Chapter 1a: To journalism student: Yes, there are jobs

The end is near

The Knight brothers cared about informing and engaging communities. So that's what the Knight Foundation cares about. It means thinking about traditional journalism plus the new ways people are creating and consuming news.

Media innovation helps us do everything from increasing broadband access in the communities we serve to creating new tools for hundreds of news organizations.

Today, it's safe to say there's a "media innovation community." The group is a many-ringed circus under a big tent. It works on new tools for journalists. It pushes for better broadband for everyone. At the Massachusetts Institute of Technology, we see journalists and technologists working together. That feels much better than the days when journalists denied change was needed, therefore opting out of their own futures.

Just plug into the news stream and you can see advances in journalism and mass communication coming faster and more forcefully than ever. Indeed, we have the good fortune to be alive during a time that is even richer with invention than the dawn of the industrial age.

New tools are being invented at a mind-blowing pace. Instead of the telegraph, the telephone and the light bulb, we're talking about microchips, laptops, smart phones, tablets. We're talking about companies like Google, YouTube, Facebook and Twitter, from digital zeros to number one in the market, nearly overnight. We're talking about the average life span of a company shrinking from decades to — what is it now? — about five years.

As the legendary journalist Hodding Carter III once said, “This is the most exciting time ever to be a journalist — if you are not in search of the past.” The same, I would say, applies to being any kind of communicator — advertising, public relations, the non-profit world, and more.

Many of today’s students are energized about creating the journalism and mass communication of tomorrow. They aren’t stuck in formats created a century ago. They get to figure out how to deal with an America where by 2015 most of the data traffic is mobile, the data doubling and then doubling again. Students get to build the new companies, the new products and the new standards of the digital age. Since the new tools create a need for new rules, it’s truly a great time to be in journalism education. We need digital media law, digital ethics, digital best practices. We need one communicator with the right tools to be able to do the same work as a hundred old-time communicators. We need to develop truth technology to counter those who will use the new tools to mislead.

This kind of adventure, this excitement, this digital gold rush, attracts smart people who like risk.

An engraving of Paul Revere meeting with John Sullivan from the 18th Century. Revere himself engraved the famous drawing of the March 1770 Boston Massacre, considered one of the most important events leading to the American Revolution.

Skills for digital adventurers

Here's my message to students: You still need old-school knowledge. You need to express yourselves clearly. You need to know how to mine the world for facts. But you now need more. Can you speak "tech"? Do you have any business skills? Can you work collaboratively in teams? Are you comfortable with continuous change? Do you understand why some stories make a difference and others don't? In the end, you'll need to be able to tell stories, to develop content that not only informs communities but

engages them.

If you can learn journalism plus the rest, you can get a great job. If you don't like the jobs out there, go out and create one of your own. This, of course, is what terrifies us parents. What do you mean that my child must learn to create the businesses of tomorrow? What about the bills of today?

When parents look at the news, no doubt they focus on the thousands of journalism jobs lost during the recession and the hundreds added back since it ended. What we have in news was a classic double whammy — a recession on top of a transformational trend toward digital media.

As difficult as it is for institutions to get their collective heads around the size and pace of change, they need to. As my boss, Knight Foundation president Alberto Ibargüen, puts it: "Constant change is the new normal."

One chart in particular sticks in my mind. It shows the household penetration of the printed daily newspapers in the United States. Just after WWII, there were more than 1.2 newspapers for every household in the U.S. There were both morning papers and afternoon papers — and many families took more than one. Today, the penetration rate is less than .4 papers per household. Today, a family at home subscribes, on average, to less than half a paper. On Mondays and Tuesdays those papers are so thin you actually are getting half of the paper you would have received a generation ago.

The chart shows the decline in an almost straight line, with the same downward slope, for 70 years.

Does that mean no one wants the news and ads that newspapers bring? Not at all. Consumption of digital news is soaring. Demand is fine. What's dying is the way we provide and pay for the supply. Just look at the delivery process: First, you kill a tree to make paper. You get a huge press and tons of ink and print a paper full of yesterday's news. You stack the printed papers into bundles, throw them into trucks, haul them around and toss them out. Then other people pick them up, load them into cars, unbundle them and fling them toward a porch. Sometimes the papers make it to the porch.

