

I hired Bob Jervis, the former head of social studies for the public schools in Anne Arundel County, Maryland to work with me to develop the curriculum materials. They are built around more

Alicia C. Shepard, ombudsman for NPR, was a guest lecturer for a News Literacy Project class in Bethesda, Maryland. *Photo by Alan C. Miller.*

PRthan 20 engaging activities dealing with topics as diverse as viral e-mails, Google and other search engines, Wikipedia and the news. Some can be done by teachers, some by journalists, and some by either. Teachers choose the ones that best fit their classes.

Some teachers have done the unit during just a few weeks; others have embedded it in their coursework throughout the year. They deliver it in three phases: initial activities and the introduction of our "word wall" of basic journalism and news literacy terms and concepts, presentations by two to four journalists to each class, and a culminating hands-on student project.

We train the journalists to concentrate on our four pillars, to use anecdotes and activities to engage the students, and to include extensive time for Q. and A. and discussion. Our local coordinators work with the journalists to plan their presentations and to connect them in advance with the teachers.

Our goal is to give young people the critical thinking skills to be better students today and better-informed citizens tomorrow. We also want them to appreciate quality journalism and to use it as the standard against which to measure all information.

One of our pilot projects was at Walt Whitman High School in Bethesda, Maryland, where we started with Advanced Placement (AP) U.S. government classes in the spring of 2009. This past school year we added English classes and reached about

Critical Thinking About Journalism: A High School Student's View
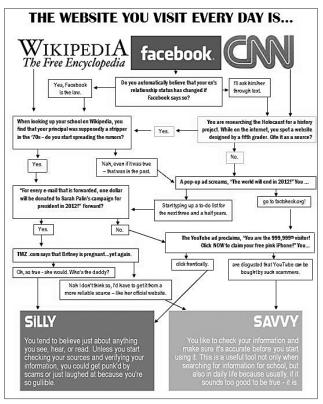
By Lucy Chen

In the spring of 2009, as I was daydreaming about warm weather and the smacking of flip-flops on the boardwalk, I was jolted back into reality by the start of a new unit in my Advanced Placement U.S. government class—the News Literacy Project. My teacher promised that it would be interesting and entertaining. I doubted him.

I was wrong; it was fun and fascinating. We learned a lot about topics such as the importance of accurate news reporting, the implications of the First Amendment's protection of free speech for journalists and ordinary citizens, guidelines for finding trustworthy information, and the challenges of living in a digital world. It was almost easy to pay attention because the lessons directly related to my life, my decisions, and my observations of the world around me.

Journalists came to speak with us, and they reinforced our learning by relating what we were studying to their own careers. Instead of reading a worksheet, we heard from Mark Halperin, a book author and political analyst for Time, who gave us examples of how the First Amendment has protected his work. Pierre Thomas from ABC News responded to our questions about the daily responsibilities and tasks of journalists. Thomas Frank of USA Today showed us how he uses primary source documents in reporting.

Interacting with these journalists changed how I view the process of gathering information. Now I appreciate a lot more the hard work that goes into digging for news. These

Lucy Chen created a quiz to test critical thinking skills learned in the News Literacy Project.

speakers described the responsibility they have to report the facts accurately and objectively, a task that is much more difficult than I thought it was. Sometimes people won't talk to reporters. At other times, figuring out exactly what happened turns out to be quite complicated. But a journalist's job is to find the information they need, decipher it, and convey a story coherently.

Occasionally, I had watched the evening news with my parents and read the newspaper, but I never fully realized the impact that news had on my daily life. And studying news literacy taught me how to gather and assess my own stream of information, whether it comes from a newspaper, a TV show, or the Internet.

Throughout this process, I grew more skeptical about the facts I read or hear, especially those I find online, where anyone can post information about anything. The guidelines presented in the unit helped me determine whether a source was accurate and reliable—and knowing this made me better at selecting information in an ever-widening sea of sources.

For my final project, I created a fun quiz that asked several questions based on critical thinking skills I had learned. The questions I used are ones I felt would help to judge a person's ability to select credible sources and reliable information, especially on popular Web sites that my peers visit frequently. One key aspect of my project is using common sense and not taking every fact online for granted. If something sounds too good to be true or if it sounds fake—it probably is. Based on the answers chosen, the quiz taker would be described as either a "silly" or "savvy" news consumer.

In addition to expanding my interest in journalism, the News Literacy Project taught me lessons that are proving to be useful in my English class, my interactions with people, and my daily newsgathering. And I knew they would be helpful in my first job. In fact, they already are. This spring I joined the staff of our high school paper. ■

Lucy Chen will be a junior at Walt Whitman High School in Bethesda, Maryland. She works on the school paper, The Black & White. Videos about her project and those of other students are online at YouTube.

625 students in the ninth, 10th and 12th grades.

"This is nirvana for me," English teacher Marilee Roche said. "I'd give up 'Hamlet' for this."

I've spent a lot of time in classes at Whitman. It's been exhilarating to see journalists connect with students and spark lively discussions about such issues as identifying bias, assessing fairness, and verifying information, whether for a research paper or an investigative report.

I've also learned a great deal about the students' own consumption habits, biases and views. They get a lot of information from social media or friends. Few read newspapers (either online or in print, even if their parents subscribe to one). Many don't follow the news at all and most aren't aware of the watchdog role of the press in a democracy. Before exposure to the project, few had any idea of the kind of reporting and vetting it generally takes to get a story into print or on the air.

I've also observed widespread distrust of the mainstream media. Students often feel that all journalism is driven by bias—political, commercial or personal. The students themselves frequently fail to distinguish between news and opinion in a media culture where those lines are increasingly blurred.

My experience has underscored the importance of the project's mission. Former colleagues and others have launched worthy efforts to find new ways to fund and deliver journalism in the digital age. But that is not enough. Without a demand for quality journalism (on any platform) from the next generation, what future will it have?

So, what does a news literacy lesson look like? Here are some snapshots:

- Gwen Ifill of "The PBS NewsHour" and "Washington Week" explaining how she handles bias: "I hope you never know what I think. I'm there to provide you the information so you can decide. I have to keep open the possibility that the other guy has a point. ... I have to be an honest broker."

- Sheryl Gay Stolberg of The New York Times describing how she spent the entire previous day nailing down a single name: that of the third gate-crasher at the infamous state dinner that President Barack Obama hosted for the prime minister of India at the White House in November.
- Peter Eisler of USA Today discussing accountability: "Never trust anybody who doesn't admit they make a mistake. Never trust anyone in life who doesn't admit they make a mistake."
- James V. Grimaldi of The Washington Post asking students what they knew about a shooting that had occurred near the school the previous evening, then pressing them on how they had learned this information, whether they believed it and why.

In one memorable presentation, Brian Rokus, a CNN producer, showed the students video excerpts from a report he did with Christiane Amanpour about the New York Philharmonic's trip to North Korea in 2008.

The students got a glimpse of a country without First Amendment protections of free speech. They saw the minders who shadowed the tightly restricted American journalists. Rokus also passed around a copy of The Pyongyang Times with its full-page paeans to the nation's "Dear Leader."

He then handed out an Associated Press report of a speech that President Obama had made to Congress and asked the students to cross out everything they would censor if they were the editor of The Pyongyang Times and Obama was the "Dear Leader."

Sometimes the lessons begin even before the journalist arrives. Prior to her visit, NPR ombudsman Alicia C. Shepard asked the teacher to ask the students to find out everything they could about her. When Shepard asked the students what they had discovered, one named the street on which she lived, another said she taught at American University and a third said she had attended her high school reunion. All three statements were wrong.

"You absolutely have to check out all information and make sure it's accurate," Shepard said. She then shared the journalistic maxim "If your mother says she loves you, check it out." (We've created our own "Check It Out" button with our logo that we ask teachers to present to students when they complete our unit.)

At times, our brand of authentic learning literally brings journalistic history into the classroom. Former Los Angeles Times foreign correspondent Tyler Marshall recalled the emotional scene when he covered the fall of the Berlin Wall in 1989. He then picked up and displayed two pieces of the wall that he had carried home. The students gasped.

At the end of our unit, we ask teachers to assign a hands-on project to demonstrate real understanding. Options include creating a newspaper, holding a mock press conference, or preparing an oral history.

The students at Whitman created a video, song, online game, board game, and other projects that reflected what they learned about news literacy—and presented it to the class. They showed that they absorbed the project's lessons and can find creative ways to collaborate and share them with their classmates.

As Colin Mealey and Adam Schefkind, two of the students, sang in their final project, "Wikipedia Rap":

It's really important to know what to believe.
You gotta know where and why and what to read.
Search your information and check it twice.
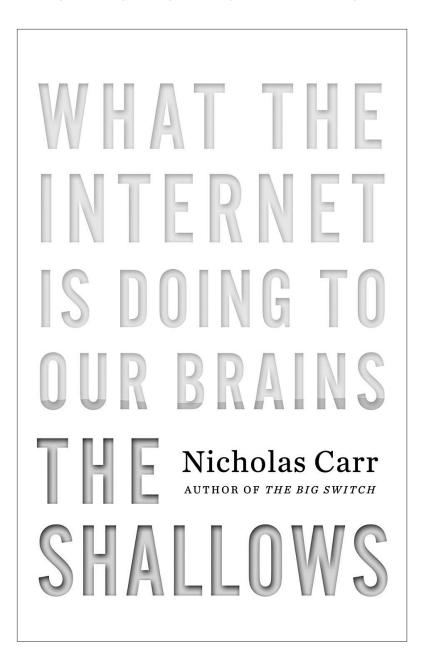'Cause getting it wrong will come at a price. ∎

Alan C. Miller is a Pulitzer Prize-winning former investigative reporter with the Los Angeles Times. He is the founder and executive director of the News Literacy Project.

News in the Age of Now

'On the Web, skimming is no longer a means to an end but an end in itself. That poses a huge problem for those who report and publish the news.'

BY NICHOLAS CARR

"Thought will spread across the world with the rapidity of light, instantly conceived, instantly written, instantly understood. It will blanket the earth from one pole to the other—sudden, instantaneous, burning with the fervor of the soul from which it burst forth."

WHAT THE INTERNET IS DOING TO OUR BRAINS

THE SHALLOWS

Nicholas Carr

AUTHOR OF *THE BIG SWITCH*

Those opening words would seem to describe, with the zeal typical of the modern techno-utopian, the arrival of our new online media environment with its feeds, streams, texts and tweets. What is the Web if not sudden, instantaneous and burning with fervor? But French poet and politician Alphonse de Lamartine wrote these words in 1831 to describe the emergence of the daily newspaper. Journalism, he proclaimed, would soon become "the whole of human thought." Books, incapable of competing with the immediacy of morning and evening papers, were doomed: "Thought will not have time to ripen, to accumulate into the form of a book—the book will arrive too late. The only book possible from today is a newspaper."

Lamartine's prediction of the imminent demise of books didn't pan out. Newspapers did not take their place. But he was a prophet nonetheless. The story of media, particularly the news media, has for the last two centuries been a story of the pursuit of ever greater immediacy. From broadsheet to telegram, radio broadcast to TV bulletin, blog to Twitter, we've relentlessly ratcheted up the velocity of information flow.

To Shakespeare, ripeness was all. Today, ripeness doesn't seem to count for much. Nowness is all.

The daily newspaper, the agent of immediacy in Lamartine's day, is now immediacy's latest victim. It's the newspaper that arrives too late. An enormous amount of ink, both real and virtual, has gone into diagnosing the shift of news from page to screen and the travails the shift inflicts on publishers and journalists. Yet when we take a longer view, the greatest threat to serious journalism may not be the Web. Instead, it may be found in changes already under way in the ways people read and even think—changes spurred by the Web's rapid-fire mode of distributing information.

It used to be thought that our brains didn't change much once we reached adulthood. Our neural pathways established during childhood,

common wisdom held, remained fixed throughout our mature years. We know now that's not the case. In recent decades, neuroscientists such as Michael Merzenich and Eric Kandel have shown that the adult brain is, as Merzenich puts it, "massively plastic." The synaptic connections between our neurons are constantly reweaving themselves in response to environmental and cultural shifts, including the adoption of new information technologies. When we come to rely on a new medium for finding, storing, and sharing information, Merzenich explains, we end up with "different brains."

Reading: Print to Web

For 500 years the medium of print has been training us to pay attention. The genius of a page of printed text is that nothing else is going on. The page shields us from the distractions that bombard us and break our concentration. The printed word allows us to "lose ourselves," as we've come to say, in a book, a magazine essay, or a long newspaper article. Print journalism, at least in its more serious forms, has shaped itself to the attentive reader. The layout of a paper makes it easy to skim headlines, but it also assumes that the skimming is a means to an end, a way to discover stories that merit deeper reading and study. A newspaper allows us to scan and browse; it also encourages us to slow down.

The Web promulgates a very different mode of reading and thinking. Far from shielding us from distractions, it inundates us with them. When we turn on our computers and log on to the Net, we are immediately flung into what the writer Cory Doctorow calls an "ecosystem of interruption technologies." The welter of online information, messages, and other stimuli plays, in particular, to our native bias to "vastly overvalue what happens to us *right now*," as Christopher Chabris, a psychology professor at Union College, wrote in The Wall Street Journal. We rush

toward the new even when we know that "the new is more often trivial than essential."

Unlike the printed page, the Web never encourages us to slow down. And the more we practice this hurried, distracted mode of information gathering, the more deeply it becomes ingrained in our mental habits—in the very ways our neurons connect. At the same time, we begin to lose our ability to sustain our attention, to think or read about one thing for more than a few moments. A Stanford University study published last year showed that people who engage in

Nicholas Carr's cover story provoked extensive debate in 2008.

a lot of media multitasking not only sacrifice their capacity for concentration but also become less able to distinguish important information from unimportant information. They become "suckers for irrelevancy," as one of the researchers, Clifford Nass, put it. [See Nass's article on page 11.] Everything starts to blur together.

On the Web, skimming is no longer a means to an end but an end in itself. That poses a huge problem for those who report and publish the news. To

appreciate variations in the quality of journalism, a person has to be attentive, to be able to read and think deeply. To the skimmer, all stories look the same and are worth the same. The news becomes a fungible commodity, and the lowest-cost provider wins the day. The news organization committed to quality becomes a niche player, fated to watch its niche continue to shrink.

The fervor of nowness displaces the thoughtfulness of ripeness.

There's little chance that technology will reverse course. With the growing popularity of instant social media services like Facebook and Twitter, the Web is rapidly moving away from "the page" as the governing metaphor for the presentation of information. In its place we have "the stream," a fast-moving, ever-shifting flow of bite-sized updates and messages. Everything we've seen in the development of the Net and, indeed, in the development of mass media indicates that the velocity of information will only increase in the future.

If serious journalism is going to survive as something more than a product for a small and shrinking elite, news organizations will need to do more than simply adapt to the Net. They're going to have to be a counterweight to the Net. They're going to have to find creative ways to encourage and reward readers for slowing down and engaging in deep, undistracted modes of reading and thinking. They're going to have to teach people to pay attention again. That's easier said than done, of course—and I confess that I have no silver bullet—but the alternative is continued decline, both economic and intellectual. ∎

Nicholas Carr writes extensively about the social, cultural and economic implications of technology. His latest book, "The Shallows: What the Internet Is Doing to Our Brains," was published in June by W.W. Norton. He is also the author of "Does IT Matter?" and "The Big Switch: Rewiring the World, from Edison to Google."

There's More to Being a Journalist Than Hitting the 'Publish' Button

For better or worse, the Internet is 'biased to the amateur and to the immediate.'

By Douglas Rushkoff

First they came for the musicians, and I did not speak out—because I am not a musician. Then they came for the filmmakers, and I did not speak out—because I am not a filmmaker. Then they came for the journalists, and there was no one left to speak out for us.

In a media universe that for so many decades, even centuries, seemed stacked against the amateur, the Internet has made a revolutionary impact. Previously, the only law of physics that seemed to apply to the top-down, corporate-driven media space was that of gravity. King George II, William Randolph Hearst, or even Rupert Murdoch would decide what the public should believe and then print that version of reality. And inventions from the printing press to radio, which once seemed to be returning media to the people's hands, were quickly monopolized by the powers that be. Renaissance kings burned unauthorized printing shops, and the Federal Communications Commission tilted the radio spectrum to corporate control. Our mainstream media seemed permanently biased toward those in power as well as toward whatever version of history they wished to record for posterity.

But at least at first glance the Internet seems to be different. It is a biased medium, to be sure, but biased to the amateur and to the immediate—as if to change some essential balance of power. Indeed, the Web so overwhelmingly tilts toward the immediate as to render notions of historicity and permanence obsolete. Even Google is rapidly converting to live search—a little list of not the most significant, but the most recent results for any query term. Likewise, our blog posts and tweets are increasingly biased not

just toward brevity but immediacy—a constant flow, as if it is just humanity expressing itself.

And this notion of writing and thoughts just pouring out of us is also the premise for the new amateur journalism. It is nonprofessional in both intent and content—as close to what its writers believe is an unfiltered, pure gestalt of observation and self-expression. As if the time taken to actually reflect or consider is itself a drawback—or at the very least a disadvantage to whoever wants to be credited with starting a Twitter thread (as if anyone keeps track). Of course writing—whether considered or not—is most definitely never a direct feed from the heart or soul but rather the use of an abstract symbol system, highly processed by the brain and no more gestalt than solving a math equation.

The real difference between the Net and traditional writing is the barrier to entry. Before computers, journalists had to use typewriters—with no cut/copy/paste functionality. Typewritten articles and manuscripts couldn't be corrected—they had to be rewritten from scratch. Almost no one enjoyed this process, which actively discouraged all but the truly dedicated from attempting to write professionally. Now not only is writing much easier, but distribution is automatic. Writing something in an online environment means being distributed from the moment one hits "publish." It's not a matter of how many people actually read the piece; it's a matter of how many could.

Which gets to the heart of the misconception leading to the demise of professional journalism: People believe their blog posts and tweets may as well be interchangeable with those of the professional journalists

with whom they are now competing for attention. Dozens of times now I have fielded these same questions after my lectures—What makes some newspaper columnist's writing any more important than their blog? With cameras and keyboards in phones these days, why do we even need reporters? Won't someone see and report?

What Makes a Journalist?

What these honest questions don't take into account is that a professional journalist isn't just someone who has access to the newswires, or at least it shouldn't be. A professional newsperson is someone who is not only trained to pursue a story and deconstruct propaganda, but someone who has been paid to spend the time and energy required to do so effectively. Corporations and governments alike spend hundreds of millions of dollars each year on their public relations and communications strategies. They hire professionals to tell or, more often, obfuscate their stories. Without a crew of equally qualified—if not equally funded—professionals to analyze and challenge these agencies' fictions, we are defenseless against them.

And thus, we end up in the same place we were before—only worse, because now we believe we own and control the media that has actually owned and controlled us all along.

First off, our misguided media revolutionaries are mistaking access to the tools for competency with the skills. Just because a kid now enjoys the typing skill and distribution network once exclusive to a professional journalist doesn't mean he knows how to research, report or write. It's as if a teenager who has played Guitar Hero got his hands on a real Strato-

caster—and thinks he's ready for an arena show.

Worse than the enthusiastic amateurization of writing and journalism is that the very same kinds of companies are making the same money off this writing—simply by different means. Value is still being extracted from everyone who writes for free—whether it's me writing this piece or a blogger writing his. It's simply not being passed down anymore. Google still profits off the ads accompanying every search for this article. Likewise, every "free" video by an amateur requires that amateur to buy a camera, a video-capable laptop, editing software, and a broadband connection through which to upload the completed piece onto Google-owned YouTube, along with certain rights.

Value is still being extracted from the work—it's just being taken from a different place in the production cycle and not passed down to the writers or journalists themselves. Those of us who do write for a living are told the free labor will garner us exposure necessary to get paid for something else we do—like talks or television. Of course the people hiring us to do those appearances believe they should get us for free as well since they're publicizing our writing.

Worst of all, those of us still in a position to say something about any of this are labeled elitists or Luddites—as if we are the ones attempting to repress the natural evolution of culture. Rather, it's the same old spectacle working its magic through a now-decentralized media space. The results—ignorance, anger, and anti-elitism—are the same.

The pen may be a mightier tool than the sword, but not when we're using it to lobotomize ourselves. ∎

Douglas Rushkoff is the author of 10 books on new media and popular culture, a technology columnist for The Daily Beast, media studies teacher, and documentarian. Earlier this year as a correspondent for the Frontline TV/Web project "Digital Nation," he explored what it means to be human in a digital world.

Categorizing What Works—So We Can Apply Those Lessons to Future Endeavors

As journalism heads into digital territory, an exploration of online news sites reveals 100 that offer promising pathways.

BY MICHELE MCLELLAN

"[The] death of a huge tree is not the death of a forest … The ecosystem will continue and if any gaps exist, people will move in to fill them."

Eric Newton, who is now vice president for the journalism program at the John S. and James L. Knight Foundation, said these words more than a decade ago when the sale of the Examiner foretold its demise. What he said is apt today as we watch tall trees of old growth journalism wither and even die.

As this happens, it is crucial that we mark what is at risk and find ways to support them, such as labor-intensive watchdog journalism and long-form narrative, each of which binds us across differences.