I love printed newspapers, the smell and the feel of them. But the truth is the energy-eating, time-consuming industrial newspaper process takes so long, by the time the thing finally gets to your door, the news can be as dead as the trees it was printed on. Someone tweeted it yesterday.

Scholar and journalist Phil Meyer, the father of Precision Journalism, extended the line in the graph showing fewer households getting papers. He estimated a possible departure date for the printed American daily newspaper. Here's what Phil says:

"If nothing happens to change it, the last reader will read the last printed, home-delivered, paid subscription daily newspaper in America in April 2043."

He didn't have an exact day.

Many people, including Phil, believe that somehow, something will happen to stop the downward trend, that there always will be daily newspapers in America.

Other than perhaps The New York Times and Wall Street Journal, I ask you: Why would

that be? For 70 years, the trend line has slanted downward at the same angle. Why would it suddenly change direction? Perhaps the baby boom generation, the last daily-newspaper generation, simply won't die. (That would be nice. We could just keep taking those newspapers forever.)

Already, newspapers in Detroit, New Orleans and elsewhere have opted out of daily home delivery. So is the death of the home-delivered paid subscription daily a horrifying prospect? No. Once we figure out the economics, we'll just provide the news on phones and tablets, and save trees.

Job opportunities expand on the Web

This media metamorphosis is making more communications jobs. Even though there are fewer writers, photographers, editors and designers in traditional news media, there are many more in media as a whole. Annual studies of graduates of journalism and communications schools show media employment rates have been steady for decades.

Looking forward, job opportunities seem to be better than ever. Today, everyone can tell their own stories. Every company is a media company. Every organization is a media organization. Everyone has a website, uses social media, and cares about mobile media. Someone is going to do those jobs. In fact, there are so many of them I don't think our current ways of measuring employment are capturing all the jobs.

You might end up working on the website of a nonprofit, acting just as journalistically as you might have done at a daily newspaper. Or at any number of new companies, or at a company of your own. The sector of web production will only grow and grow and grow. It's growing so fast many of those jobs are not being captured by our traditional way of measuring trends. If you work on a fact-based nonprofit website, are you a journalist,

another kind of communicator or a non-profit worker?

In just five years, the percentage of graduates of journalism and mass communication programs getting jobs writing, editing, designing or otherwise working on the World Wide Web went from roughly 20 percent of graduates to 60 percent.

Parents of today's students should feel lucky. A journalism and mass communication degree is one of the best ways anyone can start an education. It is the liberal arts degree of the 21st century. The world can now tweet, blog, take pictures and more. Journalism students who know how can teach everyone else.

Every workplace in America needs clear digital communicators. This, I think, is why enrollment in journalism and mass communication programs is booming even as traditional journalism jobs are shrinking. To lead in any field — law, business, nonprofits, government — you need to be able to communicate.