But it is equally important for us, as journalists, to mark the shortcomings of late 20th century journalism: our lack of inclusiveness, the banality of a lot of what we produced, our significant loss of credibility and relevance. We failed to engage our communities, and as long as the ad dollars flowed we didn't feel much pressure to do so.

The Web changes what we do—and our relationships. We can now interact locally and globally in ways we never could in old growth newsrooms. Given these possibilities, I am turning more of my attention from tall tree newsrooms, where I spent nearly 30 years, to the emerging news organizations I fondly call the "sprouts." These sprouts are part of our chaotic, dynamic news ecosystem today. Many won't survive, but some will. Most won't be very impressive, at least at first, as Clay Shirky observed in the 2009 commentary he published on the Web, "Newspapers and Thinking the Unthinkable":

Nothing will work, but everything might. Now is the time for experiments, lots and lots of experiments, each of which will seem as minor at launch as Craigslist did, as Wikipedia did, as octavo volumes did.

There is no telling which sprouts will flourish and which will die. But it's probably far too pessimistic to say flatly that none of today's sprouts will ever replace any of our trees. I've been spending quite a bit of time with the sprouts. I advise and coach community news startups for the Knight Foundation's Community Information Challenge. At Knight Digital Media Center, I develop training programs for news leaders—broadly defined to include fledgling entrepreneurs and small nonprofits along with newsroom and corporate executives.

As a recent fellow at the Reynolds Journalism Institute (RJI) at the University of Missouri School of Journalism, I developed a list of promising online news sites. To do this, my research partner, Adam Maksl, a journalism doctoral student, and I reviewed more than 1,000 sites to come up with our list of just over 100 promising sites that seem to be getting traction in developing content and revenue streams. Our criteria for inclusion focused on the production of original news in ways that attempt to be fair and transparent. And these Web sites had to demonstrate effort in finding a sustainable revenue model.

Taking this digital journey helped us to better understand the emerging landscape as well as what it will take to support the new news organizations. And it organized our thinking to the point where we came up with categories for the various approaches we found. Here are those listings—with descriptions we developed:
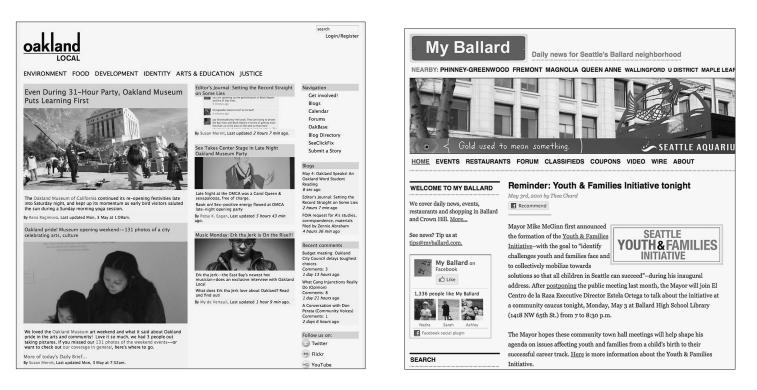
- **New Traditionals:** These sites are dominated by original content produced by professional journalists. While the newsroom staff may be smaller than in a traditional newspaper newsroom, these sites tend to have more journalists on staff than community or microlocal sites. Many are embracing digital connectivity with their users, but traditional journalism is their bread and butter. Most of these sites, such as the Texas Tribune and Voice of San Diego, started with grant funding and are searching for a viable revenue model, perhaps one that mixes memberships, grants, donations, sponsorships, syndication and advertising.[1]

- **Community:** These sites, such as Oakland Local, often rely on professional journalists but they tend to be bootstrappers who also focus on community building—actively seeking user feedback and content, writing in a conversational tone,

and fostering civic engagement with practices such as voting, calls to action, and partnerships with local organizations and activists.

- **Microlocal:** Sometimes called "hyperlocal," these sites provide highly granular news of a neighborhood or town. They may have a tiny staff—one or two people plus interns or citizen contributors—usually supported by highly local advertising. Examples are The Rapidian, Capitol Hill Seattle Blog, and My Ballard.

- **Niche:** These sites, such as Seattle/LocalHealthGuide and Fresno Famous, focus tightly on topics such as restaurants and entertainment, health and medical news, environmental or political coverage, consumer and shopping information. Revenue may come from advertising, subscriptions or syndicating content.

Though our primary focus falls on these four categories, they do not

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[1] Additional examples of New Traditionals can be found in the Spring 2009 issue of Nieman Reports at www.niemanreports.org.

The Oakland (Calif.) Local and My Ballard, which covers a neighborhood of Seattle, are among the promising online local news entities identified in McLellan's and Maksl's study of 1,000 sites.

represent the entire universe of local news online. Additional categories include mini sites, which tend to be idiosyncratic in the selection of stories they cover and not highly aggressive in finding revenue; local news systems, which are highly local, low-cost sites that are created with a regional or national template, often by a corporation (AOL's Patch, for example); and aggregators who curate and link to other sources.

After the List: Next Steps

At RJI, we're completing a telephone survey of the 100 online publishers on our list. The 60 online publishers who have responded to date say producing original news and engaging community are their top priorities.

Here is how a couple of online publishers describe their mission:

- We promote discussion and conversation of these topics as part of our

mission. As far as taking an activist role, that's not what we're doing. We are looking to spur discussion as compared to promoting our side of a particular issue.

- We're not advocates so we tend to focus on the information side more than what people are doing with the information. We do care what people are doing with the information, but our site is not designed to revolve around it. We provide a forum for our readers either to post stories or make comments on other stories. It is kind of like a town square.

Out of our research, we are finding some common ground. Four areas worth mentioning are:

- Nearly half of the sites rely on paid staff, with students and interns as a secondary source of content. Volunteers or user uploads are widely viewed as unreliable sources of content.

- Online community publishers cite comments and social network integration as the most effective ways to engage users.
- Journalists are working with community members to create news sites. No more bloggers vs. old media. It's all about partnerships and networks.
- Most are struggling with sustainability and developing revenue sources that include advertising, memberships, syndication, grants and donations. Charging for access is rarely seen as an option.

We expect to post detailed survey results in late June. Find us at www.rjionline.org. ∎

Michele McLellan, a 2002 Nieman Fellow, was a 2009-2010 fellow at the Reynolds Journalism Institute at the Missouri School of Journalism. She writes the Leadership 3.0 blog for the Knight Digital Media Center.

Establishing a Digital Value for Watchdog Reporting

'Our impulse as digital journalists is to innovate—and this means finding stories that aren't being covered by other news media in Baltimore and doing what we can to illuminate them in ways that propel people to act.'

By Stephen Janis

My cell phone rang at roughly 11 p.m.

"Turn on the television," said a man I'll call Michael, an employee of the Baltimore City Department of Public Works (DPW). "That's Dennis! They arrested Dennis!"

I didn't know who Dennis was, but Michael doesn't make late-night calls to pass along trivial information. For several years he had alerted me to acts of malfeasance inside the city agency responsible for everything from filling potholes to managing the Baltimore region's water supply.

"That's him," he said. "He works for the department; that's Dennis McLaughlin, man."

On the screen flashed a mug shot of a heavyset bald man, his rounded face punctuated by a droplet-sized goatee. Indeed, a Dennis McLaughlin had been arrested for impersonating a police officer. Using a phony badge and a dashboard-mounted beacon, he had pulled over two young women in Baltimore County, placed one under arrest, and then began fondling her. The victim managed to escape. Through a partial reading of his license plate,

police tracked him down and charged him with a number of offenses, including impersonating a police officer, false imprisonment, and assault.

On the Richter scale of newsworthiness, impersonating a police officer is mildly catastrophic. But if McLaughlin were a city employee, the story was several degrees more enticing, especially to my City Hall-centric audience. As I checked through the numerous news stories about his arrest (and other misdeeds), I found not a single mention of his city job. My curiosity piqued, I decided to dig a little deeper into

McLaughlin's background, prompted in part by my source, who said that McLaughlin had taken an eight-month leave of absence recently for a hernia operation, an absence rumored not to be related to a medical issue at all.

Using a list of city employees I'd obtained while working on a story documenting some significant city spending on employee overtime, I found a Dennis McLaughlin listed on the city's 2008 payroll. According to these records, McLaughlin had earned a salary of roughly $26,000, including $4,508 in overtime. It was not the full annual salary for his position, but more than one would earn with extended leave.
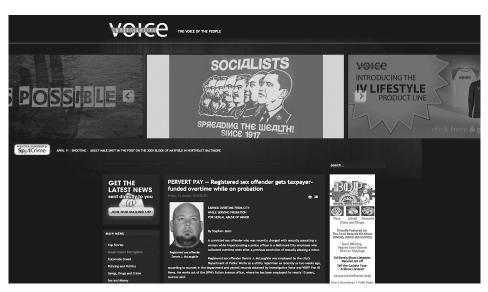
A quick check of his criminal record revealed something even more intriguing: McLaughlin had been sentenced to 18 months in prison in 2007, meaning it was possible that he was in jail at the time that city payroll records indicated he was earning a salary of $21,000 a year, plus $4,500 in overtime.

How Could This Be Possible?

With a bit of digging, helped by my source and David Scott, the director of public works, I determined that McLaughlin was not only on the city payroll while in jail, but collected sick pay while serving an eight-month sentence for sexually abusing a minor. It also turned out that McLaughlin had help: someone had submitted fake leave slips, signed by a doctor stating that he was receiving medical attention.

These discoveries and quite a bit more—for example, DPW supervisors had threatened to fire an employee who discovered that McLaughlin was on the state's Sex Offender Registry—were published in a series of stories on Investigative Voice, the Web site where I work as a senior reporter and content director. Baltimore's inspector general opened a departmentwide probe, and the city solicitor ordered a citywide review of personnel policies

related to criminal convictions and the employment of sex offenders in jobs that bring them into contact with the public.

This was not the first time that our Web site, dedicated to watchdog journalism, broke a fairly major story. Our small staff regularly breaks stories, including a recent series on the city pension board's taking luxury junkets.

Investigative Voice plays a watchdog role in its coverage of Baltimore city government, such as the story it broke about a municipal worker who was on the city payroll while in prison.

The Digital Difference

Other than our partners at WBFF, the Baltimore Fox affiliate, no other news organization in Baltimore covered the McLaughlin case or the pension board's antics. I mention this absence of a media chorus because about the same time we were publishing the McLaughlin story, the Pew Research Center's Project for Excellence in Journalism (PEJ) published a study on Baltimore media, which concluded that Investigative Voice (lumped in with other "new media" news outlets) was all but irrelevant to the city's news flow.[1]

The PEJ study focused on six high-profile stories from one week of Baltimore's news coverage in July

2009. The stories were tracked as they moved through various news outlets and into the public arena. The idea was, according to PEJ, "to see how the ecosystem moved, how information traveled from one sector to another, who initiated the news and who was first to transmit and frame the narratives that the rest of the media followed."

Here are some of PEJ's conclusions:

- Among the six major news threads studied—which included stories about city budgets, crime, public buses, and the sale of a local theater—83 percent of stories conveyed no new information. Of the 17 percent that contained new information, nearly all came from traditional media either in print or online.
- General interest newspapers including The (Baltimore) Sun produced 48 percent of those stories and other print publications, namely business and law newspapers, produced another 13 percent.
- Online outlets or broadcast news

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[1] "How News Happens: A Study of the News Ecosystem of One American City," a look at Baltimore media by the Pew Research Center's Project for Excellence in Journalism, can be found at www.journalism.org/analysis_report/how_news_happens.

provided very little original reporting or new information.

- In two cases new media broke news. In one, the police Twitter feed broke a story, an example of what is traditionally a newsmaker breaking news directly to the public rather than through the press. In the other, a local blog picked up a story that the mainstream press nearly missed entirely. It involved a plan by the state to put listening devices on buses to deter crime. A newspaper reporter noticed the blog post, then reported on the story, which led the state to drop the plan.

Because of the governmental watchdog reporting we do at Investigative Voice, I was distressed by the implied assumption in the study that the purpose of a Web site like ours is to replicate what our print brethren is doing.

Yet folks at Investigative Voice and other Web sites like ours are rethinking how to keep a watchful eye on city government agencies, personnel, policies and practices in a ways that will have impact. The old assumption is not our starting point.

Had the PEJ researchers asked, I would have explained that our goal isn't to duplicate or follow stories that are already widely reported. My reporting partners—Regina Holmes, a colleague from the now-defunct Baltimore Examiner, and former Sun reporter Alan Z. Forman—do not work seven days a week for minuscule pay to proffer a watered-down version of a legacy paper or TV news.

Our impulse as digital journalists is to innovate—and this means finding stories that aren't being covered by other news media in Baltimore and doing what we can to illuminate them in ways that propel people to act. While we take full advantage of our digital platform, we adamantly uphold the basic tenets of investigative journalism. What set us apart, however, are our homepage's outsized graphics and our investigative mission; in both, we aim for a different model of social influence within the community.

'Social Model' of Investigative Journalism

What we call our "social model" of investigative journalism is showing signs that it's working for us—and readers. And what we've learned in trying this approach can shed light on the future of newsgathering and its distribution in the digital domain.

At Johns Hopkins University, I taught a course on the disassembling of the music business that was precipitated by the birth of the file sharing. This collapse is similar in ways to the economic unraveling of journalism today. We studied a concept called "object relation" that refers to the set of cultural relationships, in this case, stemming from the distribution of music. Put simply, the technology—the compact disc—served as a gateway of sorts, forming an implicit cultural contract that organized the artist, listener and promoter around a process of disseminating new music to a receptive audience.

In the newsgathering business, the object relation is, of course, the newspaper. To a certain extent, the newspaper created a loose barrier to entry, a quasi-monopoly on the conveyance of print news. The paper also established itself as an aggregator of information and a portal for community events—qualities that the World Wide Web challenged. But the newspaper and its limited space also imposed a de facto discipline, a parsing of choices and a distinction of purpose that heightened the relevancy of print reporting.

The mantra of the Web is about capturing eyeballs by embellishing sites with bells and whistles to draw in multitudes of visitors. This strategy is premised on the idea that a huge audience brings in advertising dollars, which is a relic of old media thinking. In practice, this approach translates into ad revenues that turn out to be utterly worthless in relation to the cost of creating the content that would lure an adequate audience. For example, Advertising.com offers 30 cents per 1,000 impressions. Do the math and even a daily audience of one million

page views translates into $300 for a single ad per day—hardly enough to run a newsroom that would be capable of attracting a million readers, even with multiple ads placed throughout the site.

This is why Investigative Voice has constructed a different approach revolving around a well-defined and articulated expectation about the stories we cover and aggressive graphics to display them. We parse, organize and emphasize with the idea that the worthiness of our efforts will be measured by the influence and relevance of our reporting. Thus, if we return to the idea of object relation, our digital approach is constructed on concision and appearance.

The Impact of Reporting

After Investigative Voice's reporting on the McLaughlin story highlighted deficiencies in the city's handling of municipal employees on sick leave who are facing criminal charges, the Inspector General's (IG) office launched a probe. The IG's 17-page report on the investigation was handed over to prosecutors for possible criminal charges. The report revealed that McLaughlin fraudulently received $12,700 in sick pay while in jail. In response, Mayor Stephanie Rawlings-Blake closed a loophole in the city employee manual when she signed an executive order requiring all city employees to inform their supervisors when they are arrested. Failure to do so may result in termination.

Our consistent focus on this scandal, coupled with bold, eye-catching two-word headlines (white words set against a black background), provocative subheads, and information-laden captions reinforced our emphasis on watchdog reporting and lent authority to the investigation as it unfolded on our Web site. In some ways, our digital approach harkens back to the heyday of newspapers in the early 1900's when boys hawking papers shouted out headlines designed to catch the attention of passers-by.

Economically, this translates into an ability to market our influence

with readers and advertisers in a qualitative rather than a quantitative way; impact and influence triumph over eyeballs and clicks. By breaking watchdog news and delivering investigative reporting, our relevance to those who live in Baltimore has become the value we sell to advertisers. As our relevance increases, so too does our ability to engage advertisers and attract readers in ways that will make our fiscal survival possible. (Of course, as I mentioned, our staff is small, our hours long, and let me add

here that our compensation is lean.)

It is building this social infrastructure—and creating distinctly new relationships with readers—that is key to acclimating people to new ways of consuming news. Similarly, the carving out of a distinctive digital space and mission will be what creates the path to viability for those of us in the business of reporting the news. Our stories have to be relevant to readers so that what we produce gets embedded into their daily lives one link at a time. Then it's up to them to decide if

we've earned their trust to the extent that our survival is something they care about—and care about enough to see that it happens. ◼

Stephen Janis is a senior reporter and content director of Investigative Voice (www.investigativevoice.com), a Web site dedicated to investigative reporting about government in the city of Baltimore. He will be teaching journalism at Towson University this fall.

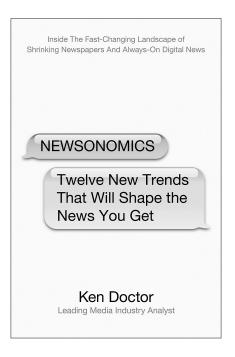# A Message for Journalists: It's Time to Flex Old Muscles in New Ways

'We'll learn by trying new ways of doing what we've done with news, by putting ourselves visibly in the social media mix, and by using the emerging tools of daily communication in all aspects of our work.'

BY KEN DOCTOR

In the early 1990's, I became managing editor of Saint Paul, Minnesota's Pioneer Press, a proud Knight Ridder newspaper locked in mortal daily combat with Minneapolis's Star Tribune, just across the river. I recall well the day when I had to make my first tough calls—the news we were going to place prominently on Page One and the news we weren't. I felt an odd mix of exhilaration and fear.

I was the final arbiter of what would greet several hundred thousand people who picked up the paper each morning. What if I chose wrong? So I focused on choosing right, and with that confidence grew the assumed power and nonchalant arrogance of the gatekeeper. That's what top editors were, and still are, though their power is diminishing each day by weakening print circulation and an odd feeling of being on the losing side in history's march into digital journalism.

In this hybrid era of straddling print

Inside The Fast-Changing Landscape of
Shrinking Newspapers And Always-On Digital News

NEWSONOMICS

Twelve New Trends
That Will Shape the
News You Get

Ken Doctor
Leading Media Industry Analyst

and digital publishing, the role of the gatekeeper has markedly morphed. It's shifted from "us" to "them," but

"them" includes a lowercase version of "us," too. Gatekeeping is now a collective pursuit; we've become our own and each other's editors. I picked this idea to be the lead trend in my book "Newsonomics: Twelve New Trends That Will Shape the News You Get," published earlier this year by St. Martin's Press. I called the chapter "In the Age of Darwinian Content, You Are Your Own Editor," and since I named it I've never regretted giving it top billing.

Consider recent supporting evidence:

• The Pew Research Center's Project for Excellence in Journalism and the center's Internet & American Life Project reported that 75 percent of online news consumers in the United States get news forwarded through e-mail and posts on social sites. Fifty-two percent share links to news stories via social media.

- Research I conducted in July 2009 with Outsell, a research firm focused on the publishing industry, showed that of those Americans who use social sites, some 49 percent said they used Facebook for news. Twenty percent used Twitter.
- Those little bit.ly URLs, shortened for Twitter, are now driving more than two billion visits a month.
- My own anecdotal research talking to news companies shows that social sites are the fastest-growing source of traffic to news sites, "referrers," in Web lingo. The Wall Street Journal says it's getting about 7 percent of its traffic from social sites. The phenomenon, like digital media, is global: Mexico City's El Universal tells me social sites drive more than 15 percent of traffic.

Social Trumps News

Twitter for news? Facebook for news? Just as we were getting used to saying "Google News"—remember how odd that sounded five years ago?—we find ourselves in the midst of a new revolution. Now we have to figure out—and act on—the socialization of news. With social media, the serendipity that came with turning pages and suddenly discovering a gem of a story that an editor put there happens in new ways. We're re-creating such moments ourselves, each of us—individually and collectively—as we tout stories and posts to each other. A friend e-mails us a story; we might read it, time permitting. We get the same story from three people, and chances are good that we'll carve out time to take a look.

It's a different notion of serendipity, and for some people, it doesn't equate, but it is what it is in this digital space. And here's the difference: With social media the chances are good that like-minded friends—not to be confused with the strangers who were news editors—recommend a story because they believe you'll be drawn to either its topic or argument.

We now see the early experiments to harness this new power. CNN, The Washington Post, and ABC News are turning the Facebook phenomenon to their advantage. Using Facebook's extensions, these sites' readers can see what stories their networks of friends like—and thereby recommend. It's a new serendipity—and one that leverages the digital world as it works, not as some journalists wish it would.

We're experiencing a loose democratization of gatekeeping—reinvented on the fly and in the ungainly ways typical of the digital revolution—and therefore we should expect such innovations to have legs. In December 2009, Nielsen Company reported that the average American spent six hours and nine minutes on social sites, up 143 percent in just a year.

It's About Me

Is this about Facebook? No, I think it's about something near and dear to all of us: me. Some might recall that back in the '90s news sites actively promoted "make us your homepage" buttons in the (misguided, it seems) belief that online news sites would be a center of digital readers' lives, as the daily newspaper had long been. Instead, as things turned out, digital places like Facebook organize our lives around, well, us.