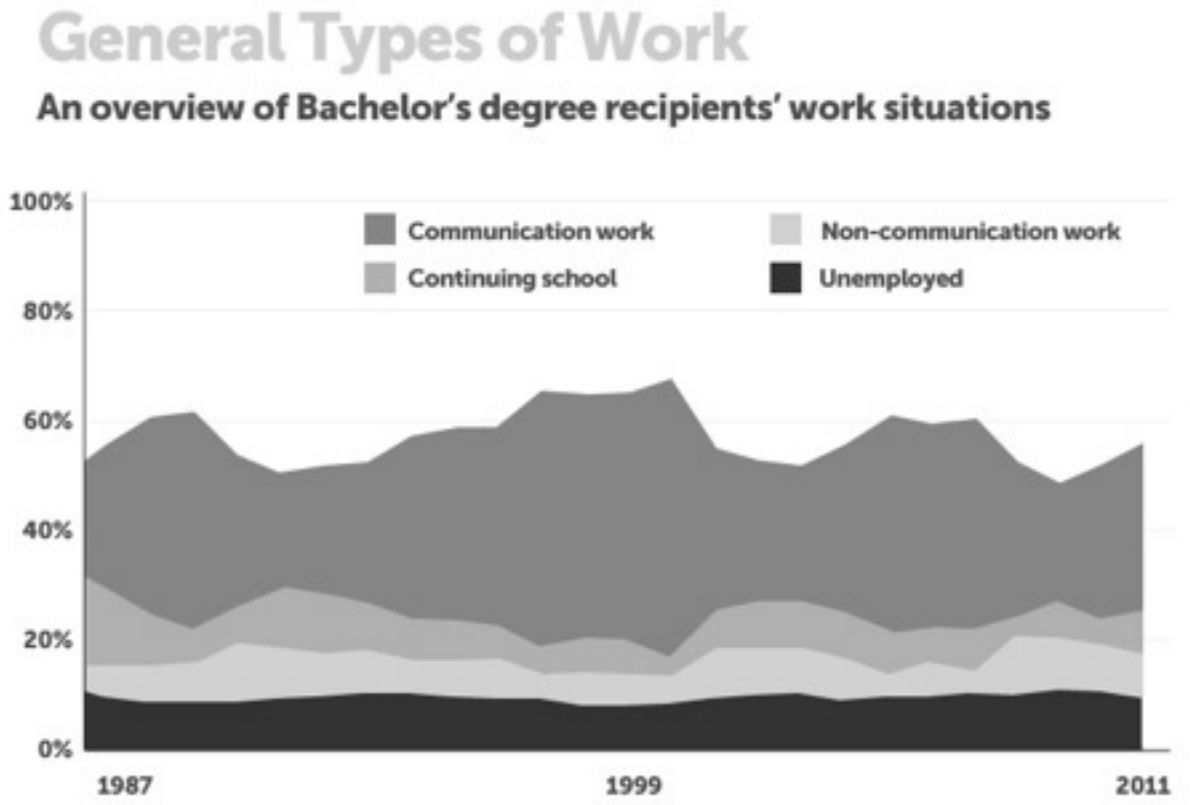


Photo Credit: James M. Cox Jr. Center for International Mass Communication Training and Research, Grady College of Journalism & Mass Communication

The number of students in journalism and mass communication programs is increasing, and a larger percentage of graduates got communication work in 2011 than in 1987.

Beware the digital cocoon

Not all in the new world is sunshine and digital daisies. All this communicating is creating a vast ocean of information. The mass media used to be our exclusive filters, but are no longer. Researchers say news is becoming more "portable, personal and participatory." To make it more personal, it has to be filtered, not just in general but just for you. So you end up surrounded with the news and information that you seem to want — and only that.

When you wrap yourself into a digital cocoon, you only talk to people you like, only see things you agree with, only learn what you already know. Without serendipity, you consume news that really isn't new but is merely an update to your existing world view. You can fix your digital settings to hold at bay the world's ability to intrude, to block the shocks and hard truths, the things you don't agree with, from making their way into your orbit.

Every day, companies design more products that allow us to personalize our digital experience as well as products that personalize it for us, whether we know it or not. These are our sunglasses in the age of bright light, and we all use them because we do think it's too bright. One study says 70 percent of the country is overwhelmed by all the information. It's a normal human reaction to protect oneself from onslaughts, of swarms of data-points bearing down on us like locusts. So we — and here, I mean the human race — react by doing what is comfortable, safe, secure.

I like to compare it to eating "comfort food." Ice cream and apple pie. Fried chicken. Cashews and a Frappuccino. It's tasty. It makes us feel good even though it is not good for us. News and information are like food. Think of news as food for your mind. (I helped the late Oakland Tribune co-owner Nancy Maynard with this idea in her book, Mega Media, and assisted digital pioneer Clay Johnson as he expanded it in The Information Diet).

A lot of comfort news is political. Maps of the blogosphere show that liberals link to liberals and conservatives link to conservatives. They share the information that tastes good to them even when it isn't good for them. This is how large numbers of people can convince themselves to believe things that simply aren't true.

An example: Educator and investigative reporter Steve Doig reported that liberals claimed as many as 5 million people turned out for a presidential inauguration when the size of the crowd was really 800,000, and conservatives claimed as many as 500,000 turned out for a commentator's rally when the crowd really numbered around 80,000. The problem was not that political enthusiasts in both cases inflated crowd counts more than six-fold. Journalists expect that. The problem is that that some mainstream news outlets found it more expedient to use the false numbers than to actually verify the crowd size and risk the wrath of the blogosphere.

Democratic politician and sociologist Daniel Patrick Moynihan once said people are entitled to their own opinions, but not their own facts. Comfort news argues otherwise, seeing facts as little more than fashions that can be tailored to suit the needs of the audience. In other words, audience bias drives the bias in comfort news. But some things, like the number of stars on an American flag, are not a matter of opinion.

We can't ban comfort news, just as we can't ban junk food. Open societies do not work that way. As poet John Milton said centuries ago and famously to the British parliament: "Whoever knew truth put to the worse in a free and open encounter?" So the question is: What good speech do we add to drive out the bad?

Consumers could and should demand honest labeling. If you run a news outlet, and you are tilting your news to conservatives, like Fox does, or progressives, like MSNBC does, why not just say so? Separate and label news and commentary. (This column, by the way, is middle-of-the-road commentary.) Journalists should be frank and let people consume as they wish.

Prominent labeling matters. With food, journalist and author Michael Pollan reported, a pullback in the 1970s that allowed the removal of words like “artificial” from the front of fake food products may have helped lead to the nation’s current obesity epidemic. News labeling needs to be voluntary, not dictated by government, but Consumer Reports might want to try matching the claims of news organizations against what they really deliver.

Digital media literacy and its cousins

Knowing what’s really in the news you consume is called news literacy. Knowing where to get it, what to do with it and how to make news of your own is digital media literacy. Knowing what a community can do with news is civic literacy. All of these forms of literacy are mandatory in the world of modern media.

Esther Wojcicki built an extraordinary journalism program at Palo Alto High School, bundling all these skills, calling them 21st century literacies. The Knight Commission on the Information Needs of Communities says they need to be taught in every level of education. But they aren’t. Sadly, they were almost left out of the Common Core Standards. Teaching to the test is driving current events out of the classroom. Esther is trying, but it is very hard to get teachers who want to teach all these new forms of literacy.

Digital media literacy is as important to the collective mental health of a society as nutritional literacy is to our nation’s physical well-being. Journalism and communications students, by virtue of their education, have learned these things. My advice to today’s students is to share. Pass along what you’ve learned. Teach others how to think critically about media, about the difference between facts and opinion. Volunteer at the local library or community center. Teach others what you are learning.

If you do, you will be in good company. Throughout the history of news, there have always been those more interested in news for private gain than those interested in news for the public good. Every communicator has to decide if for them, it's one or the other (or both). You must decide where you stand.

Jack Knight knew where he stood. More than 40 years ago, he said great newspapers "seek to bestir the people into an awareness of their own condition, provide inspiration for their thoughts and rouse them to pursue their true interests."

We at Knight Foundation repeat that quote frequently because we take its message seriously. It sounds like a heavy responsibility because it is. Many of us find it difficult to experiment because we really want to make a difference. We don't want to fail. We can become so afraid to try new things we just don't. It reminds me of a poster I once saw about skydiving. "If at first you don't succeed," the poster said, "skydiving is not for you."

Yet the biggest mistake any of us can make today is to be afraid of mistakes. Media innovation demands risk. Reinventing journalism requires mistakes. We need to try new things and get things wrong, fail quickly but learn quickly, and always explain what we are doing and why.

In the end, all journalists have to remember is this: To err is human, to correct divine.

This is an edited version of a speech first delivered to parents, students and faculty in the College of Journalism and Mass Communication at the University of Nebraska.

Innovation, transparency and collaboration

Exactly why is the news industry staggering through the digital revolution? How are these changes affecting our communities? What should be done to help people get the information they need?