Stated simply: I am the new homepage. Stuff gets to our pages in all kinds of ways, including the semi-serendipitous sharing. All of this, while interesting, might be just prologue. News aggregation is young on Twitter or Facebook, and even on the old folks, Google and Yahoo!. Very first-generation, very primitive, and done by amateurs for amateurs, largely.

So a looming question is who will emerge to lead the younger generations in bringing content together? Creating hybrid products? Weaving news onto social platforms? Socializing on a news platform? Other yet-to-be envisioned iterations?

Journalists ought to be among those who embrace these challenges—make them part of what they think about and do every day, and have their experimentation go beyond their own participation as individuals in this social sphere. We'll learn by trying new ways of doing what we've done with news, by putting ourselves visibly in the social media mix, and by using the emerging tools of daily communication in all aspects of our work. It's not enough to watch from the sidelines or even to try to mimic what kids do.

News in Social Media

The social dynamics of news will undoubtedly lead us into uncharted waters. And there will be business implications yet unimagined, some that look less rosy for our profession than others. So we are faced with how we can best prepare for inevitable adjustments as we think about how activities related to news reporting and storytelling can benefit and how we can strategize wisely about ways to deliver the news.

From the perspective of business, it's likely we will soon see the news industry percolate with ideas about social media optimization, just as search engine optimization grew greatly as a business proposition during the last decade. Issues to think about: How do we write headlines with the dynamics of social media in mind? What's the best way to encourage retweets? How do we utilize the "liking" strategies that showed up recently on Facebook?

In some news organizations, editors are leading the way as they encourage—in some cases, even mandate—that reporters and writers promote their stories (and themselves) routinely through social media. And this makes sense; experimentation and testing is now happening so it's important for journalists to carry their principles into this social media environment, even as they keep a watchful eye out for useful practices.

The challenge for editors goes beyond their participation and exhorting their charges to do the same. Return, for a moment, to consider the editor's customary role as gatekeeper—and think about the most valued attribute of the job. It went by various names and phrases—judgment, news sense, news judgment—but at its core, the job was about these things

(and more): What makes a good story? When and how to push a reporter to take a story deeper? When to publish it? When to wait? Where to place it?

Today, things work differently. The attitude—as well as the mechanics—for attracting readers has to change. It's no longer "take my judgment on the day's news or good luck finding another local daily." And even though readers are no longer captive to what an editor decides, people still want some help when it comes to deciding how and where to look for the news they value.

Go ahead and call it gatekeeping, but think of it with a different slant when it comes to flexing those well-honed news judgment muscles. These days editors have a much bigger bank of news and features on which to draw. It's not just what staff reporters and wire copy offers; it's the entire Web of content. Some editors connect—and

collaborate—with local bloggers and hyperlocal Web sites. Others go in search of health or travel or financial news to fill holes in—or supplement—their coverage. These largely exist as modules of other people's content floating in a sea of the news site's own content.

The natural and next step would be smart aggregation. This means figuring out how to guide visitors to the best content—so here's another place where judgment comes in. It can be organized—with social media sensibilities in mind—by locality or topic, by its social currency or its perceived value as news. Offer packages of content, some produced by your news organization, some by others. Help visitors find them, then make it easy, as many sites already do, to share what they find on Facebook or whatever popular social media site

comes along.

It comes down to this: Use old muscles, but flex them in new ways. Tweet, yes, and post on Facebook walls, but perhaps with different messages tailored to each social venue. Keep those old world skills in mind—and yes, hold onto your news judgment, while adapting to the digital demands of readers. ◾

Ken Doctor is the author of "Newsonomics: Twelve New Trends That Will Shape the News You Get," published by St. Martin's Press, and a news industry analyst for Outsell, a global research and advisory firm. On his Web site, Newsonomics.com, he tracks the transformation of the news media, focusing on changing business models and the journalism created.

Twitter: Can It Be a Reliable Source of News?

'I came to understand that there is a science to this quest for creating the right network. It's an empirical process, one that requires lots of time and thought and effort.'

BY JANIC TREMBLAY

In February, five journalists from French-speaking public radio stations isolated themselves in a farmhouse in southern France to conduct an experiment. For five days they would stay informed by using only their social networks. Their ground rules forbid them to follow the feeds and tweets of any news media; to be informed, they had to rely solely on the tweets or Facebook offerings of individuals or organizations such as nonprofits, government agencies, or educational institutions. One of the secluded journalists was reporter Janic Tremblay, who works at Radio-Canada. In this article, he describes the experience and the lessons he brought back to his work.

"News will find you wherever you are." That's what a lot of people think now that the Internet is in its third revolution—as the always on, always available Web. Thanks to Facebook, Twitter and the smartphone, we expect that we will be informed in real time on just about any topic. We depend on family members, close friends, and those who are part of our digital networks to act as reporters, alerting us when something they feel is important has happened or is happening. Within our chosen digital community, we are always connected, always informed. At least, that's how the story goes.

But is this how it actually happens?

What kinds of information emerge through social networks? What do people talk about after traditional news media sources have been removed? Which news do they tweet? Or retweet? And do social networks help us find valuable information?

We humbly set out with these questions—and others—in mind, hoping we'd find a way to measure, though not in any scientific way, the value our social networks held for us as journalists. We set some rules, locked the door of our home in Saint-Cyprien, and turned our full attention to the Web. From there, many lessons—most discovered through Twitter—flowed my way:

- **Twitter can be like radar:** On our first night in France, I went online and came across tweets from a man who had been arrested during a demonstration in Moscow earlier that day. He had been jailed for many hours and was tweeting about what was happening. I did not know him. Clearly we lived in different universes, but it turned out that a member of his social network is also part of mine. When my social networking friend retweeted his posts, he showed up in my Twitter feed, and there we were—connected, with me in a French farmhouse and he in jail in Moscow. And so I tweeted him directly, then later contacted him by phone. He spoke French very well, an important detail for a French-speaking radio reporter. He told me about his arrest and the condition of his detention, and so I had a good story. With the traditional tools of journalists, the odds of me finding this man would have been close to zero. However, I believe situations like this one happen rarely, as best I can tell from my experience and that of my colleagues.

- **Twitter can steer off course:** It was the third night of our stay in Saint-Cyprien. Apparently a very loud noise had been heard in the city of Lille in northern France. Lots of tweets talked about this noise. It was obvious that people were trying to figure out what had happened as this topic became the talk of the French Twitter-sphere that night. Many hypotheses were tweeted; it was an explosion, a fire, or maybe a nuclear problem. In the next day's newspaper (which I could not read at the time), a reporter unraveled the mystery with a story of what actually happened. The loud sound was from an airplane that had crossed the sound barrier over the city. On Twitter, I had not seen anyone come up with this explanation. So while we knew what was being talked about via the tweets, we had no idea what was happening.

- **What I like about you is me:** Like all social media networks, the Twitter experience is determined by those whose tweets we welcome into our digital feed. And digital communities tend to congregate around interests or issues. This isn't so very different from how audiences flock to various news media (Fox News or CNN, for example) based on the topics or perspective they are fairly certain they'll find there. It can feel reassuring to follow like-minded people. Who doesn't like to have their opinions confirmed? Yet choosing such a specific path to news can also be limiting since it can be hard to count on friends to broaden our horizons. Like a couple who thinks alike, neither brings much new to their conversation or thinking.

Tweeting Lessons

As I think back on these five days—and what I learned, I focus on the social networks I brought with me into our house. This experience taught me that they were not diversified enough. News reached me, but in my mix of tweets I could find little in-depth analysis or many international news reports. Nor did I find much discussion about news taking place among members of my network. And only very rarely did I hear much about economic news.

I came to understand that there is a science to this quest for creating the right network. It's an empirical process, one that requires lots of time and thought and effort. And the search for the best sources of news never ends. I also concluded from this experience that finding symphonic notes amid all the noise of these networks is not easy. Moreover, on Twitter, people tend to tweet what they have picked up from the traditional news media; what they add is an introduction to what they've found, letting their friends or followers know that they found it interesting or new, moving or fascinating. Right now how this exchange of information happens is very tied in with the tools of social media that we have available to us, and this is something else we experienced firsthand during our week in France.

One lesson I took from this

Janic Tremblay, left, and four other journalists from French-speaking public radio stations spent five days in a cabin in southern France. Their goal was to keep informed using only social networks. The project was called "Huis Clos Sur Le Net," which roughly translates to "Behind Closed Doors on the Net." *Photo by Nicolas Mathias.*

experience is that what interests the public—as I saw interest expressed by what they share and highlight through these social media networks—is not the same as the public interest, at least as journalists conceive of it. Of course, these two ideas might grow closer in time as Twitter becomes more popular.

Getting Personal

While in the farmhouse, I managed to gather almost all of the important news during the more than 60 hours that I spent on Twitter. (After we emerged, I checked to see what stories I might have missed.) Retweets turned out to be essential for my newsgathering since I was not allowed to follow any media organizations. But being constrained, as I was, helped me realize how often messages that journalists send out are retweeted. On the other hand, the stories sent out by newspapers and broadcast entities didn't get retweeted too much. What this told me is that there is a strong tug of personal engagement within the digital community, evidenced as members of the community retweet stories that are brought to the Twitter feed by an author or journalist himself.

At CBC/Radio-Canada where I work, very few journalists use Twitter. Even so our news organization has a Twitter account with more than 30,000 followers. However, during the five days of the experiment, I did not find any news from Radio-Canada. The reason: no retweets. A popular French-Canadian newspaper, La Presse, also has a Twitter account with just about the same number of followers, and I did not get any retweets from La Presse's feed, either. But many journalists at La Presse tweet personally, so many of their stories made their way to me through retweets.

The lesson is simple: journalists should tweet about their stories. By doing so, they might get a higher penetration rate of clicking on links and sharing among followers; they will also likely gather new followers through this retweeting, and ultimately getting the news out will inform more people, which is our goal.

Journalists broadcast from the cabin where they spent five days without direct access to news media. Janic Tremblay is at left. *Photo by Nicolas Mathias.*

But there are other key considerations about why more journalists tweeting is better than fewer. When only a few journalists tweet—and do so constantly—they occupy a lot of the space. This means that their perspective on the news could become the dominant (or possibly the only) interpretation of an event and, if this happens, the lack of diversity of the information becomes an important issue.

Social Media and Journalism

While social media networks can be a personalized resource for news, it is virtually impossible to work eight hours a day, take care of the kids, regularly ride the train to work and back, read books and articles, follow what hundreds of people are tweeting at the same time, and click on the links they suggest and end up absorbing anything fully. Even with a deliberate focus on doing so, as we had for those five days in the absence of any distractions, this was hard.

This is one reason why I so firmly believe that traditional news media outlets are still essential—as the people who can provide reliable journalistic content, which then forms the backbone of Twitter's links. This is not to say that any others who can bring additional knowledge and information into the mix shouldn't do so. They should, but having this foundation built by the practitioners of journalism's standards and ethics is vital.

Still, it now is not possible for journalists to ignore or neglect Twitter. Too much is happening there. Every individual journalist—along with every news organization—should put strategies in place to determine the best ways to do our work in tandem with the culture and habits of social media networks. Also, figuring out how best to thrive in the Twitter environment without compromising our work as journalists (and not as advocates) is part of what the job entails today. Tweets are easily sent and they leave traces for a long time—just as all words and pictures do in this digital territory. When personal opinion reigns supreme—with a side taken and a perception settling in—then serving the public interest as a journalist just got harder to do. ■

YouTube's Ecosystem for News

'Our users innovate at an extraordinary pace and in ways that amaze us, make our world more transparent, and change the way we consume information and are informed.'

BY STEVE GROVE

A glance at YouTube might give the impression that it's a jungle in there. After all, with 24 hours of video uploaded to YouTube every minute, the constantly flowing stream of content can feel overwhelming, even chaotic. With raw footage, video mashups, parodies, cultural memes, and viral hits—staying on top of it all and determining what's relevant can seem like mission impossible.

Now take a closer look, dig beneath the chaos, and an evolving order is revealed—one that is driving content through the broader ecosystem, which is changing the ways we communicate and get information. At YouTube, we are busy developing tools to help news organizations and consumers navigate this ecosystem. Before peering into the tool box, let's get acquainted with the key players that make the YouTube news ecosystem unique. Here is the cast of contributors:

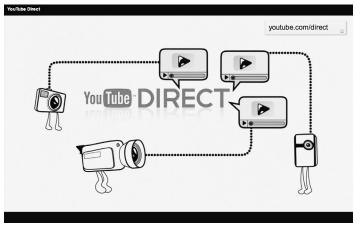- **Citizen reporters:** Our most frequent contributor is someone who captures an event on video and uploads it to YouTube. (I don't use the words "citizen journalist" because I don't think any person who happens to take video of something is necessarily practicing journalism, a skill that requires some training.) Citizen reporters are ensuring that many more events around the world are being captured on video now, and through YouTube, they reach a global audience.
- **Clip-cutters:** These are people who find the most salient moments from cable news programs, C-SPAN, public archives, or other sources, and upload these clips to the site. Sometimes the insights revealed in these clips inspire more people than the original content did. Often this happens because the original producer was busy packaging the entire show instead of looking for moments of significance to which a broader online audience will respond.
- **Mashup artists, video bloggers, admakers and musicians:** These people influence the public discussion on any number of topics with their video commentaries.
- **Curators:** They are trend spotters who don't upload videos at all, but instead discover interesting content and embed, tweet, e-mail and share it on Facebook.
- **Viewers (a.k.a. all of us):** We watch the videos, rank them, and share them, thereby driving up view counts and giving the videos exposure on the most-viewed pages of YouTube.

Media organizations enter this YouTube ecosystem most effectively when they leverage the work of these curators to find what's important. Top videos—discovered and promoted by YouTube's grass-roots community—are rebroadcast on TV and other platforms, especially when news organizations don't have their own footage of an event. Or they might find the commentary on YouTube a useful way of looking at an issue.

The most memorable example occurred last June when foreign media were kicked out of Iran in the wake of the presidential election. Iranians then provided the visuals and words to tell the world about the clashes between police and protesters. But each day there are numerous YouTube videos broadcast on television and cable stations—on topics ranging from the serious to the silly. In fact, TV viewers who see a YouTube clip will sometimes circle back to our Web site to watch the entire segment and search for related content—thus refueling YouTube's ecosystem.

The incentive for broadcasters and YouTube to create this ecosystem is simple: Those who upload their video to YouTube want broader exposure on TV and the broadcasters want to expand the scope of their reporting and to stay on top of the cultural zeitgeist that is YouTube. But there are business reasons, too. Leveraging citizen reporting, in particular, is efficient; when it works well, news organizations don't need to send a satellite truck to the scene of every possible news event. In all likelihood, someone was already there

YouTube Direct enables news organizations to ask for, look at, and rebroadcast news footage from YouTube on their own site.

and took video on their mobile phone.

For politicians, activists and non-profits, posting a video is the 21st century press release that affords them free media opportunities. News Web sites can link to it and TV stations can use it. Of course these videos—designed to promote the message of those who produce them—will not serve the public interest in the same way that a news report would.

Media organizations, in turn, post their content on YouTube in an attempt to gain new viewers, revenue and exposure. Like any other partner on YouTube, news organizations can use our content identification and management tools—Content ID—to find and claim user videos (like the mashups uploaded by clip-cutters). Then they can choose what they want to happen next—they can block the video, leave it up and monitor it, or even make money from it. Increasingly, news organizations are seeing the value in leveraging this organic user activity; the majority of media companies using Content ID choose to make money from user clips, rather than take them down.

YouTube's Tool Chest

There are some challenges to the YouTube news ecosystem for consumers and for news organizations, particularly when it comes to news footage shot by citizen reporters. If it is taking too long for the grass-roots community to surface content, there are ways to find content faster, to verify its authenticity, or to request a particular video that might not already be on the site.

Two of the most recent platforms we've built are:

• **YouTube Direct:** Launched last fall, YouTube Direct is an open source platform that enables news organizations to request, review and rebroadcast news footage collected on YouTube, right from their own site. The Washington Post, ITN, ABC News, Gannett, the Tribune Company, The Huffington Post, and others have used the platform at www.youtube.com/direct to create

Steve Grove moderated an interview with President Barack Obama that was streamed live from the White House earlier this year. YouTube users submitted questions by text and video and cast votes to determine which ones Obama was asked.

their own citizen assignment desks.
• **Google Moderator:** The voting platform we used to collect citizens' questions for YouTube's interview with President Barack Obama earlier this year is now available to any YouTube user. With a few clicks at www.google.com/moderator, news organizations can create a dynamic, democratic discussion on any topic.

Every day we explore more ways to enhance the news ecosystem on YouTube. This summer we're running a YouTube News Lab with the University of California at Berkeley's Graduate School of Journalism to find out even more. Working with three students and several local news partners, we are experimenting with a newsfeed of citizen-reported videos to help news organizations locate relevant content. And we're working on a hyperlocal news partnership in San Francisco with CBS affiliate KPIX-TV to cover as much of the city's news as possible through citizen-reported videos. (Stay tuned to our news and political blog, www.

citizentube.com, to find out more.)

If there's one thing we know about news on YouTube, it's that things happen quickly. Our users innovate at an extraordinary pace and in ways that amaze us, make our world more transparent, and change the way we consume information and are informed. As news organizations continue to evolve and develop new business models, YouTube will undoubtedly be a part of their strategy. With so much content to explore, creative minds are now seeking ways for us to find what we think we're looking for. It may feel like a jungle out there, but we find better ways to explore it every day. ∎

Steve Grove is the head of news and politics at YouTube. He developed the CNN/YouTube debates and the YouTube Direct citizen reporting platform. He tweets @grove and blogs at www.citizentube.com.

Video Games: What They Can Teach Us About Audience Engagement

'... we learn differently from content-driven media than we do from media driven by choice and problem solving.'
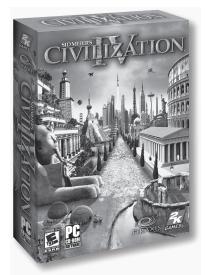
BY JAMES PAUL GEE

In our interconnected world, what does it take to understand issues like climate change or the global economic meltdown or events such as conflict in the Middle East? Traditionally we have used news reporting and documentaries as well as novels. Another name for such providers is content-driven media, which strings together facts or fictions to report on events or tell us stories.

Video games are not content-driven media though they do have content. They are driven by choices and problem solving. Content is there to motivate player choices about how to solve problems. Our understanding or illumination comes through solving problems or trying to solve them or by realizing there are multiple ways to solve them. Perhaps the problem is how to wage war in contemporary global conflicts (Full Spectrum Warrior), sneak past enemies (Metal Gear Solid), manage a city (SimCity) or a civilization (Civilization), or clean house and keep a family happy when you are a four-inch robot (Chibi-Robo).

Learning Changes

Our expectation is similar with these different kinds of media; we expect to learn new things, whether the source is news, novels, textbooks, movies or games. But we learn differently from content-driven media than we do from media driven by choice and problem solving. In content-driven media we learn by being told and reflecting on what we are told. Of course it is not always easy to ensure that reflection happens and some content producers—especially in our polarized and entertainment-driven media—do not encourage wide-ranging reflections on all sides of an issue.

With games, we learn best from a well-designed guided experience. This means inhabiting virtual worlds that guide players to make choices, solve problems, and reflect on the results. Players have to reflect because their

In Civilization, players manage a society's resources to ensure its survival.

choices affect whether they win or lose.

Game designers create digital environments and game levels that shape, facilitate and, yes, teach problem solving. For example, after playing Chibi-Robo I know how to clean a house when you are only four inches tall and I know how the world looks to a four-inch robot and what dilemmas he faces. In a real-time strategy game like Rise of Nations, players have to make a decision like, "Should my civilization invest in technology now or wait 500 years?". In Portal,

a player has to think about how the laws of physics—for example the law of conservation of momentum—can be used to manipulate the environment. In Tactical Iraqi, a game that is marketed for military and diplomatic training, the player must be a soldier in Iraq and learn to speak Iraqi Arabic in realistic settings without culturally insulting anyone.

We learn from games quite differently than we do from news and books. And we also learn from games quite differently than we learn in school where failure is a big deal. Not so in games; just start over from the last save. A low cost for failure ensures that players will take risks, explore and try new things.

Games are based on performance before competence: learn by doing, then read. School often is based on competence before performance: learn by reading, then maybe you get to do. Players are able to understand manuals and strategy guides because they have experience with the game. In school, too often, students have not lived in the worlds described by the books they are reading (i.e., they have not "played" the game of biology, but only read about it).

Games let players practice skills as part of larger goals they want to accomplish; in school, kids are often skilled and drilled apart from any meaningful context. Games make players master skills through practice and then challenge that mastery with a "boss battle," forcing the player to learn something new and take mastery to the next stage. School can be too challenging if kids are never allowed to practice enough to attain mastery.

Alternatively, schools too often fail to challenge the routine mastery of kids who get good grades.

Finally, games encourage players to think about how they are designed—in order to beat them—and even to design games themselves through "modding," in which they use tools that often come with games to make new levels or entirely new games. Schools rarely let kids design or redesign the curriculum.

Be Told or Be Involved

An example of this learning dichotomy can be found in a book and a game about what it is like to be poor. Barbara Ehrenreich, in her book "Nickel and Dimed," tells what it is like to be poor by describing how hard a time she had, as a middle-class well-educated person, trying to get and keep low-level service jobs. She shows us how she tried to solve problems, and as readers we are meant to learn through her experiences.

On the other hand, players in The Sims, which is the best-selling PC game of all time, can challenge each other to see if they can survive as a poor single parent and get their kids safely out of the house into young adulthood and college. This isn't easy to do in the game, which contains lots of rules about what players can and cannot do in order to simulate the feel and difficulty of poverty.

In assuming such a challenge, players learn by facing the problems themselves, as Ehrenreich did. And they can win or lose. One rule is that players cannot reverse a decision (e.g., quit a play session without saving the results), even if bad things have happened or they've made bad choices. They have to live with the bad things. Of course, people cannot quit without "saving" what has happened; they have to live with the consequences of what they've done or what has happened to them. Players are not learning from someone else's experience; they are learning from their own.

Yet these players are learning something beyond what it means to be poor; they are learning that solving

When players engage in the Metal Gear series their goal is to solve problems, escape enemies, and survive.

problems (such as poverty—or it could be global warming) depends a lot on how the problem is set up and what the rules are. Call them constraints, if you like. Along the way, they discover that poverty is a system and that there are different ways to view or simulate (or discuss) that system.

At a time of polarized, entertainment-driven newspapers and in a world replete with risky, dangerous and complex systems, maybe it is better to make a game as a way for people to engage and learn than it is to write or broadcast a report.

Journalism is part of a content-driven media world. Both a news story and a novel are meant to inform us and perhaps move us emotionally. Maybe the novel offers a deeper understanding than a more ephemeral news story but in both cases content is being used to make us learn, think, know and perhaps feel.

Games are about things, too, and have content; for example, the infamous Grand Theft Auto series of games is about crime. Sometimes games have

The Sims, which is the best-selling computer game, offers players open-ended scenarios that mimic the challenges of real life.

elaborate stories, sometimes they don't. But games are not about their content in the way that a newscast or a novel is about its content. Games are about problems to be solved by the player and the content is there only to establish what the problems are or to motivate players to solve them.

In one of the Grand Theft Auto games the player must sneak into a parking lot and, unseen, plant a bomb in the trunk of a car and leave the scene without doing damage to the getaway car. Our intuition about content-driven media tells us that this is about a crime but the task could be changed to placing flowers in a loved one's car without being discovered, and the problem and its difficulty would be the same. What matters are the problems and how a player responds.

What makes a game good is not content but the problems players solve and how they do so. If content contributes to this effort in ways that motivate, then it's good to have. Otherwise it is detrimental to the game or, at best, a distraction. Digital media enable journalists to devise games as a platform for sharing news. Doing this, however, requires not only knowing how to use the technology to create effective games but recognizing that the player's ability to absorb the information will likely rely more on what he does than what he reads. ∎

James Paul Gee is the Mary Lou Fulton Presidential Professor of Literacy Studies at Arizona State University, author of "What Video Games Have to Teach Us About Learning and Literacy" and coauthor of "Women and Gaming: The Sims and 21st Century Learning," both published by Palgrave Macmillan.

News-Focused Game Playing: Is It a Good Way to Engage People in an Issue?

'Ultimately our challenge will be to determine which metrics for successful storytelling turn out to be most important in the digital environment.'

BY NORA PAUL AND KATHLEEN A. HANSEN

Reporters employ sounds and images in place of text. Users engage with information and data in ways that resemble how they play video games—manipulating interactive elements to create their own experience with the content. But what impact does such storytelling have on its audience—especially when the content is news?

Journalists are experimenting with different presentations of online news even though there isn't a lot of research to tell them whether such storytelling techniques work with news, or if they do, how and why.

Some news stories are ripe candidates for creative multimedia storytelling. Two good examples are The New York Times's graphic depiction of a crane accident and The Virginian-Pilot's coverage of the challenges people with brain injuries face.

Yet such coverage is often reserved for long-term projects or compelling news events. What happens with ongoing coverage of issues or with events

Five ways to tell "boring but important" stories were tested in a study called "Playing the News." Stories involving the use of ethanol for fuel were presented both in traditional ways and as games to 197 participants in the study. While it features a graphical presentation, the role playing game was the least effective of the five models tested.

that occur with consistency over time and require that a thread of context run through the storytelling? Matt Thompson addressed aspects of this digital challenge in "An Antidote for Web Overload" in the Fall 2009 issue of Nieman Reports. He observed how difficult it can be for readers—especially younger ones—to tune into stories that are a part of ongoing news coverage of events or issues unfolding over time. The Associated Press affirmed this observation when it conducted a study to evaluate how best to engage young people in news reporting—and devised a digital strategy to convey its news reporting in more inviting and accessible ways.

Playing the News

A few years ago the Knight News Challenge awarded us $250,000 for a two-year study designed to explore what would happen when news-focused games were devised with the purpose of engaging an a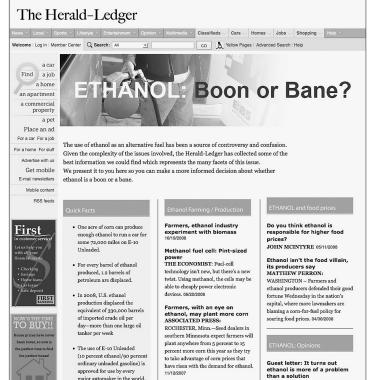udience. We named our proposal "Playing the News," and our goal was to learn about the potential for telling process-oriented stories in accessible and absorbing ways.
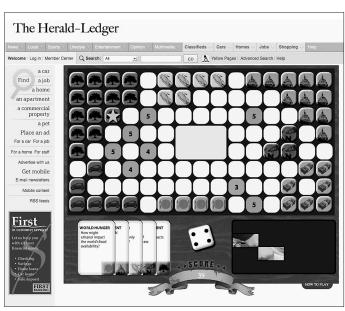
To do this, we tested five online versions of stories about the issues involved with using ethanol for fuel; two were presented in game formats; the other three relied on more traditional formats. All versions contained the same information but each presented it very differently. Ethanol worked well as a topic because of the differing perspectives we featured—from farmers, environmentalists and legislators, to name a few—and because it is often covered as an ongoing, process-oriented story. It was also one of those "boring but important" stories that was perfect, in our estimation, to test whether a more engaging presentation would help people find their way into the story.

In one game the player or the person coming to the news story moved around in a simulated environment comprised of people who provided facts and various perspectives about the issue. Each player could choose locations to visit and which characters to question; at each location the player could click through multiple dialogue boxes to get information from different perspectives.

The second approach used a game board to expose each player to facts and the perspectives of different stakeholders. The player was dealt cards, rolled the dice, and moved a marker to the appropriate area where an answer might be found. Once the player arrived there, all of the answer cards were activated so the player would see all of the information relevant to that stakeholder's perspective. Then the player was asked to select the right answer, based on what he had learned.

We created three other formats based on standard news Web sites. In one version, the information about ethanol as fuel was shown as a conventional analysis/explanatory story in news-column format. In another, we presented the same information but organized the material by topics, (e.g., Quick Facts, Ethanol: Government)

The most highly rated format, left, organized the material in the ethanol story by topic and provided a summary for each topic with links to related content.

The board game model, above, proved to be one of the more effective designs tested so the authors released it as an iPhone app.

and provided a summary under each topic with links to related content. Our last approach presented the information as a simplified blurb—serving as a headline for this topic—with a set of links, in reverse chronological order, to the news organization's stories about ethanol.

To test the various digital-story formats, we recruited 197 people who ranged in age from their teens to their late 70s. Slightly more than half were women. The participants, randomly assigned to one of the five formats, spent as much time as they liked with the material before filling out a survey. We wanted to determine their interest in the topic, their knowledge about it, and their engagement with and opinions about the story format they saw.

What Worked?

With the measuring tools we used to assess their responses, we arrived at some conclusions about what worked and what didn't work with each of these five formats:

Simulation Game: This version ranked the lowest on virtually all of our measures. From participants' comments it was clear that when people seek news they want to acquire the information quickly and easily. While this kind of simulation game is effective in teaching and training, it did not appear to be a viable way to present information for a casual news audience.

Board Game: The board game tested well as far as the amount of information read and whether or not the experience was fun. Based on the feedback we received, the board/quiz style game seemed to be an effective and engaging way to present an array

Playing the News Moves Into the Classroom

What we learned in our Knight News Challenge grant project Playing the News informs the way we teach our journalism students. While incorporating Web story design and structure into reporting and writing classes is imperative, it isn't enough to simply translate story content into formats that allow for interactivity. We need to enlist student journalists in inventing digital story forms that take full advantage of the Web in ways that provide the context that people want.

To do this, build in at least one assignment in which students create a topic-organized page of content to guide readers through the complexities of an issue or coverage of an ongoing controversy. This exercise helps students develop valuable synthesizing skills as they create topic categories that will shed light on the major points or themes that connect stories across time. This requires higher-order thinking that instructors shouldn't assume students already have. The ability to take a bird's-eye view of multiple stories over a period of time and find a way to make sense of them is crucial—and challenging.

Think, too, about asking students to brainstorm about story-focused games designed for a news Web site. This will tap into the experiences of these digital natives who have a much more tenuous connection to news stories told in traditional ways. Many of our Playing the News participants were attracted to the board-style game as a way of connecting to news so this format might be worth pursuing to convey certain types of information.

There could be no one better to create and test such news games than those whose peers are part of the audience that news organizations want to attract. At the University of Minnesota School of Journalism and Mass Communication, we teach a course called Convergence Journalism. Our students use contemporary digital tools to learn about and experiment with various news story forms and storytelling strategies.

In the content analysis exercise, students are assigned readings and required to complete a content analysis of news to demonstrate their understanding of the topic of the week. To complete this assignment students organize news content in a coherent way and create categories that accurately and effectively describe the threads of news reporting. The obvious next step is for students to create a topic-organized Web page that could guide people through content that has appeared over time in coverage of a topic in the news.

Even in our school's basic reporting and writing classes, students learn the strengths and weaknesses of telling stories using different forms and with various tools. When they pitch a story idea, they are asked to describe the form they think will work best to tell the story. A blog? Slideshow? A Google map? What is likely to be the best way to guide readers into and through a story and engage them with its content? Perhaps traditional text will work best. Or a combination of forms might be tried with various story elements presented in different ways.

As storytelling forms evolve, we want journalism students to be on the front lines of experimentation. Yet we also want them to know the value of gathering information about what works as they evaluate their options. ∎ —N.P. and K.A.H.

of information about such a topic. The amount of time people spent online was also the highest with this version—an important measure for news organizations looking to sell their audience to advertisers. Because this game seemed attractive to the audience, we created a mobile version of it for the iPhone; since January more than 1,000 people have downloaded the free app.

Traditional News Story: This format proved effective for getting people to read about the topic in detail. People also said they would think highly of a news organization that presented information in this familiar way.

Topic-Organized Facts and Links: This method of absorbing information was by far the favorite approach of those we tested. People found it an excellent way to present news about serious topics; this format interested them in the topic more than the way news stories are usually presented. They also found that the information was easier to understand compared with a traditional news story. Those assigned to this format were also most likely to say they learned something new about the topic. It also generated the most positive responses to the statement "I would think highly of a news organization that presented stories this way."

Blurb With Reverse-Chronologically-Organized Collection of Links: This format generated the most negative reaction of the three traditional methods of presenting a news story. It turned out to be the least-engaging format and made the information harder to understand. Those who received information in this way would not think highly of the news organization. Keep in mind that this is a common way that news organizations digitally display their archive of stories for ongoing coverage.

A game format clearly is not a good fit for news stories involving differing perspectives and ongoing coverage. For lighter topics such as "Should I get a cat or a dog?" or trivia, a news game might be more appropriate. Much of the appeal of a news game would be in enabling multiple players to move through the game at the same time, thus adding a competitive element—and this is something our games didn't have.

As we developed these game systems, we started to see interesting opportunities for these projects to generate revenue, such as by embed-

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... the opportunities news organizations have to tell digital stories far exceed the knowledge that any of us have about how these choices affect the audience's experience.

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ding sponsorships, coupons and other similar elements. This is an area ripe for testing in the next iteration of the study.

The most compelling finding was the popularity of the topic-organized format. For ongoing, process-oriented news stories, readers appear to want to have their experience be guided, in this case, by journalists. This speaks to the curatorial function that many news organizations are starting to explore. The curated version helped them in absorbing the big picture and then they relied on the topic-organized facts and links to point them toward additional, in-depth information. Our participants' experiences coincide with what Thompson discovered when people used his experimental, context-laden Web sites, The Money Meltdown (www.themoneymeltdown. com) and Columbia Tomorrow (www. columbiatomorrow.com). And when a news organization presented information in this way—as our curated site did, readers expressed a high level of satisfaction.

As news organizations look for ways to create content and develop online experiences that are valued, these results should be kept in mind. With younger readers, in particular, who report feeling lost in their attempt to follow ongoing process stories, such topic-organized pages could be a promising way to engage readers and build brand loyalty.

Right now the opportunities news organizations have to tell digital stories far exceed the knowledge that any of us have about how these choices affect the audience's experience. Yet research such as ours is starting to provide clues. Our hope is that news organizations will seek out such information as they expand their use of multimedia and information visualization.

Ultimately our challenge will be to determine which metrics for successful storytelling turn out to be most important in the digital environment. We already know that this can be a complicated picture. For example, what our research reveals is that while one style might have the greatest impact in one area (e.g., time spent online) another has impact in another area (e.g., "I learned something new.").

Digital storytelling possibilities often seem limitless as new tools emerge with a rapidity that can outpace our knowledge of their effectiveness. Yet efforts are underway that can provide guidance, ours being one of them. And news organizations—as they experiment with these new storytelling formats, as surely they must do—might want to take a look at what is known about which form works well for which story. ∎

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Hacks/Hackers: Bringing Journalists and Technologists Together

'We're all trying to figure out what works, and that's really the key to innovation: a tolerance for failure and embrace of experimentation.'

BY BURT HERMAN

The scene is often an airy loft in San Francisco's South of Market area where technologists typically gather to talk about their latest start-up venture, share ideas, and demonstrate new digital tools. The scent of pizza wafts through the room while people Twitter away on smartphones.

Hacks/Hackers gatherings are different: Journalists are now in the mix, not to get quotes for stories but to discuss the future of media in hopes that in this time of upheaval a way forward can be found.

Hacks/Hackers was born out of a blend of hope and curiosity. I had just completed a Knight Journalism fellowship at Stanford University after a dozen years as a bureau chief and correspondent for The Associated Press. At Stanford, I studied innovation and entrepreneurship so I could learn what makes Silicon Valley tick and apply those lessons to journalism. After the fellowship, I remained in the San Francisco Bay Area to experiment with my own projects and find partners who shared my passion for the intersection of media and technology.

In November I started a group on Meetup as a way to build a community of journalists and technologists. I wanted "hacker"—a term that embodies the spirit of an engineer who does whatever it takes to get the job done—in the group's name. "Hack," as slang for journalist, worked in a tongue-in-cheek self-deprecating way. Hacks/Hackers was born.

It turns out I wasn't the first person to happen upon this name. Two journalism leaders, Aron Pilhofer and Richard Gordon, who were working to bring technology into the newsroom, also had proposed an online community called Hacks and Hackers. Pilhofer, editor for interactive news at The New York Times, leads the team that builds the Web site's data-driven applications. Gordon, associate professor and director of digital innovation at Northwestern University's Medill School of Journalism, oversees a scholarship program for computer programmers to earn a master's degree in journalism and collaborate with j-school students in the process.[1]

At a conference last year in Cambridge, Massachusetts, organized by the John S. and James L. Knight Foundation and the MIT Center for Future Civic Media, Pilhofer and Gordon pitched the idea of creating a Hacks and Hackers Web site for this emerging community of journalists, programmers and journalist/programmers.

As our gatherings in San Francisco

Eric Rodenbeck, founder and creative director of Stamen Design, speaks at a Hacks/Hackers event in San Francisco. *Photo by Burt Herman.*

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[1] Read about what Gordon's students produced in the Fall 2009 issue of Nieman Reports at www.niemanreports.org

got underway, journalists noted the coincidence of our names on Twitter so we reached out to each other. All of us recognized the benefit of bringing together people from these disparate fields to use technology to help find and tell stories in the public interest.

Since then, Hacks/Hackers has launched a blog (http://hackshackers. com) and a question-and-answer Web site (http://help.hackshackers.com) where leading technologists and journalists from across the world respond to questions and share ideas. We've been thrilled at how much interest the Q. and A. site has generated since its launch in mid-April.

In the Bay Area, we've held monthly events that have brought together dozens of people from companies such as Google, Yahoo!, Twitter, the San Francisco Chronicle, San Jose Mercury News, and Current Media, along with other technology and media start-ups and freelancers. Events are spreading to more cities. In early May a group got together in Washington, D.C. in partnership with the Online News Association; similar gatherings are in the planning stages for New York and Chicago.

Toward the end of May, we met in San Francisco—partnering with KQED, the most listened to NPR station in the country—to build news applications for the iPad and tablet devices. Part journalistic exercise, part hack weekend, the journalists were charged with finding a story to tell while the engineers brought their insights and tools to find new ways to tell a story. At the end of the weekend, they presented their work to an expert panel including a venture capitalist, start-up CEO, and journalists.

It turns out that technology people are often news junkies. The most skilled hackers are good at what they do because they can quickly consume information and learn how to do something new. Hackers, like journalists, believe strongly in freedom of information, embodied in the open nature of the Internet. When Twitter held its first conference for developers in April, CEO Evan Williams said the company was guided by the fundamental philosophy that "the open exchange of information has a positive impact on the world."

Still, the conversations between hacks and hackers haven't always been harmonious. At a Hacks/Hackers panel in February with companies that build personalized news aggregation sites, entrepreneurs faced a barrage of questions about how to fairly compensate content creators for their work. But the panelists themselves admitted that they weren't making any money.

We're all trying to figure out what works, and that's really the key to innovation: a tolerance for failure and embrace of experimentation. At its core, that's what Hacks/Hackers is all about. ∎

Burt Herman has reported from around the world as a bureau chief and correspondent for The Associated Press. A 2008-2009 John S. Knight journalism fellow at Stanford University, he tweets @burtherman.

Joining Digital Forces Strengthens Local Investigative Reporting

'Our goal is to build online tools that the people can easily use to enhance their ability as watchdogs—whether they are citizens or journalists.'

By Brant Houston

During the past year journalists, citizens and even some government officials have focused on the need to replenish the diminishing amount of investigative reporting done nationally and at statehouses. But there hasn't been as much concern expressed about the reduction of public accountability journalism in cities and suburbs, rural areas, and counties. And when this topic is discussed, few viable solutions are emerging at a time when metro and local papers struggle to simply cover breaking news and essential beats. There are hyperlocal and online citizen efforts, but they too need more resources and tools.

Digital media's capabilities might provide ways to hold public agencies accountable while expanding journalists' role as community watchdogs. This potential comes from several sources:

- Ever increasing streams of information—including public record databases—are now available online from local public agencies.
- A drive to create digital tools capable of shaping and channeling those streams so they can be better understood and more easily analyzed.
- Collaboration between journalists, computer programmers, and information scientists helps journalists and citizens use these tools more effectively.

Mining Public Data

While local government agencies often deny traditional requests for informa-

tion and documents, the levees they built—and maintain—to restrict access are broken. Much digital information that the public has a right to see now tumbles over and flows around those restrictive practices. So our challenge resides in collecting and channeling what can be massive amounts of data so they can be understood.

Our goal is to build online tools that people can easily use to enhance their ability as watchdogs—whether they are citizens or journalists. To do this, computer programmers are creating and journalists are using digital tools to make visible data and documents so that people can analyze and share the information they find, and the John S. and James L. Knight Foundation has been a key player in this area, especially through its challenge programs.

At the University of Illinois at Urbana-Champaign where I teach investigative journalism, I am working with a small team of programmers at the National Center for Supercomputing Applications to develop an easy-to-use mashup of analysis and visualization programs for public documents. Our organizing principle is that journalists and citizens will use this mashup ability to do retrospective and real-time comparisons of what the public is concerned about and how the government is responding—or not responding—to their concerns.

At the same time, I'm learning about work being done in the Community Informatics Initiative at the university's Graduate School of Library and Information Science. (Informatics encompasses the study of information science, information technology, algorithms and social science.) Part of the initiative's mission is to partner with citizens to develop information technologies and to create access to those technologies through community networks.

I am discovering a lot of common ground between journalism and informatics, especially as I work on a Champaign-Urbana Citizen Access project to look at local poverty issues. Those involved with informatics often do their work in a low-income or isolated community. They find out what the pressing issues are and use digital tools to help community members enhance their knowledge about the problems and strategize ways to solve them.

Part of their approach relies on text-mining tools that can reveal key words and clusters of words. By applying these digital tools—many of which are open source programs—to the realms of government documents and public comments, we can visualize where the interests of constituents and public officials diverge (and, on occasion, converge). For example, comments made about particular issues at public meetings, neighborhood gatherings, in blogs, and on Twitter or Facebook are easily searchable. Along with this information are data and documents produced by local government officials that address the same issues. These can be found in agendas and minutes of meetings and hearings, in press releases and reports about regulatory actions, and in the budgets and databases of public agencies.

Linking Complaints With Action

Digital techniques either exist or are being developed to collate and analyze this kind of information to find patterns, to map the information geographically, to learn what social networks are involved, and to visualize this information over time. So far, however, neither journalists nor citizens are extensively using these tools. Sometimes this is because the software isn't easy to learn and manage. And programs that more sharply contrast public concern and the government's response and activity still need to be developed.

For example, with the right mix of programs in place, citizens would complain about flooding in their neighborhood in public hearings, on a Web site, in social networks, blogs or letters to local media. Diligent text mining of that public comment could show who and where it is coming from and whether comments and frustration have increased over time. By text-min-ing public officials' comments, public documents, news articles and blogs, a comparison could show whether and how well the city responded to the neighborhood's concerns—and it could also discover the public officials' excuses. With this approach, residents could see for themselves what else was happening when city officials ignored their complaints or stalled in taking action. They could easily find out what project or neighborhood the city's resources are going to. Could it be one in which the residents are wealthier and thus have more influence with local officials?

Contrasts and disparities could be visualized on a computer screen or mobile device in numerous ways. It might be shown as two bar charts—one a measurement of frequency and intensity and even emotional depth of citizen concern and one showing the paucity of official comment and action. Or it could be two fever lines displayed over time—with the citizen line soaring on the graph while the official line stays low or dips. Maps could be created using data analysis of budgets and information about proposed and completed projects to show neighborhoods that are receiving little or no attention and the ones that are.

The social network of citizen activity—snapshots of who is connected to whom—also could be visualized by connecting the dots between the public officials and their political connections and friends. Again, each of these analyses and contrasts could be visualized over time. In addition, Web crawlers can be developed that would go after various documents and download them into a central cloud computing location on the Web. Then the mashup of analytical tools, guided by a journalist or citizen—using keywords and clusters of words—could go to work on mining the information. The result would be a host of visualizations.

Collaborative Approach

What is needed is a dashboard from which a journalist or citizen could drive their inquiries, choosing their

routes to come up with findings and creating information and datasets on their neighborhoods and issues. Once topics are chosen, data flows and alerts could be set up to enable people to stay current on comments and actions by automatically creating updates.

All of this is good in theory but what is then needed is to get the tools to the journalists and particularly to the people in the communities. That's where journalistic collaboration with those in informatics can take the effort to another level. Through fieldwork and research, experts in informatics gain a deep understanding of community issues; using computer training centers, they push to make technology available in underserved neighborhoods.

With computer programmers, informatics experts, and journalists working together, government accountability can be strengthened on a local level beyond what it's been when reporters have been on their own as watchdogs. Now what targeted digital searches by local residents reveal can launch a totally new realm of story ideas and once a story is told, readers can be directed to explanatory data through online links. And all of this can be done at a cost that even an upstart, hyperlocal Web site can afford. ■

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The Peril and Promise of the Semantic Web

What is the role of the journalist as computers become more adept at pulling together data from different sources?

By Andrew Finlayson

In the movie "Terminator," humanity started down the path to destruction when a supercomputer called Skynet started to become smarter on its own. I was reminded of that possibility during my research about the semantic Web.

Never heard of the semantic Web? I don't blame you. Much of it is still in the lab, the plaything of academics and computer scientists. To hear some of them debate it, the semantic Web will evolve, like Skynet, into an all powerful thing that can help us understand our world or create various crises when it starts to develop a form of connected intelligence.

Intrigued? I was. Particularly when I asked computer scientists about how this concept could change journalism in the next five years. The true believers say the semantic Web could help journalists report complex ever-changing stories and reach new audiences. The critics doubt the semantic Web will be anything but a high-tech fantasy. But even some of the doubters are willing to speculate that computers using pieces of the semantic Web will increasingly report much of the news in the not too distant future.

What Is the Semantic Web?

It doesn't help that the semantic Web is such a wide-ranging concept that even advocates can't quite agree on what it is; that's not surprising, given that semantics has to do with the very meaning of words and symbols. The most general definition I can offer is that the semantic Web speaks to how we are moving from a Web of documents to a Web of linked data.

One might say documents are data and that would be correct. The challenge is that the World Wide Web was designed for humans, not machines. The Internet is like a digital filing cabinet overflowing with all sorts of documents, videos and pictures that people can consume but machines can't read or understand. This means that an avalanche of facts and figures, photographs and so on is simply inaccessible or cannot be organized quickly and effectively, particularly if information is constantly changing.

You might think that Google algorithms do a fine job of finding information and organizing the Web. Yet the vision of semantic Web advocates is so big that it dwarfs Google in complexity and reach and starts to sound like a science fiction movie. These semantic Web visionaries would like humans to work with machines to make the data we create more easily accessible and analyzed. This is the fundamental difference between linked documents (what Google does) and linked data. Tim Berners-Lee, who invented the World Wide Web, says the semantic Web will give information "… a well-defined meaning, better enabling computers and people to work in cooperation."

The ways this machine-friendly data can be created vary in complexity and just as you may not know exactly how your computer creates documents and stores them on your hard drive, you may never need to enter the world that uses words like "taxonomy" and its

close relation "ontology" or new tech terms like RDF (Resource Description Framework) and SPARQL. Let's just say that the first two speak to how we can organize and find meaning in statements inside documents and the second set has to do with the language of machines, how we can express the relationship between different data, and how we can request structured data that has been optimized for use by machines. These concepts are being slowly incorporated into the Web and will, so the advocates say, give the Web the smarts it lacks.

If machines can look at all documents and pull out the who, what, when and where (and someday how and why) so other machines can understand them in a standardized way, then all sorts of interesting opportunities arise for how that information can be found and used. Names and places and ideas and even emotions expressed in stories become much more than just words in one story; they become the way that all of the information in many documents can be linked and layered together to create new documents and stories.

Does it sound like a super sophisticated mashup, where data from different sources such as police crime reports and maps are combined to show exactly where arrests have occurred? Yes, but police reports are simply the very tip of the huge amount of data generated every day that might be of interest to your readers or viewers if only you could get your hands on it and process it in a meaningful way. Reports on the number of flu cases, level of foreclosures, employment statistics, and home prices, if they followed semantic Web standards, could accurately and objectively (and automatically) reflect the constantly changing health of the neighborhoods in your community.

Some efforts are giving us a look into the future with sophisticated computers that can find data, see how they fit with other data, and answer queries with a previously unattainable level of accuracy and relevance. You might have heard of the WolframAlpha search engine unveiled last year. The goal is to generate better answers

using organized data. The trouble is that while WolframAlpha is very smart answering some database-related queries, its limited supply of data sets means that on many common questions it is quite dumb.

The semantic Web hopes to address this by asking everyone to help standardize data descriptions so that the Web becomes a giant shared database. There are several government efforts in the United States and the United Kingdom (including one headed by Berners-Lee) that will open up government data for anyone to use as they see fit. This effort will unlock a treasure trove that journalists can analyze with the potential to inspire thousands of new stories. Reporters familiar with the semantic Web concept will soon use automated research tools that identify patterns, local connections, and even conflicts of interest without having to painfully acquire and load piles of data into spreadsheets.

But if semantic Web tools become robot helpers for journalists, could the technology become so smart it will replace some reporters? Yes and no. Even advocates of the semantic Web say machines will not be able tell complex stories with nuances and context or convey emotion or insights any time soon. However, there is a range of stories that could be told by computer programs pulling data from various sources. Imagine if data from wedding licenses could be combined with the educational and birth certificates of the happy couple along with weather statistics and their bridal registry or Facebook page. A computer could then write a typical wedding announcement:

> Mary Smith, 23, a recent journalism graduate of Stanford University born in Los Angeles, and John Doe, 25, a graduate student at the University of California at Berkeley Graduate School of Journalism born in New York City, were married at St. Mary's Cathedral in San Francisco on Tuesday, April 20, 2010 under sunny skies. They are registered at Crate & Barrel

where they are still hoping for a new toaster. Their Facebook profile says they honeymooned at Disneyland where they shared these photos.

Right now it is difficult to do this, although Facebook is encouraging people to consider such concepts with their recent announcements about linking data. The more data that are made public and computer friendly, the more viable this idea becomes. To return to our example, if someone buys Mary and John their toaster, the semantic Web and use of linked data would allow our computer-generated story to automatically update to include their continued need for a fondue set and their new address in San Francisco.

The Threat to Some News

After talking to dozens of computer scientists, I am concerned that a significant amount of what passes for news—why people pick up the paper or watch a newscast—can be produced by machines that pull together data from a variety of sources and organize—even personalize—it for the consumer. Certainly sports information (including video of the winning home run) and weather and financial news will often be presented to our readers and viewers by semantic Web-related software programs that can assimilate data directly from the source and instantly present it to consumers, no newspaper editor or TV producer needed. Doubt this possibility? If you search Google for a city's weather, it will give you the answer without sending you to a weather-related page on a news site.

One of the original grand visions for the semantic Web was that by standardizing information so computers can read it, machines could start to be our personal agents, anticipating our needs, and seeking out information on our behalf, helping to plan the perfect trip to Paris based on our past preferences (a love of art or fashion, for example, would be combined with the latest data on art shows and stores offering sales during your vacation) or to pull in data to solve problems

For a Start-up, Machine-Generated Stories Are the Name of the Game

For a partner in a start-up specializing in stories written by machines, the only downside to attracting coverage in Bloomberg Businessweek was the headline: "Are Sportswriters Really Necessary?"

"We want to augment what is out there rather than to replace what is already being done," said Kristian Hammond, a partner in Narrative Science and director of Northwestern University's Medill/McCormick Center for Innovation in Technology, Media and Journalism.

Narrative Science has licensed software that enables computers to write stories about sporting events based on data they assimilate and analyze. For example, it may not be financially feasible for local newspapers to cover Little League games or a college publication to cover all of its team's softball games but Narrative Science, given accurate game statistics, could provide stories.

One of Narrative Science's first customers is the Big Ten Network, a college sports television network. Scorekeepers from Northwestern and other participating teams e-mail data to Narrative Science and the computer-generated story appears online in minutes. (The college paper, The Daily Northwestern, covers only about 25 percent of the season's baseball games.)

Of course machine-generated stories cannot offer the details that reporters observe by being on the scene but Hammond said that a computer can make a judgment by studying the data. One machine-generated game story suggested that the pitcher's excellent performance during that game indicated that he might be coming out of a slump.

Hammond sees a lot of potential for Narrative Science in business reporting. Journalists report on only about 350 of the 6,000 publicly held companies in the United States. Computers could mine financial transactions to cover many more. "Machines can give voice to the stories that are in these data repositories," he said. ∎—Jan Gardner

(recommending the quickest way to work given the weather, traffic and planned road work). Imagine your local traffic reporters replaced by the science fiction vision of your own version of HAL 9000 who might not open the garage doors if the conditions outside are unsafe to drive in.

The good news for local radio station traffic reporters is that the Web is messy and filled with contradictory and unclear information that still needs human interpretation. Semantic Web advocates know the Internet will remain confusing for machines because we humans keep changing it in unexpected ways, not to mention our habit of inventing new words and meaning. If our use of poor grammar and slang is not enough, the development of the semantic Web faces another challenge. Many people, particularly those who would have to pay to have their business apply semantic Web concepts, do not see the immediate benefit of such an effort. Even if major corporations embrace it, given that the Web is the result of millions of minds each with their own standards and goals, getting everyone to agree and then act on one way to describe data is going to happen only when there are compelling economic reasons or it becomes so easy to do that there is no reason not to.

A number of news organizations, however, are already betting that making their stories more machine friendly will pay off. The New York Times, the BBC, and Thomson Reuters have embraced various facets of the semantic Web. Thomson Reuters is making a separate business of it by offering a way to tag stories, extracting information such as places and names so they can be more easily found and linked to other data. Applying semantic Web ideas to a news archive should, in theory, allow that data to be used and reused by the news organization and the world at large, reason enough for The New York Times to invest in just such an effort.

This enhanced findability is the most practical and immediate reason for journalists to pay attention to the semantic Web movement. When we stop writing clever headlines for the Web (you might have been told puns are for humans and mean nothing to computers) and instead write headlines with full names, places and descriptions of action, we are in effect tagging content for the machines, which in turn should help more people find our reporting. If you use Delicious or tag photos on Flickr, you are likewise doing the work of the semantic Web by making content computer friendly.

Looking Ahead

This move toward semantic publishing will, I forecast, over the next five years encourage the linking together of many kinds of Web content. Data will be easily gathered and Web users will reuse the information and interpret it in their own ways. Such a world will challenge our notions of copyright law, fair use, and privacy as data start to flow without attribution or even verification. You can speculate that someday in the next 10 years machines combining parts of stories will commit libel by omitting critical context from data they have gathered and presented.

While the semantic Web promises a world where machines can combine

data from an infinite number of sources for us—perhaps someday with a Skynet avatar delivering customized news based on where you are and what you are doing—the real promise for journalists is that it should soon offer us easy access to thousands of sources of raw data that we will use to tell meaningful stories about our communities. Humans still will be needed to analyze and use the data to tell stories. In this way, the semantic Web might not be a technology that hastens the end of journalism but instead offers a new beginning. ■

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Journalism on the Map: A Case for Location-Aware Storytelling

'Every place has a story, and every story has a place.'

By Krissy Clark

"To be rooted is perhaps the most important and least recognized need of the human soul."
— Philosopher Simone Weil

Once upon a time I had a vision in the Utah desert and saw the future of journalism. (At least, part of its future.) The vision came while I was deliriously hot, driving west of Salt Lake City across a vast stretch of land where almost nobody lives. But there was this house off in the distance. What was it doing there? I couldn't stop wondering. Who lived in it? Why? It was a familiar feeling, one that fuels my journalism—a deep curiosity about a place and the people who inhabit it.

In my delirium, I had the strange urge to click on the house as a person might click on a hyperlink. I wanted to find out more about the house, its inhabitants, and the desert surrounding it. This urge was delusional, of course. The landscape is not made of hyperlinks; we can't click on things we see in the world to learn more about them.

At least, six years ago, when I had this vision, we couldn't.

Before I go any further, let me back up. This drive through Utah was not

Places have stories to tell, and technology is likely to help us connect what we see—like this old barn—with stories about people and events that happened here. *Photo by Krissy Clark.*

the first road trip to shape my vision of journalism. I became a journalist via road trips. In the late 1980's, my father and I took a series of drives on weekends, together in his beat-up brown Mercedes. I was young and curious; he was old and sick with the emphysema that would later kill him when I was in high school. We drove because he had things to show me, most of all the land surrounding the San Francisco Bay, where our family has lived since 1848. I was navigator, squinting over maps, fingering shorelines, and tracing roads. As I looked out the window, my dad told stories of what we saw.

Down that road, in the little town of Birds Landing, were the ruins of my great-great-grandfather's store,

which supplied gold-seeking forty-niners. (Now the building sits in the shadow of an industrial wind farm.) Up that hill, on Vallejo Street in San Francisco, was where my dad and his mother before him grew up. (My great-grandparents moved into the house after their original house was damaged in the 1906 earthquake.) Past that tollbooth—see it through the fog?—was the place where as teenagers, my dad and his best friend climbed up the base of the Golden Gate Bridge (or so they told us) while it was under construction.

It was on these trips that I first fell in love with a place and its people, and I understood that a landscape is made of stories over time, layer upon layer, like geologic strata.

A year after graduating from college, I saved up for a bicycle ride across America with my best friend. We pedaled from California to Massachusetts and camped in the yards of people we met along the way. We had breakfast with roughnecks living large off the gas boom in Wyoming. The noise and lights from their rigs kept the town up at night. We stayed with a family who raised hogs in Minnesota but struggled to compete with corporate farms. We rode through an impoverished Indian reservation and met locals who hoped a casino might help. We hit the Atlantic Ocean, and I didn't want to stop.

But I had figured out that what I liked doing—meeting people, asking them questions, learning about the joys and frustrations of the places they lived—had something to do with journalism. Since then, over the course of my career I have let these instincts and values guide me. I have been a student of how land shapes people and how people shape the land. I've learned to ask simple questions that often lead to surprising answers—and interesting stories. Why did San Francisco become the gay-friendliest city? What happens to a cow town when the cows are all gone? What drives a city to court a nuclear bomb factory? What is it like to live in the foreclosure capital of the U.S.?

Mapping the Journey

There is another thing all those road trips taught me. Maps are powerful tools. In fact I've come to believe that the best journalism is like a map. It shows where you are in relation to others; it provides a sense of topography and can show the best path forward. Whatever the purpose is of a particular piece of journalism—breaking a story, investigating corruption, giving voice to the voiceless—when the job is done well, a new place in this world emerges or new understanding of a familiar one is gained. Effective storytelling helps citizens and communities discover where they are (sometimes by examining who they are). From there, they can better decide where they want to go.

And so I come back to that vision I had in the desert on that sweltering drive through Utah when I noticed that faraway house and wanted to click on it. While that would have seemed a ridiculous idea a decade ago, now it is nearly possible. Look in your purse or pocket. There's a good chance you've got a smartphone in there—equipped not only with Internet access but also with GPS, a compass, and an accelerometer. It can tell you where you are, help you get to where you're headed, and even let you know how fast you are going in getting there.

Technology like this is changing the media landscape, and the shift has got me thinking hard about the actual landscape under our feet—the streets and land we live on, and the layers of stories heaped upon them. Every place has a story, and every story has a place.

So what can that gadget in your car or pocket tell you about a place right now? The answer: a lot of facts, figures and user-generated reviews.

- An application called Wikitude allows you to point your phone in the direction of a mountain range or historic building and read a Wikipedia entry about it.
- Twitter and Foursquare and Gowalla can show the tweets and fleeting thoughts of people who have stood where you're standing.
- Yelp and Urbanspoon let you use the camera and GPS on the iPhone to create a window of augmented reality that displays comments about the restaurant in front of you.
- EveryBlock reveals data including crime statistics, property values, and municipal permit applications on a city block.

All of this is useful information. But as a journalist it's worth considering two things: Too much information can be too much of a good thing, if it's not vetted and curated. And a place's story is more than the sum of its data.

In other words, facts and tweets and user-generated encyclopedia entries and reviews are not the only things to know about a place. There are also well-researched, well-crafted stories: the dramas, hopes and concerns of the people who live there and the forces that affect them.

At such a challenging time for journalism, this is good news.

Now imagine this scenario. I'm driving down Interstate 80 through the Utah desert and I see a house. I wonder about it. So I point my phone in its direction and click; I find a story, perhaps from The Salt Lake Tribune, about the man who built it. Maybe he worked at the Wendover Air Force Base, where the Enola Gay crew trained before they dropped the first atomic weapon in 1945. And the desert surrounding this house? Courtesy of the Deseret News, I learn that the land may soon be home to a radioactive waste dump, just over the ridge over there. A few miles behind me, that's where a skydiver fell from the clouds and broke his pelvis last summer. And the town up the road may look sleepy, but in the last few years it has had the highest job growth in the nation.

Imagine pointing your smartphone at the desert and hearing a stream of stories about the people who live and work nearby. Imagine clicking on the things you see in the world as though they are hyperlinks. Imagine hearing a podcast as you move through

a landscape that would tell you the stories of that place.

Telling the Stories of a Place

Every place has a thousand stories that can help us understand our world and make decisions as citizens. Journalists tell these stories every day and news organizations have archives full of them. But there could be more efficient, effective and creative ways to link these stories to the places where they are rooted. Reporters and newsrooms could geotag their stories and archives in a coordinated way so that when someone goes to a particular place or looks at a map of that place, she could get an aggregate of relevant, well-researched content.

I've gotten glimmers of the power of telling a story at precisely the right time and place and heard back about how the experience enriched my audience's understanding. A few years ago, a woman e-mailed me to say that she had been driving past Santa Monica beach when she heard my radio story about a 97-year-old man who flies homemade kites there. She found him and introduced herself. Then there was my friend who told me he caught my story about the drought's effects on Lake Mead just as he was driving past the reservoir toward Las Vegas.

Those intersections of story and place were just lucky coincidences. We could build tools that ensure those moments. By harnessing the fleeting but powerful investment that people have in a place when they are physically in it, we fuel curiosity and give deeper meaning to what is discovered.

We live at a time and in a world in which people can become so glued to their gadgets they forget the place where they are standing. But a reporter equipped with the right geospatial devices has a unique opportunity to reconnect people to place.

Combine storytelling skills with location-aware tools, and the interactive landscape of my desert hallucination is nearly possible. I see a world where narratives are draped on a landscape, and the news of a region is not just about what's new. Place provides an alternative organizing principle for journalism, prompting questions about what forces—economic, political, environmental, cultural, personal—shape one spot in the world. "Where" has always been one of the fundamental questions guiding journalists, along with who, what, when, why and how. Now the answers to those questions—in the form of stories—might soon emanate from the landscape itself. "If these walls could talk," the saying goes. I'm here to tell you: They can. ∎

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Digital Immersion: Augmenting Places With Stories And Information

'News organizations and start-up entrepreneurs are only beginning to explore the potential of augmented reality.'

BY MIKE LIEBHOLD

Imagine that you are able to see invisible information draped across the physical world. As you walk around, you see labels telling the history of a place and offering geographic attributes of the space as you walk through. There's the name of a tree, the temperature, the age of a building, and the conduits under the pavement. Popping into view are operating instructions for devices. All of this is digitally overlaid and visible across the physical world.

This yet-to-be-realized experience is a thought experiment for helping us interact with a future that is moving inexorably toward us.

Web browsers enable us to view hyperlinked media on a page. Now the Web browser is our camera view as we interact with digital-linked media that are attached to the real world. We can experience this now through mobile technology's augmented reality (AR) on a smartphone using apps like Layar, Wikitude and Junaio. Eventually we'll be able to do so with augmented reality glasses. In time, we'll do this through our vehicle's windows, too, then with digitally augmented contact lenses, and on go the possibilities. Right now data are geocoded so the information is identified with latitude and longitude, though for many future AR applications, it will be necessary to include data about a digital object's elevation.
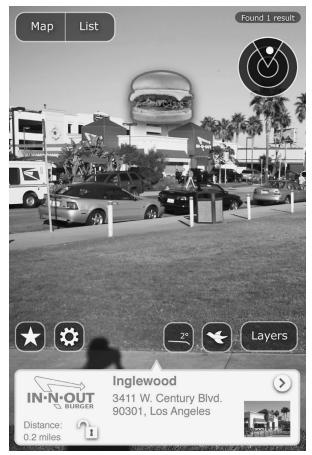
The first generation of smartphone augmented-reality viewers can see only a few narrow glimpses of the increasing mass of geocoded data and media available nearby. Yet, there's a growing flood of location-based map data, geocoded Web pages, and live sensor data digitally available using newly opened standards like Keyhole

Markup Language (KML); this map description language is used by Google Maps and Google Earth and named after Keyhole, the company that developed Keyhole Earth Viewer, which was renamed Google Earth when the company was acquired by Google. According to Google, people have already created and posted more than two billion place marks—digital objects attached to a place—and a few hundred million more using another Web standard called geoRSS. This location coding is an extension of RSS (Real Simple Syndication), which is widely used by news organizations. And now Twitter's new geocoding tools are being used to add location coordinates to millions of tweets.

The beauty of these standard codes is that ideally they can be viewed on any browser, just as an HTML Web page is now easily read on commonly used browsers such as Firefox, Internet Explorer, Safari or Opera. Similarly, KML and geoRSS location data can be viewed on any map program from Google, Microsoft, Yahoo!, or companies such as ESRI, which is the dominant map software company.

Unfortunately our GPS-equipped phones can't calculate location accurately enough to precisely display geocoded information that is closer than about five to 20 meters. This is a technical limitation of both GPS and of the data. Nor does most geocoded information yet include precise 3D coordinates of latitude, longitude and elevation. Instead, with this first generation of mobile devices, most of the apps rely on the GPS and an internal compass to show viewers the general, but not the precise location of the data. This works fine for finding a coffee shop, but is insufficient for learning the finer details of an object or place we can see, for example information about an ornamental decoration on a historic building.

There are, however, some technical

Using an augmented reality browser, a person can see different layers of information overlaid on the live view from their smartphone's camera. *Photo courtesy of Layar.*

developments that will enable the creation and viewing of digital objects with precision in 3D space. These will rely on a photographic recognition capability, which major technology companies such as Nokia, Microsoft, Google, and others are developing. How will they work? By comparing the pattern in the view to a stored pattern. By using the company's vast network of computers and massive database of images, Google's visual search application can identify an image of a place like the Golden Gate Bridge; eventually this technology will be able to calculate the "pose" of a camera, i.e., the 3D location, with the field of view and precise distance of the person from the object he is viewing. Nokia's Point and Find and Microsoft's Photosynth work similarly and will provide the capability for people to add a precisely located annotation to

the real world so that people can discover digital information attached to these physical places.

Augmented Reality and Journalism

Until now our knowledge of the physical world, as humans, has been limited to that which we can carry around with us to help make sense of the physical world. With the Internet and now with relatively inexpensive wireless mobile devices, our ability to make sense of the world as we move through it is greatly enhanced. All we need to do is to enter a query and view the information on a digital device. But right now to see this information in the real world requires that we launch one of dozens of special iPhone or Google Android phone applications. By 2015, the Institute for the Future forecasts that digital augmentation will work seamlessly and naturally through the first generation of special eyeglasses equipped to show digital data overlaid on the real world. By 2020, perhaps glasses won't be needed as wireless contact lenses, already in development in University of Washington labs and elsewhere, become available.

Just as the hypertext Web changed our interaction with text, emerging augmented reality technologies will reshape how we understand and behave in the physical world. That's why it's important that we—in particular, those who transmit information and interpret and describe the world for others, as journalists do—start to think about the implications of physical space being transformed into information space.

I think it's apparent that we won't want to see everything about all that we are viewing. If we did, our natural vision would be blocked completely. This means we'll need to think hard about developing ways to query the information we want and filter from our view potentially vast amounts of information that we don't want.

In any place we go, there will exist the potential for a bombardment of information that has been aggregated about the thousands of digital objects that describe in some way our physical environment—its infrastructure, history, culture, commerce and politics. In the mix will be social and personal information and sometimes even fictional events with this place as a backdrop.

With access to this realm of information, complex objects will become self-explanatory. People will be able to display operating and maintenance instructions in text, graphics or even in geolocated video and sound. And just as it will be very easy to encode and view facts about a place, it will be similarly simple to overlay the place

Most of the apps on the first generation of smartphones rely on GPS and an internal compass to provide general information about a place. *Photo courtesy of Layar.*

with fictional art and media. And when this happens, even neutral spaces can be transformed into sensory rich entertainment experiences.

As travelers in information, journalists will have the job of making sense of this new world and they will do this with a fresh palette of digital tools. It will be incumbent on them to find ways to tell stories about our new blended realities, using tools that make possible these new dimensions. Imagine the possibilities of being able to describe in detail the cultural and social histories of a place that foreshadowed a newsworthy event—and do this in augmented reality so people can visualize all of this.

There is also the opportunity to overlay statistical probabilities of an event occurring. For example, if a driver looking for a parking space can see that there have been many auto thefts nearby, he might decide to park somewhere else. If people could discover that there is a very high incidence of communicable diseases near a restaurant, they might choose to eat elsewhere.

News organizations and start-up entrepreneurs are only beginning to explore the potential of augmented reality. Map out where news stories occur at a moment in time and you surely will find stories from Washington, D.C. and Baghdad, others from Afghanistan, and a mixture of local coverage. However, if we gather stories related to a place over a longer period of time, there is a higher density of news present in that place. And so both the temporal and spatial density of information in any one place can become a more complete and richer resource.

Recently Microsoft demonstrated how we'll

be able to see old photos and videos of an earlier time overlaid directly and precisely on a rendering of the current environment. This will enable us to understand better (by seeing) what a place was like at another time. Indeed, it's likely that we'll be able to see from recordings video ghosts of people walking down the street and listen to them describe experiences from another time in this exact place.

This futuristic vision of the digital augmentation of our real world seems quite strange, even disorienting, to our contemporary sensibilities. In its entirety, it is not yet imminent. We have ample time to explore the implications, challenges, dilemmas and opportunities that it poses.

At the Institute for the Future, we help people to systematically think about the future by following a basic methodology of planning for disruptive changes ahead; the process involves three stages—foresight to insight to action. Foresight happens by gathering and synthesizing expert opinions; one expert might be able to describe a clear view, but one limited by her own realm of expertise. By gathering views from multiple experts, we start to see things at the intersection of various views. Then by developing these vivid views of the possible future, we arrive at what we can grasp as the probable future. The next step is to select actions to build what is seen as a desirable future that is based on contextual insights.

Through this process, one overarching theme remains at the center of our thinking. We are not victims of the future; we can shape our own futures. The takeaway for journalists is that the tools and probable use of augmented reality are not the stuff of science fiction. To those who find ways to use this technology to tell stories—to gather and distribute news—will flow the audience. ■

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The Future of Storytelling: A Participatory Endeavor

At the Center for Future Storytelling, researchers envision how technology can give people more control over TV programs they encounter and stories they follow.
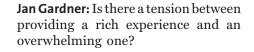
For 25 years the Massachusetts Institute of Technology's Media Lab has been at the forefront of exploring how technology can enhance communication and storytelling. V. Michael Bove, Jr., a principal research scientist, leads a number of initiatives at the lab including the Center for Future Storytelling, which was founded in 2008. Jan Gardner, assistant editor of Nieman Reports, spoke with Bove at the lab. Edited excerpts follow as Bove, one of three codirectors of the center, talked about television viewers as directors and media consumers as collaborators.

V. Michael Bove, Jr.: Our effort at the center looks very broadly at the ways in which people will express themselves and share stories and at the different tensions involved in doing this. There are two that I particularly care about. The first is the tension between the shared social experience of inviting friends over to watch the Super Bowl on your big screen TV versus people who watch TV on their iPhones wanting to have a personalized interactive experience. How do you simultaneously create what will be a shared experience *and* a personalized experience such that everybody comes away happy?

The second tension is between large organizations—such as Disney-Pixar—which do very good storytelling by getting the best talent and having a culture that nurtures what they do—and the YouTube generation. How do you support both of those visions without casting them in opposition to each other? How do you look hard at the business models, content and technologies with some meeting of the minds, in ways in which each side feels that there's some benefit in talking with the other?

Recently we had about 150 people at an event called Story 3.0. A big part of that gathering was an attempt to figure out what people are already doing that relates to these questions, as well as some interesting directions to follow up on.

Jan Gardner: Is there a tension between providing a rich experience and an overwhelming one?

Bove: The problem of overwhelmingness is maybe generationally defined. So different people—depending on what they grew up with—are overwhelmed by differing amounts of media richness and saturation and ubiquity. I heard a number this morning that 87 percent of teenagers who text sleep with their cell phones. I don't know that it's easy to overwhelm somebody like that with media ubiquity. But that doesn't mean everybody wants that. So I think that information dissemination is going to be even more multi-dimensional. And you can't just be in the business of one dimension.

Gardner: What was discussed at the Story 3.0 gathering?

Bove: One topic was a project from my group called "surround vision" in which we are saying "let's take your high-definition television set and add augmented reality to it." What that means is you're watching a debate, a talk show, an entertainment program, a sporting event, and it's the same thing everybody else can see. So you'd say, "I want to see the audience's reaction to what Jay [Leno] just said." On "The Tonight Show" there's always a camera pointed at the audience, but most of the time the feed doesn't go out. What if those additional video feeds were available and all I had to do was take my iPhone and hold it up and look around behind me? Or during a debate I could look at the reactions of the other candidates to what the person at the podium just said. I would not then be relying on the producer providing the video to decide which view I ought to see.

A prototype of a handheld device application that could enable surround vision to happen in ways similar to what audio technology now enables. *From video by Melanie Gonick, MIT.*

Or for a sporting event, I may want to look at the other end of the field than what they are showing right now. The field is surrounded by cameras, so video is being shot.

We are looking at a variety of content ranging from entertainment to sports to news and public affairs. Initially, we're not looking to add complexity or expense to the production or post-production process. We're trying to take stuff that is already being shot, where there's additional material, and simply providing a means for making that available. What that means is that individuals will have a bit more control.

Gardner: So viewers can become their own producer.

Bove: You can become your own director. Or you can decide to have a lean-back experience. So it's not like playing a video game. You don't constantly have to be pressing buttons or moving around to make the story advance. But if you want to invest more in it, you can get more in return. That's a theme that my students have been working on for a long time, the notion that we want to have television that's interactive when we want it to be. But if you don't interact with it, it's still a perfectly valuable experience. We did a television program with Julia Child and WGBH in 1999 that worked that way—it was a dinner party that she hosted. She put all of the dishes out on the table, and if you wanted to know more about a particular dish, you could click on it and she gave a lesson in how to prepare it.

A lot of the technology we need to do these things is almost off the shelf now. So it's more a matter of creative vision and business model, but we also have to reinvent television to make this happen.

Gardner: What about the implications for print?

Bove: We have to assume the print medium is part of an ecosystem and then ask what happens when all the pieces of the ecosystem fit together. What is the overall experience? This is another issue. Too often in organizations that produce media one team does the main product, another does the Web site, others work on the mobile app, and then there are teams that do something else. That's unsustainable economically because it's a huge duplication of effort. It's also not a particularly good idea in terms of coherence because what you would like is for the experience to play out across these different platforms in different ways and let users go back and forth among them. It's not necessarily the job of the creators to drive you to a primary platform. I don't think you can do that anymore. Figuring

> **You can become your own director. Or you can decide to have a lean-back experience. So it's not like playing a video game. You don't constantly have to be pressing buttons or moving around to make the story advance. But if you want to invest more in it, you can get more in return.**

out how to make it work financially is another matter.

Gardner: What else came out of Story 3.0?

Bove: We had a case study that MTV presented where they rather radically had to alter what they were doing because the audience was actually more demanding than they'd expected. It was a show called "Valemont" about a university for vampires. People said to themselves, "Oh, geez, it's going to be 167 hours until the next episode goes on the air, entertain us till then." The story was advancing both through the broadcast show and online, so if you really wanted to find out what was

going on, you had to watch the show *and* go to the Web site. The audience turned out to be very, very earnest.

The point is that there are some cases where producers and directors say that they probably should have listened to the people on the Web because there were a lot more of them spending their lives thinking about what should happen and how the story arc ought to progress than the small team of writers. And if they paid a bit more attention, the show probably would have been better. On the other hand, not everybody is comfortable giving up that much control. But if you go to these online forums where people are discussing what ought to happen next, there are some very clever and thoughtful people out there who probably understand the characters at least as well as the writers do.

Gardner: Do you look for any lessons from the past for the work you're doing?

Bove: What comes to mind is the 1998 book, "The Victorian Internet," in which Tom Standage explains how almost everything that the Internet was supposed to do to society was actually done to society by the telegraph. Even up to the degree that the telegraph was this extremely economically important means of communication essentially being run by very young people who developed their own sort of text message shorthand.

On the one hand, we can take this stuff all a little bit too seriously and believe that OK, nothing new is going on and there are no new lessons to learn. On the other hand, we can feel that any time something comes along that looks as if it's going to amplify our ability to communicate with others over time and distance, we should pour as much of ourselves as we can into that new means of doing so.

In truth, the really fun stuff happens in the early days before anybody figures

out what the new technology is good for. I thought the Web was a great place in the mid '90s although nobody had a business model for it because people would just try anything. In the same way, TV was much more interesting in the mid '50s when nobody knew quite what it was good for.

Gardner: Mobile technology is big now. What about the future?

Bove: The real question is: Is there going to be anything but mobile?

Connectivity is a given, just as are richer user interfaces and offering more context. The best way to deal with an onslaught of information is to have the system figure out what's appropriate for you. No one really needs 1,000 television channels. What I've always wanted to do is make a television that essentially has an on/off button and a guess-again button, where the TV shows what it thinks you probably want to see. You tell it "No, not that," and it shows its second-best guess. A lot of things are going to have

to work that way.

All of these things do not in any way minimize the role of the human creating the content. They actually amplify the ability to get the content to the people who really want it. So in the future the metric of success might not be whether a story appeared in a publication with a circulation of a million readers, but whether 10,000 people read it to the end within 15 minutes of it being posted. ■

Storytelling in the Digital Age: Finding the Sweet Spot

'Old metrics for credibility and trust no longer guide us, nor does trust emanate exclusively from the power of a brand name or from the overpowering resources of a recognized institution.'

BY HANSON HOSEIN

Six years ago I turned away from my television career with NBC News. Around me, I was seeing the explosion of broadband Internet access, powerful computer processors, cheap digital storage, and the proliferation of portable content creation and distribution devices. All of this was throwing the very controlled communication system that provided my work and income into turmoil. Suddenly almost everyone had access to a cheap and easy-to-use digital communication medium.

Yet the reality is still that humans have only so much time and interest in consuming media. When virtually everyone can produce content, the challenge becomes convincing people to pay attention and effect a transaction—share the content, get involved,

Filmmakers Hanson Hosein and Heather Hughes took their dog Miles with them on the road to make "Independent America: The Two-Lane Search for Mom & Pop." *Photo by Paul Perrier.*

or act in some way on what's been learned.

Early in 2005, blogging was hitting a critical mass. High-definition cameras were descending to consumer-level prices, and new multimedia distribution platforms were proliferating. (YouTube launched that year.) As a

novice filmmaker, I figured this was the right moment to combine the timeless art of storytelling with 21st century digital tools by making a film about a civic issue of growing concern. Could I build a community with trust at its core through such an effort? I didn't know, but I wanted to try.

The film's topic was the displacement of Main Street's commerce and community by soulless big box stores—massive structures enticing people away from the core of their towns along stretches of road with a corporate shopping experience at the end. So my wife, my dog, and I set out on a cross-country trip, one in which we vowed to stay off interstates and away from corporate chain stores. As I conceived our story—it would be portrayed as a personal journey—these

constraints would serve mostly as a headline gimmick; by the time our film, "Independent America: The Two-Lane Search for Mom & Pop" was ready for broadcast, the journalist inside of me realized that these two "rules" gave us an ideal storytelling structure and actually were our story.

In his "Poetics," Aristotle observed what we now consider obvious; every story has a beginning, middle and end. He likened structure to the tightening of a knot—lay out the premise at the outset, then twist it tighter into a complication until a transformation (the climax) occurs. This leads to the denouement, literally the untying of complication—a release of the story's tension. Here is where storytellers (and filmmakers) will often let the audience off the hook with an emotional release.

Our Brains: Emotion and Decision

The emotional element turns out to be crucial, since it actually helps us make decisions. In "How We Decide," Jonah Lehrer observed that the right side of our brain allows us to see what we would otherwise fail to notice with our rational hemisphere on the left. "These wise yet inexplicable feelings are an essential part of the decision-making process. Even when we think we know nothing, our brains know something. That's what our feelings are trying to tell us," Lehrer writes.

What this means to us, as journalists, is that in competing for attention in an information-saturated society, we want people to make decisions based on what we communicate to them. It's important to know the value and potential use we can make of emotional impact. In "Independent America," there is mounting tension toward the middle of the film about whether we'd complete the journey. (We did.) As the end of the film approaches, we present viewers with an epiphany about Americans' growing mistrust of large, powerful institutions. This happens as

we encounter a community-supported department store in Wyoming that offers an alternative to the destruction of community that we'd seen before.

Aristotle's enduring formula would predict that our mid-story tension followed by this final release would satisfy our story's audience. In fact, what we offered as a return on their investment of attention and time was an emotional bond—in this case, empathy. And through this we managed to build trust and form community. We came to be regarded as credible storytellers who might be able to re-engage an audience in the future.

Establishing Trust: Then and Now

Stories are encoded within our DNA as humans. Joseph Campbell spent his life studying myths that have emerged from many cultures. In doing so, he discovered a universal pattern that transcends both culture and history. He called it the "hero's journey"—the story of when a seemingly ordinary person reluctantly accepts a call to action, leaves behind the status quo, and embarks on a journey that entails trials and tribulations from which this hero learns valuable lessons. Ultimately he undergoes a transformation for better or for worse and returns home a changed person. Jesus, Moses, Mohammed, Harry Potter, Luke Sky-walker, Frodo—these are all legendary personalities who have undertaken the hero's journey.

Campbell believed that our love and belief in these myths originates from experiences we have as human beings who are born, live and die, and that each of us pursues his own hero's journey, with a clear beginning, middle and end and a transformation along the way. Thus, inherently we grasp these three stages deep within ourselves. Indeed, we spend our lives trying to come to terms with it, so it's no wonder that disparate societies can tell the same stories over and over

again with different names, places and details. Yet we continue to be deeply attracted to these archetypal tales.

Certainly advertisers and public relations professionals apply Campbell and Aristotle in their marketing campaigns, sometimes even serializing them like a television drama. But until very recently these have been 20th century mass media products of passive, one-way, filter-then-publish media distribution. There we used to sit, without choice, as commercials played. By and large, we trusted what was said, in part, because the words and images reached us as they did. We ascribed credibility to organizations based, in part, on the huge resources and effort they deployed to reach us; those high barriers to entry must count for something, we figured, if only by winnowing out losers and charlatans.

With digital media, barriers to entry are eroded. Old metrics for credibility and trust no longer guide us, nor does trust emanate exclusively from the power of a brand name or from the overpowering resources of a recognized institution. Through social networks, we adopt ways of trusting people we've never met, often based on identifying a mutual interest or point of agreement. When we find these, they encourage us to open a channel of communication. If we inject that channel with story, authenticity and a certain amount of emotion, we have laid the groundwork for an ongoing relationship of credible communication.[1]

Back in 2005, in addition to the digital tools at our disposal, we had another powerful asset: a nascent relationship with the grassroots American Independent Business Alliance (AMIBA). As I contemplated documenting our journey, I called upon AMIBA to help drive their members to our blog. This simple request for a partnership of sorts was why we succeeded. Not only did engaging AMIBA members help shape the content of the story, but with them we built up a large amount of social capital.

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[1] Hosein elaborates on these themes in "The Storytelling Uprising," a slideshow available at www.slideshare.net/hrhmedia.

Before the end of our trip, members of AMIBA were clamoring for a DVD of the film so they could buy it and screen it in their communities. They hoped to convince neighbors and city officials to reform economic policy as it affected local retail.

We tapped into power by appealing to a niche community with the passion and focus to support the issues and ideas that "Independent America" championed. We didn't start out believing that this was a story that would capture the attention and stir the energy of a mass audience. The good news for us was that the mass audience, like mass media, was already dividing into digital communities of interest. So it seemed natural, as well, to abandon the veneer of journalistic objectivity—a blunting of the editorial edges to appeal to a mass audience without offending them—given that we were already relegated to the populist sidelines.

Still we wondered how we might reach a wider audience. Despite our leanings in favor of Main Street, as a journalist I also wanted our portrayal of the issues to be fair and not dogmatic. Ditto with our conclusions. Along the way, we made our editorial practices transparent in blog posts and our mission statement. And such transparency—and striving for fairness—led us to an unexpected interview with Wal-Mart officials. Wal-Mart receives 800 interview requests each week; they granted us an interview even though we didn't even have a distributor for the film because, they told us, they were impressed by our professionalism and independence.

After our film was made, we found that we could break out of our niche community to reach a much broader-based audience. We did this by connection to a wide mix of digital communications streams, broadcasting the film internationally, and receiving high-profile exposure on Yahoo! and Hulu.

Somewhere between the monopolistic, hierarchic and centralized mass media outlets of the 20th century and the atomistic, anarchic and decentralized nature of citizen production and distribution lies the sweet spot, a place between institution and amateur, between left and right brain. The influence of these media creators comes not from any institution, but from their own personal brand—trust built through ongoing storytelling and the curation of knowledge within a community. ∎

Hanson Hosein is the director of the Master of Communication in Digital Media program at the University of Washington, a filmmaker, and a former NBC News correspondent and producer. He is working on a book about storytelling in the digital age.

Apple's iPad Meets Hamlet's Blackberry

History teaches that 'long-established media technologies, when faced with the prospect of commercial extinction, counter with their own dialectic.'

By Peter Cobus

"E-paper has entered the market, but not yet in a big way. No technology is yet sufficiently paper-like to grab the huge latent market widely recognized to be there. … This is a lot like the early days of television development, when everyone knew what was needed but getting the technology right was tough."

— Nicholas K. Sheridon,
who developed a forerunner to
e-paper, from a 2007 interview.

In 2006, National Journal media critic William Powers wrote "Hamlet's Blackberry: Why Paper is Eternal," an essay—recently expanded to book length and scheduled to be published in June by Harper—that compellingly argues print's invincibility as the medium of choice for long-format narrative consumption—whether in book, magazine or broadsheet format.

The timing of his book's release couldn't be better: Industrywide buzz surrounding the launch of Apple's iPad has triggered—for newsprint-based organizations—the kind of vexatious bouts of self-examination one might expect of a melancholy Dane.

So now it's time to bring up the house lights. Any illuminating history of print says perseverance, not pulp, is its most distinctive trait; even a cursory review reveals the consistency with which long-established media technologies, when faced with the prospect of commercial extinction, counter with their own dialectic. Despite the iPad's digital sophistication—and the assuredness that more sophisticated tools will surely follow—history is a good guide in reminding us that what is happening in the digital realm cannot be the death knell for all of print media.

Reinvention

When people assumed talkies heralded the death of theater, motion pictures and stage found ways to coexist, albeit within a reconfigured marketplace; plays were adapted to film and vice versa, and stage and screen performers

found ways to reinvent themselves in relation to new technological developments. When Betamax arrived on the market, it surely meant the death of the cineplex. But this was not to be as Hollywood rose to the challenge by creating films of greater aural and visual sophistication and made the big-screen experience something newly distinct from home viewing. (The business bonus was that cinema flops could stanch financial hemorrhaging by going straight to VHS or DVD.)

But if old media's tenacity isn't persuasive, consider how print materials insist on their own presence. A newspaper delivered in the morning remains on the kitchen table while errands get run; when we return home, its open pages are an unsuspecting reminder of our intention, prodding us to finish what we started before the day ends. Unlike words we receive digitally, words on paper—or, to paraphrase Powers, the electronic data that our absurdly futuristic-looking copiers and printers spray across their surface—evade the out-of-sight, out-of-mind gauziness that is the perpetual present of the constantly updated homepage. And, at the risk of intellectualizing, I'd suggest hard copy periodicals maintain a kind of residual fixedness that seems to resonate, however subtly, with that of our own physical vessel—the human body.

There can be no lingering doubt online media will rule breaking news—the fact-finding or "just tell me what I need to know" strategies of gleaning information online. Yet print media (or the first interactive technology that can replicate their every physical attribute) will remain indispensable to the long-form narratives that provide us with the substance of what we find necessary to nurture our moments of personal reflection.

Amidst the digital invasion, print can be seen as an essential medium of accommodating stasis, a thing that complements our own momentary respite from the perpetual deluge

This flexible electronic paper display was created by E Ink Corporation and LG.Philips LCD in 2005. *Photo courtesy of LG.Philips LCD.*

of digital ephemera. It can be what settles us when we push away from the company of the constantly updating

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... print can be seen as an essential medium of accommodating stasis, a thing that complements our own momentary respite from the perpetual deluge of digital ephemera.

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updates of the contemporary breaking news portal. Print rescues us, in ways, from the eternal now that news organizations not only chronicle but, for better or worse, have come to embody.

No matter how much the anatomy of our news media infrastructure might change, advertising revenue will likely remain its lifeblood. Research has shown that consumers say they *enjoy* print advertising and, according

to Powers, they typically dislike television and online-multimedia ads due to their intrusive nature. Print ads are regarded solely on a reader's terms, while their multimedia counterparts on the Web can be as intensely irritating as they are deliberately attention grabbing. Is it any wonder that people frequently describe feeling a lack of control over the online-news reading experience? Or that people overwhelmingly prefer to read long-format news in print rather than on a Web site?

Even Google is attuned to this situation with the staid white emptiness of its homepage. This entry anchors a global information network and thereby marks the commercial epicenter of the barely controlled chaos that is today's Internet. It is a kind of cybersanctum of determined stasis: only a blinking cursor awaits your arrival in the search bar. Each online session is initiated purely on your own terms.

A pop-futurist sensibility continues to imbue the digital marketplace with a kind of mythical ethos of the modern consumer. Audio-visual sophistication and elaborate user interfaces are assumed to be the strongest selling points of any new device. As humans, we seem programmed to grab at any device that improves our (simultaneous) ability to watch TV, play films, chat with friends, video-talk with loved ones, take photographs, locate a restaurant, record a discussion, and/or indulge in activities we didn't even know we wanted to do—anything that keeps us occupied.

Yet it would seem the quiet and solace of an uninterrupted white space is analogous to what humans find essential in the experience of deep thinking and reading. Sadly, it is this simple lesson—born of what it is that makes us human—that we seem too willing to forget. ∎

Peter Cobus works on The Washington Post's universal news desk.

The Tablet's Mobile Multimedia Revolution: A Reality Check

'In my opinion, tablets, like the Internet in the past, are fantastic opportunities, not just devices on which to perform the same old tricks.'

BY JUAN ANTONIO GINER

It's the wine, not the bottle. Readers, audiences and communities don't drink light wines anymore. They want rich, full-bodied wines.

So executives who run a monomedia information winery don't have to worry about the tablet, Internet or mobile media. Print media will survive but with a shrinking market, fewer and older readers, and not very much advertising, increasing production and distribution costs, and falling margins and profits. It might be difficult to attract new and young talent.

But those who believe in the future of the news business, understand the public's new habits, and want to be a reliable and profitable player in this new media landscape should pay attention to the new mobile media devices like tablets and smartphones. They are here to stay.

Tablets are not the salvation of print media, but newspapers and magazines are still the best journalistic vehicles for finding exclusive news. What is critical are the skills to edit relevant stories and design compelling news packages, not just for static monomedia platforms but for the new, dynamic, mobile and multimedia platforms.

Don't expect miracles. If a monomedia operation produces secondhand news and stories, the tablets will not change anything. Remember: garbage in, garbage out. But if a newsroom embraces these new digital multimedia narratives, the life of a publisher, editor or reporter is going to change forever.

A newsroom will not be prepared to handle new platforms if it has:

- Continued to think print first
- Web site staff who still think online first
- Failed to integrate its print and Web newsrooms
- Salespeople who still don't sell multimedia packages
- Journalists and managers who don't talk to each other
- Information technology people who want to control everything
- Visual journalists who are still monomedia storytellers
- Journalists who are not able to create unique, relevant and compelling content
- Failed to become a 24/7 multimedia operation
- Failed to spend money on research, training and innovation.

As media consultant Daniel Ambrose wrote on his Online Publishing Insider blog:

It should be clear … that if reaching the maximum number of readers and customers—and customers for advertisers— remains a key strategy for media companies, they'll be doing that on a wider and wider range of devices and platforms. Analog media companies have struggled to adapt to one important new distribution platform in the last 15 years: the browser-based Internet. Over the next 15 years there will be dozens of new opportunities to deliver media company content and services. It's time to begin the education process in earnest; not with highly specific training on particular platforms anointed by management, but with conceptual thinking that provides a framework for taking in each new delivery form. It's time for publishing companies to begin to reinvest in their staffs at all levels. Companies that do so will thrive. New opportunities are emerging every day that their staffs will recognize and exploit. Companies that don't will see the future pass them by.

In my opinion, tablets, like the Internet in the past, are fantastic opportunities, not just devices on which to perform the same old tricks. This is a radical departure from how newspapers and other media businesses develop new relations with readers and advertisers as well as how customers interact with them, anywhere, anytime, all the time.

That's good news for the media if they are able to produce richer wines. Content rules.

Good journalism will be, as always, good business but what cannot be ignored are the new ways to access, provide and enhance the unique experience of getting the news first, explaining it better than anybody else, and presenting it in the most appealing and reliable multimedia news packages possible, produced by a new generation of publishers, editors, reporters and visual journalists. ■

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From Rejection to Success—With 'Radiohead Journalism'

In a crowdfunding experiment that earned back what it cost to report a story, a writer discovers a fresh, but unproven, path for long narrative stories.

When Paige Williams, a 1997 Nieman Fellow, couldn't find a home for a story she was passionate about, she published it online and set out to crowdfund her expenses. Donations and praise reached her Web site. But is the approach she calls "Radiohead journalism"—a term adapted from a 2007 experiment in online music sales—a viable way to keep narrative journalism alive? In this article, adapted from one she wrote for Wired.com, Williams reports on her experiment.

I pitched the whole world on Dolly Freed. Seriously, every magazine you can think of and a hundred more. Nobody was interested in a profile of a woman who used to eat roadkill, make moonshine, and sit around reading Jean-Paul Sartre with her alcoholic and probably-genius father; a woman who later went on to get her GED, put herself through college, and become a NASA rocket scientist who helped figure out the mess behind the Challenger explosion before turning her back on that world for a life that felt more authentic. Yeah, I can't see the appeal whatsoever.

So after months of rejection, I bought myself a Web site and in January used it to self-publish a long-form feature story called "Finding Dolly Freed."

In 1978 the pseudonymous Dolly Freed wrote a book called "Possum Living: How to Live Well Without a Job and With (Almost) No Money." She was 18 and had a seventh-grade education. She used a pseudonym because she was a teenage truant and because she and her father had an intriguing relationship with the law. After a slightly surreal post-publishing blitz that included an appearance on "The Merv Griffin Show," Dolly slipped out of sight. In the ensuing decades, fans wondered what had become of her. What became of her was Texas, among other things. She now lives and works outside Houston as an environmental educator, and she goes by her real name, which I promised not to reveal. She still lives a frugal lifestyle. Dolly is, she told me, "half-possuming."

Having lost my job two days before hearing about Dolly, in the worst months of the economic meltdown, I felt that she was a story

The story of Dolly Freed and her back-to-nature frugal lifestyle became the occasion for an experiment in crowdfunding narrative journalism. *Photo by Audra Melton.*

for our times. "Possum Living" was scheduled to be re-issued in January by Tin House.

Late last year The New York Times bought Dolly (yay!) for its Style pages but killed it (boo!) when I declined to reveal Dolly's real name. So I hired a Web designer and ran the piece online.[1] I included a PayPal link in hopes of recouping some of the $2,000-plus I spent on the project. Anybody could read "Finding Dolly Freed" for free but had the option to donate whatever amount they chose, sort of the way the English alternative rock band Radiohead did with their 2007 album "In Rainbows."

At that point, the Dolly Freed project became not only an exercise in self-publishing but also an experiment. Would readers pay for a story that they could read for free on an independent Web site by a writer they'd never heard of?

Lessons Learned

Here are a few things I learned in transforming rejection into success:

- **Social media work.** I used Twitter and Facebook to spread the word after posting "Finding Dolly Freed." Powerful folks online are critical to the dialogue. If Adam L. Penenberg, the author of "Viral Loop: From Facebook to Twitter, How Today's Smartest Businesses Grow Themselves," and New York University professor Jay Rosen hadn't tweeted about the project, it never would have entered this particular sliver of the public consciousness in a way that compelled other journalists to talk about it.
- **People are awesome.** A few of the characters behind the Dolly project worked for no money or for expenses only. My talented pal Audra Melton jumped on a plane to Texas to photograph Dolly, for literally no paycheck. (In fact, I'm pretty sure she lost money in the deal.) Another friend, Geoff Gagnon,

then an editor at Boston magazine and now at The Atlantic, edited the piece, and refused to accept a dime. Everyone else got paid (the fact checker, the copy editor), and those expenses went into the debit column along with Audra's travel, my initial travel to Texas (air, hotel, car), Web site expenses ($800 for design plus other fees for Web hosting, domain registration, etc.), and miscellaneous FedEx and photocopying charges.

- **You've got to burp the baby.** I thought I could release Dolly into the wild and my work would be done. Puh. Once you birth the baby you gotta feed her, change her diapers, protect her from bullies, take her out into public. The back-end work included tweaking the site, answering queries, tweeting and retweeting, and monitoring the Web for mentions or questions that needed either immediate attention or restrained silence. Momentum dies without a master.

Minutes after the site went live, the first donation via PayPal arrived. The contributions came regularly for weeks, in amounts ranging from 50 cents to $100. Three people gave $100, including Penenberg, who'd done such great tweeting about it, and Hank Stuever, a wonderful Washington Post feature writer who e-mailed me these words:

> I'm happy to feel strongly enough about what you do—what we do—to put money behind it. I feel it all going away: serendipitous stories, lark, wonder, exploration, heart. Everything in the newsroom now is just reactive, scoop-centered, gossipy, fuss-and-chit-chat. I have lots of thoughts about that, which I'm still sorting through, and may never sort through.

As of early June, donations totaled $2,100. I earned an extra $500 when Audible.com asked me to record the

story as part of the "Possum Living" audiobook. And get this: Although a kill fee usually runs 20 percent, the Times paid me a 50 percent kill fee. These two checks put me over the top. I made back the out-of-pocket money I spent reporting the story and earned a few hundred extra to plow back into the Web site.

Judging the Outcome

So did Radiohead journalism succeed? I guess it depends on the definition of success. In the strictest sense of the word, yes, it worked: I recovered my costs. Yet given the visitor-donation ratio—roughly 200 of more than 5,000 visitors from around the world contributed—this doesn't portend to be a sustainable model, at least not in its current form. I choose to look at it this way: People sent money they didn't have to spend to a person they didn't even know. That, to me, is wondrous.

Someone else may find a better way, and I hope they do. I'd be thrilled to see independent self-publishing models for journalism fly, as long as the authors adhere to inviolable standards of accuracy, fairness, solid ethics, and reporting. Institutional backing confers credibility, but in the wilds of the Internet, trust begins and ends with the storyteller and his or her integrity and approach.

After oxygen and carbon, humans are made up of stories; telling and craving them is elemental to our existence. Storytelling will never die. The vexing question is where we'll tell our stories, and how, and how to monetize online narrative without bastardizing it. The good news is that it's anybody's game. ∎

Paige Williams is executive editor of Boston magazine and has taught journalism at New York University and Emory University. She won the 2008 National Magazine Award for feature writing and has written for The New York Times, New York magazine, Salon.com, and GQ.

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[1] The story can be read at www.paige-williams.com.

1951

Angus MacLean Thuermer, a foreign correspondent turned CIA official, died on April 14th of pneumonia. He was 92.

While studying German in Berlin after college, he began working for The Associated Press to earn extra money. Thuermer covered major events leading up to World War II including Kristallnacht and Germany's invasion of Poland.

After the Japanese bombed Pearl Harbor and the U.S. declared war,

he was detained in Germany with 135 other journalists, diplomats and American officials. To pass the time and because to do otherwise would be "unconstitutional," Thuermer later told The Washington Post, he and two other prisoners formed the Bad Nauheim Wurlitzer Cup Series, a four-team baseball league. They whittled a tree branch to make a bat, which he donated to the National Baseball Hall of Fame nearly 50 years after his release.

Before retiring in 1978 after 26 years with the CIA, Thuermer served as the agency's "spooksman," offering

"no comment" to reporters, and he was the station chief in Berlin and New Delhi, according to the obituary in the Post.

He is survived by his wife, **Alice**, two daughters, one son, and a granddaughter.

1953

John Strohmeyer, a Pulitzer Prize-winning editor, died of heart failure on March 3rd at his winter home in Crystal River, Florida. He was 85.

Strohmeyer spent nearly 30 years

2010 Lukas Project Awards Presented to Authors

From left, award recipients David Finkel, James Davidson, and Jonathan Schuppe, as they discussed their books after the presentation. *Photo by Tsar Fedorsky.*

Columbia's Graduate School of Journalism and the Nieman Foundation honored the recipients of the 2010 J. Anthony Lukas Prize Project Awards for exceptional nonfiction in a ceremony at the foundation in May.

David Finkel, a Washington Post staffer, received the $10,000 J. Anthony Lukas Book Prize for "The Good Soldiers" about a battalion of soldiers serving in Iraq. In their citation, the judges wrote that "this is not a book about policy or geopolitics or even about military strategy; it is about something far more important, namely the human (and inhuman)

aspects of making war. At times it is almost unbearable to read … [but] Finkel does what all great writers do: he makes it impossible to look away." The book was published by Sarah Crichton Books/Farrar, Straus & Giroux.

The $10,000 Mark Lynton History Prize was awarded to James Davidson for "The Greeks and Greek Love: A Bold New Exploration of the Ancient World," his examination of homosexuality in ancient Greek culture, published by Random House. The judges wrote that Davidson "reconstructs in rich detail the circumstances in which homoerotic love found expression and shows that homosexuality did not have one meaning but many. … Intriguing, always lucid and often very funny, his book is one of the most entertaining pieces of historical writing in years, and a delightful invitation to any reader wishing to enter the classical world."

The J. Anthony Lukas Work-in-Progress Award, which provides $30,000 to assist in the completion of

a narrative nonfiction book, was presented to former (Newark) Star-Ledger crime reporter Jonathan Schuppe for "Ghetto Ball: A Coach, His Team, and the Struggle of an American City" to be published by Henry Holt. The book will follow a Little League team in the South Ward neighborhood of Newark, New Jersey, the most depressed in the city. Judges said of the project that, "[with] no sentimentality, his narrative suggests in these flawed characters the heroism and waste that illuminate great novels. As in the work of J. Anthony Lukas, at the core of Mr. Schuppe's writing is a sense of responsibility, as if this book needs to be written. We believe it does."

The Lukas Prizes were established in 1998 to recognize nonfiction writing that exemplifies the literary grace and commitment to serious research and social concern that characterized the work of the awards' Pulitzer Prize-winning namesake, **J. Anthony Lukas**, NF '69, who died in 1997. The Mark Lynton History Prize is named for the late Mark Lynton, business executive and author of "Accidental Journey: A Cambridge Internee's Memoir of World War II." The Lynton family has sponsored the Lukas Prize Project since its inception. ■

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at the Bethlehem (Penn.) Globe-Times where he wrote a series of editorials on racial unrest that won a Pulitzer Prize in 1972. He was the paper's editor from 1956 until 1984, when he was awarded an Alicia Patterson Fellowship and left the paper to write the book "Crisis in Bethlehem: Big Steel's Struggle to Survive." He later taught at Lehigh University for a year before becoming the Atwood Professor of Journalism at the University of Alaska Anchorage. At the time of his death, he was writer in residence at the university and writing columns for the Anchorage Daily News.

Strohmeyer also wrote "Extreme Conditions: Big Oil and the Transformation of Alaska" and "Historic Anchorage: An Illustrated History."

He is survived by his wife, **Sylvia Broady**, and one son, one daughter, and eight grandchildren. His first wife, **Nancy Jordan**, died in 2000, and one son died in 1998.

1959

Phil Johnson, a three-time Peabody award-winning broadcaster in New Orleans, died March 22nd after a lengthy illness. He was 80.

Johnson, a native of New Orleans, graduated from Loyola University and worked in print journalism in Miami and Chicago before returning to his hometown a year after his Nieman Fellowship to become promotions director for WWL-TV.

Two years later he was brought into the news department and began delivering editorials on air, a practice he continued for 37 years. "Beginning today and every weekday thereafter, this station will present editorial opinion—a living, vigorous commentary on all things pertaining to New Orleans, its people, and its future," Johnson said in his first editorial, adding that his goal was "commentary designed to stimulate thought, to awaken in all of us an awareness of our responsibilities, not only to our community but to each other and to ourselves," according to the obituary on WWL-TV's Web site.

Headliner Awards for Print and Radio Journalism

Three Nieman Fellows have been honored by the National Headliner Awards program, which is one of the oldest and largest annual contests recognizing journalistic merit in print, broadcast and online.

Guy Raz, NF '09, along with NPR colleagues Travis Larchuk and Rick Holter, received first-place honors for a feature that aired on "All Things Considered." "Every Plant Has Meaning on 'The Island of Bar Codes'" describes Plummers Island, the "most studied island in North America," where scientists have been developing a method of sequencing the DNA of every plant and animal on earth.

Elizabeth Leland, NF '92, was the second-place recipient of honors for a variety of feature stories she wrote for The Charlotte (N.C.) Observer. Among them were a profile of a local eccentric who discovered that he suffers from Asperger's syndrome and two pieces about a family helping their daughter deal with a rare brain affliction.

Margie Mason, NF '09, and her Associated Press colleague Martha Mendoza, received a third-place award in the health and medical science category for the five-part series "When Drugs Stop Working." The series, developed during her Nieman Fellowship in Global Health Reporting, explores how doctors are losing ground in treating major diseases because of the extensive use of antibiotics in agriculture. ■

Johnson traveled internationally for a number of documentaries he produced, three of which were honored with George Foster Peabody Awards. He was inducted into the Greater New Orleans Broadcasters Association's New Orleans Broadcasting Hall of Fame and received Loyola's highest honor as well as a Lifetime Achievement Award from the Press Club of New Orleans.

He is survived by his wife, **Freida**, five children, and eight grandchildren.

1961

Andrew M. "Mac" Secrest, a reporter, publisher, educator and vocal critic of segregation, died on April 17th after complications from surgery for throat cancer. He was 86.

As owner and publisher of The Cheraw (S.C.) Chronicle weekly from 1953 to 1968, he pushed back against those who advocated resistance to the U.S. Supreme Court's ruling in Brown v. Board of Education, among them Senator Strom Thurmond and many fellow newspaper editors in the South. He faced threats and attacks on his home.

During the height of the civil rights movement, he served as a negotiator and mediator for the federal government and worked with Martin Luther King, Jr. to help bring about a peaceful solution in Selma, Alabama.

After Secrest sold the Chronicle, he taught journalism at the University of North Carolina at Chapel Hill for five years. He moved to Durham to help establish the communications department at North Carolina Central University, retiring nine years later. In 2007 he was inducted into the UNC School of Journalism's Hall of Fame.

1966

Robert A. Caro has been named to the inaugural class of the New York Library Association's New York State Writers Hall of Fame.

In February Caro received the 2009 National Humanities Medal, which "honors individuals or groups whose work has deepened the nation's understanding of the humanities, broadened our citizens' engagement with the humanities, or helped preserve and expand Americans' access to important resources in the humanities," according

to the National Endowment for the Humanities Web site.

Caro, who started his career as a newspaper reporter, is best known for his Pulitzer Prize-winning biographies of New York master planner Robert Moses ("The Power Broker") and President Lyndon Johnson ("The Years of Lyndon Johnson: Master of the Senate"). He is working on the fourth volume of the Johnson biography.

1969

Richard C. Longworth reports: "I'm combining my Midwestern roots with my years as a foreign correspondent (for UPI and the Chicago Tribune) to carve out a new career in what were supposed to be my retirement years. I'm a senior fellow at the Chicago Council on Global Affairs, working mostly on the impact of the global economy on Chicago and the Midwest. My book, 'Caught in the Middle: America's Heartland in the Age of Globalism' (Bloomsbury) went through three printings and is out now in paperback. In the two years since it came out, I've given some 180 presentations around the Midwest. I spent a year as Distinguished Visiting Scholar at DePaul University and have lectured at most of the major universities in the region. All this has led to the founding of two centers here at the council—the Global Chicago Center, devoted to the study of Chicago's transformation from industrial city to global city, and the Global Midwest Initiative, sponsoring reports and seminars on the Midwest and how, for the most part, it's flunking the economic, political and social challenges produced by this new economy. Mostly, I'm having an exciting time, after a lifetime in other people's countries, rediscovering my own home turf."

1982

Margot Adler received the Association for the Study of Women and Mythology's first Demeter Award for Leadership in Women's Spirituality at the association's conference in April. Adler, an NPR correspondent based in New York, is the author of "Drawing Down the Moon," a study of contemporary nature religions.

1986

Gustavo Gorriti has launched an investigative reporting Web site that covers the Peruvian government, IDL-Reporteros (http://idl-reporteros.pe). In his first column, Gorriti wrote that the Spanish-language site's mission is to "report, investigate, discover and publish the cases and topics that affect the rights, property, or destiny of the people."
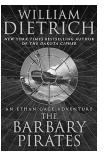
1987

Doug Cumming's book "The Southern Press: Literary Legacies and the Challenge of Modernity" was published by Northwestern University Press last year.

In the book, Cumming, a journalism professor at Washington and Lee University and former staff member of The Atlanta Journal-Constitution and The (Raleigh, N.C.) News & Observer, traces the history of Southern newspapers. **Hodding Carter III**, NF '66, wrote the foreword.

1988

William Dietrich's historical novel "The Barbary Pirates" was published by Harper in March. The novel is the fourth in his series of Ethan Gage adventures and follows the explorer as he searches for the mirror of Archimedes. As with many of his novels, Dietrich blends historical details into the narrative, along with research and real-life details from his time as a journalist.
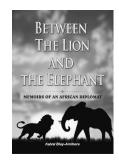
Gene Weingarten received a Pulitzer Prize for Feature Writing in April for "Fatal Distraction" in The Washington Post Magazine. Fifteen to 25 children a year die of hyperthermia after parents leave them in the backseats of cars, and Weingarten explored whether parents should be charged with a crime and how they cope with their loss.

Weingarten, who writes the Below the Beltway column for the Post, won a Pulitzer Prize in 2008 for "Pearls Before Breakfast." He convinced a world-class violinist to play in a Washington, D.C. Metro station during rush hour to see how commuters would react; passersby gave him a total of $32.17 for 43 minutes of playing.

In an online chat at washingtonpost.com after the second award, Weingarten said, "I think this ["Fatal Distraction"] story had greater consequence, yes. The first ["Pearls Before Breakfast"] was an unabashed stunt. But both, I think, succeeded in making people think differently about their lives."

Before joining the Post, Weingarten was editor of The Miami Herald's Tropic Magazine, which won two Pulitzer Prizes under his direction.

1991

Kabral Blay-Amihere reports on his new book and role in the government of Ghana: "My third book since my Nieman year — 'Between the Lion and the Elephant: Memoirs of an African Diplomat'—was launched on March 24, 2010. It is a recollection of my experiences as an ambassador for my country, Ghana, in two conflict zones, Cote d'Ivoire and Sierra Leone. It catalogs efforts

by the international community, notably the Economic Community of West African States and the United Nations, that resulted in the resolution of the decade-long civil war in Sierra Leone (symbolized by the lion) and peace initiatives in Cote d'Ivoire (the elephant). The book also offers rich perspectives into the Ghana Foreign Service and several initiatives and innovations I undertook as an envoy for my country for seven years. ... Meanwhile, I currently serve as the chairman of the National Media Commission [NMC], a constitutional body charged with the promotion of press freedom and professional standards in Ghana. It is an elective post. The NMC is made up of 18 members, representing a broad spectrum of media stakeholders. I represent the Ghana Journalists Association on this body."

1992

Deborah Amos, who is a foreign news correspondent for NPR, received the Edward R. Murrow Lifetime Achievement Award for her radio work. It was presented by the Edward R. Murrow School of Communication at Washington State University.

2000

Deborah Schoch joined the California HealthCare Foundation Center for Health Reporting at the University of Southern California's Annenberg School for Communication & Journalism in March as a senior writer. The center's goal is to expand and improve coverage of health care in California. It will be supported by a three-year grant of about $3.3 million from the California HealthCare Foundation. Schoch left the Los Angeles Times where she covered health care and the environment for 18 years.

2004

Carol Bradley's first book "Saving Gracie: How One Dog Escaped the Shadowy World of American Puppy Mills" was released by Wiley in March.

A review in Library Journal called the book about a dog that was rescued from a Pennsylvania puppy mill a "compelling account" and an "excellent exposé of a shady industry." Bradley, who covered animal welfare issues as a newspaper reporter, studied animal law during her Nieman year.

2007

Andrea McCarren is working as a full-time multimedia journalist for WUSA-TV, the CBS station in Washington, D.C., after spending a year as a freelance reporter and producer. In addition to reporting for television and the Web, McCarren shoots and edits some of her own stories, a role she embraces.

Craig Welch's first book "Shell Games: Rogues, Smugglers, and the Hunt for Nature's Bounty" was published in April by William Morrow. It focuses on the black market trade in unusual marine creatures from Puget Sound and the federal agents who work to catch the thieves. Welch is the environment reporter for The Seattle Times.

2009

Alfredo Corchado, Mexico bureau chief for The Dallas Morning News, is the 2010 winner of the Elijah Parish Lovejoy Award for courageous journalism to be given at Colby College in September. He is being recognized for his coverage of issues involving the U.S.-Mexico border.

2010

Marcela Valdes was one of two critics to receive the first annual Roger Shattuck Prize for Criticism. It is designed to support and encourage emerging critics. Valdes, who specializes in writing about Latin American arts and culture and was this year's arts and culture fellow, is a freelance book critic. ∎

SPJ Awards

Two Nieman Fellows received Sigma Delta Chi Awards from the Society of Professional Journalists for outstanding journalism published or broadcast in 2009.

Mary Kay Magistad, NF '00, who covers Asia for Public Radio International's "The World," received an award for "Created in China," a five-part series that looked at the decline in Chinese innovation over the last 500 years and the government's efforts to reverse the trend.

Chris Cobler, NF '06, was part of the reporting team at the Victoria (Tex.) Advocate that received an award for a 16-month investigation called "Fatal Funnel" about a smuggling route in Texas that brings drugs and people into the U.S. and sends cash and guns into Mexico. ∎

Correction

In the Spring 2010 issue, an essay titled "Connecting What Happened Then With What Happens Now" about Loren Ghiglione's book "CBS's Don Hollenbeck" incorrectly described "CBS Views the Press." It was a radio program.

Welcoming a New Class of Nieman Fellows

The Nieman Foundation has selected 25 journalists from the United States and abroad to join the 73rd class of Nieman Fellows. The group includes journalists who work in print, radio, television, photography, filmmaking and online media.

The class of 2011 also includes the first Nieman Fellow from Afghanistan, bringing to 90 the number of countries represented by the program.

Bob Giles, NF '66, curator of the foundation, said, "The new fellows are a highly talented group of journalists with extraordinarily diverse backgrounds and interests. Together, they'll have the opportunity to share their expertise and learn from each other as they take full advantage of the exceptional educational resources available at Harvard. This year, a large number of them are freelancers and some have launched innovative journalism projects. They represent a new breed of pioneering journalists who will carry us, well informed, into the future."

U.S. Nieman Fellows:

Loch Adamson, London bureau chief, Institutional Investor. She is the Donald W. Reynolds Nieman Fellow in Business Journalism, a new fellowship supported by the Donald W. Reynolds Foundation.

Tony Bartelme, projects reporter, The Post and Courier, Charleston, South Carolina.

Tyler Bridges, author and freelance journalist based in Lima, Peru.

Jennifer Eccleston, broadcast journalist and writer who has worked overseas.

Michael Fitzgerald, freelance writer in the Boston area.

Darcy Frey, author and contributing writer, The New York Times Magazine.

Anna Gorman, staff writer, Los Angeles Times.

Joshua Prager, freelance journalist and author based in New York.

Deb Price, Washington correspondent, The Detroit News. She is the Louis Stark Nieman Fellow.

Gwen Thompkins, East Africa correspondent, National Public Radio.

Annmarie Timmins, reporter, Concord (N.H.) Monitor. She is the Donald W. Reynolds Nieman Fellow in Community Journalism.

Nieman Fellows in Global Health Reporting:

Antigone Barton (United States), freelance journalist.

Helen Branswell (Canada), medical reporter, The Canadian Press.

International Nieman Fellows:

Fernando Berguido (Panama), publisher and editor, La Prensa.

Stefan Candea (Romania), freelance journalist and cofounder of the Romanian Centre for Investigative Journalism based in Bucharest. He is the Carroll Binder Nieman Fellow.

Pablo Corral Vega (Ecuador), photographer and founder of Nuestra Mirada, an online network for Latin American documentary photographers. He is a John S. and James L. Knight Foundation Latin American Nieman Fellow.

Kevin Doyle (Ireland), editor in chief, The Cambodia Daily in Phnom Penh.

Nazila Fathi (Iran), a reporter covering Iran for The New York Times. She is the Ruth Cowan Nash Nieman Fellow.

Hui Siu Fun (China), principal producer, Television Broadcasts Limited in Hong Kong. She is the

Atsuko Chiba (NF '68) Nieman Fellow.

Florence Martin-Kessler (France), documentary filmmaker. She is the Robert Waldo Ruhl Nieman Fellow.

Hollman Morris Rincón (Colombia), independent journalist and Contravía TV series director. He is a John S. and James L. Knight Foundation Latin American Nieman Fellow.

Rob Rose (South Africa), business reporter, the Sunday Times in Johannesburg. His fellowship is supported by the Nieman Society of Southern Africa.

Philippa Thomas (United Kingdom), anchor and correspondent, BBC World News television.

Maxim Trudolyubov (Russia), editorial page editor of the business daily Vedomosti. He is the William Montalbano (NF '70) Nieman Fellow.

Abdul Waheed Wafa (Afghanistan), a reporter, based in Kabul, for The New York Times. He is the Barry Bingham, Jr. Nieman Fellow.

The U.S. fellows were selected by **Ju-Don Marshall Roberts** (NF '04), senior vice president and executive editor of Beliefnet and the former managing editor of washingtonpost. com; **Margaret Engel** (NF '79), director of the Alicia Patterson Foundation; and Donna Hicks, an associate at Harvard's Weatherhead Center for International Affairs.

The Nieman Global Health Reporting Fellows were chosen by Jon Sawyer, director of the Pulitzer Center on Crisis Reporting, and **Stefanie Friedhoff** (NF '01), special projects manager for the Nieman Foundation.

Giles chaired the selection committees for the U.S. and Global Health Reporting fellows and selected the international fellows. ∎

An Essay in Words and Photographs

A Nation's Past and Promise:
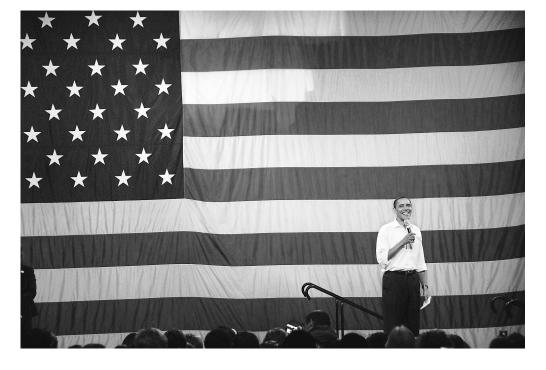# A Shift in the Meaning of American Symbols

By Derrick Z. Jackson

On a surprisingly summery October afternoon in 2007 at a fairground in Independence, Iowa, Barack Obama's sleeves were rolled up against a heat wave. In this region where cornfields were turning bronze, critics were making hay with the fact that Obama did not wear a lapel pin of the American flag. This was despite the fact that few of the presidential candidates, Democrat or Republican, consistently wore a pin.

"Tricky politics here for Barack Obama," said an anchor for ABC News.

"A breathtaking misunderstanding of the symbolism of the American flag," said a New York Daily News editorial.

The night before, Obama told a Cedar Rapids television station that he wore the pin for a while after 9/11 but stopped wearing one because it was often misused as a "substitute for, I think, true patriotism." Then, at this event, which I happened to be covering as a columnist for The Boston Globe, Obama spoke on the issue for the first time.

"Somebody noticed I wasn't wearing a flag lapel pin and I told folks, well you know what? I haven't probably worn that pin in a very long time," Obama said. "I wore it right after 9/11. But after a while, you start noticing people wearing a lapel pin, but not acting very patriotic. Not voting to provide veterans with resources that they need. Not voting to make sure that disability payments were coming out on time."

He continued, "My attitude is that I'm less concerned about what you're wearing on your lapel than what's in your heart."

Obama spoke about flag pins with a giant American flag draped behind him. Besides my pen, pad and tape recorder, I also had my camera. Things clicked for me and I started clicking away. Here he was, negotiating the classic tortured straits of African Americans, having to go an extra measure to affirm his patriotism before a flag that historically was

Two weeks after Barack Obama was questioned about his patriotism and failure to wear a flag pin, he beamed the brightest of smiles before a giant American flag in the famously liberal college city of Madison, Wisconsin. A century earlier, W.E.B. Du Bois wrote that African Americans simply want "to make it possible for a man to be both a Negro and an American, without being cursed or spit upon by his fellows, without having the doors of Opportunity closed roughly in his face."

In Iowa, Obama reached out to hold the hand of a moist-eyed woman whose brother, suffering from cancer, held on to his job so he could keep his health insurance. The woman said that the way Obama looked her in the eyes and held her quaking hands "meant more to me than anything."

a blind sentinel on America's torture of black people. Yet, if he won, this black man would represent this flag as arguably the most powerful man on earth.

For two years beginning in February 2007, I took photographs as I traveled across America covering the Obama campaign. A selection of those images, "From Iowa to the White House: Historic Photos of President Barack Obama," was displayed at the Museum of African American History in Boston, Massachusetts earlier this year.

Many people ask me what it was like to be in Chicago's Grant Park the night of Obama's election. I will most remember the crowd of 125,000 people saying the Pledge of Allegiance. Like so many Americans, I grew up with highly conflicted feelings about the pledge and the flag. Now 54, I am the son of parents who fled segregated Mississippi for the factories of Milwaukee. My mother, a light-skinned African American, told me white co-workers invited her to picnics but asked her not to tell her darker co-workers. She

refused those invitations.

I was too young to be part of the civil rights movement, but old enough to adorn myself with the artifacts of anger, like my "Free Angela Davis" button. Old enough to protest the exclusion of Africa from my high school world history class and to get called before the vice principal for writing a review of "The Autobiography of Malcolm X." I was a beneficiary of a decent public school education, affirmative action, and the Kerner Commission report that said America needed more

Photo and text by Derrick Z. Jackson.

Barack Obama's presence on the campaign trail created scenes that looked like something out of a Norman Rockwell painting. When voters in Madison, Wisconsin reached out to shake Obama's hand, it brought to mind the scene of the white man surrounded by generations of adoring family members in Rockwell's 1948 "Christmas Homecoming." By 1961 the painter had progressed from that all-white scene to a multicultural vision in "Golden Rule."

black journalists. But after getting in the door, I saw too many ceilings still placed against the aspirations of my colleagues. To this day, African-American journalists comprise only 5 percent of newsroom staff.

I wrote in the Globe that I had never in my life heard such a multicultural throng recite the pledge with such determined enunciation, expelling it from the heart in a treble soaring to the skies and a bass drumming through the soil to vibrate my feet. The treble and bass met in my spine, where "liberty and justice for all" evoked neither the clank of chains nor the cackle of cruelty, but a warm tickle of Jeffersonian slave-owning irony: Justice cannot sleep forever.

That was a long way from 1847 when Frederick Douglass said, "I have no patriotism" for a nation that does "not recognize me as a man." Given that Douglass spoke in the Museum of African American History's historic African Meeting House in Boston, it is the best of full circles. As the award-winning, Boston-based photographer Lou Jones wrote in 2006, "Stories are ephemeral. Memories fade. Photographs do not. Photographers bring back permanent proof of things never before seen." ■

Derrick Z. Jackson, a 1984 Nieman Fellow, is a columnist at The Boston Globe.

Photo and text by Derrick Z. Jackson.

On the day before the Iowa caucuses, Obama asked the crowd in this gymnasium who among them was still undecided. One of the undecided voters was St. Ambrose University professor Bill Hitchings. The next night Hitchings voted for Obama in his caucus. What was his reason? "I talked to an older black woman at the Obama event," Hitchings said. "I helped four white women in their 70s find their place at the caucus and they all said the same thing. They said Obama is the hope for their grandsons and their grandchildren."

Obama turned his attention to this member of a future generation of voters during a campaign stop at Muhlenberg College in Allentown, Pennsylvania.

Photos and text by Derrick Z. Jackson.

A girl perched on the shoulders of her father to get a better view on Inauguration Day in Washington, D.C. might make one wonder: What will witnessing the swearing-in of the first African-American president mean for this girl when it is her turn to become a leader?

Photo and text by Derrick Z. Jackson.

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