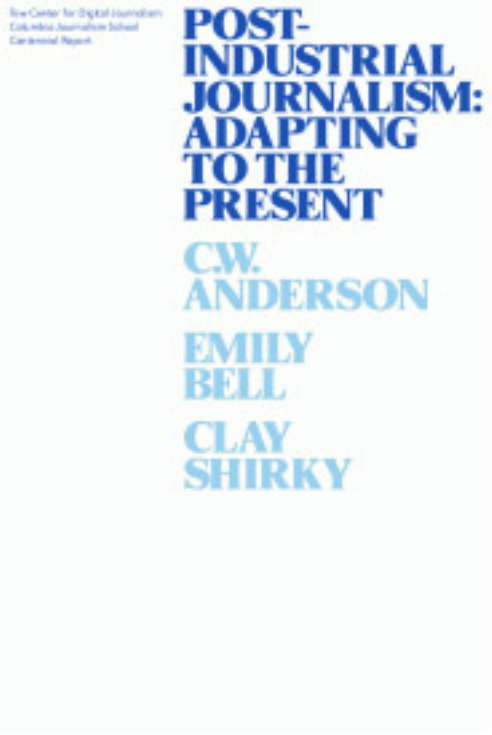
Those are just a few of the questions a raft of recent reports tried to answer. The studies come from centers, universities, journalists, foundations and think tanks. On some points — innovation, transparency and collaboration — they agree.

Summaries:

Post-Industrial Journalism

The latest (and best) of the reports came from the Tow Center for Digital Journalism, established in early 2010 at Columbia University to lead journalism into the future while serving as a research center in the present. The center is directed by Emily Bell, formerly the guru of digital content for the Guardian news group in Britain, in hope of a bridge between digital technology and journalism standards credibility.

In "Post-Industrial Journalism," we see that legacy news institutions still have a special worth. They are more than watchdogs that expose wrongdoing. They are big and powerful scarecrows whose very presence prevents wrongdoing. That said, the report argues that traditional media are losing power because even as they are losing revenue and market share, they fail to take advantage of new digital-friendly working methods and processes that could make their work cheaper, easier and more engaging. The authors list some of the ways that newsrooms can get back on top: Don't send your own reporter to a crowded press conference, but form partnerships and share content; embrace transparency, show your work to engage readers; use open-source tools and platforms made by others; let talented people experiment with storytelling, and find something you are good at and focus your energies there.



The Reconstruction of American Journalism

This report, by the professional-academic partnership of former Washington Post executive editor, Leonard Downie, Jr. and noted scholar Michael Schudson, focuses on where the money for good journalism can be found and offers several recommendations to turn the current moment of disruption into a reconstruction of American journalism.


COLUMBIA JOURNALISM REVIEW
The future of media is here
The Industry Politics & Policy Business Science Culture Magazine
Reconstruction
The Reconstruction of American Journali
A report by Leonard Downie, Jr., and Michael Schudson
By Leonard Downie Jr. and Michael Schudson
For reactions to this report, click here.

The authors talk about "reconstruction" because while the Internet has made the American media landscape more diverse than ever, it has also destroyed the traditional, ad-funded market that supported traditional journalism. The loss of reporting jobs has created gaps in local coverage and weakened the watchdog role of the fourth estate. To replace ad revenue and strengthen the public's access to information, the authors propose that the government authorize any news organization to become a non-profit; foundations support journalism projects; public radio/television and universities cover local news; a fund for local news be created with money from telecom taxes, and access to public information be increased.

Shaping 21st century journalism

This report focuses on leveraging the "teaching hospital" model in journalism education, It was written by a team from the New America Foundation, notably including Tom Glaisyer, a media scholar who went on to do program work at the Omidyar Network.


New America Foundation

SHAPING 21ST CENTURY JOURNALISM

Leveraging a "Teaching Hospital Model" in Journalism Education

By C.W. Anderson, Tom Glaisyer, Jason Smith and Marina Rothfeld,

Report Summary

Knight Foundation

As a long-time advocate of the teaching hospital model, I was a source for this one and glad to see these independent reporters embrace the idea so enthusiastically. The authors argue that journalism schools may be threatened with obsolescence unless they rethink their practices. But if they do reinvent themselves, they could soar to become "anchor institutions" in our emerging informational ecosystem. One way to achieve that is to provide engaging journalism to communities through laboratories of innovation. But this change will require leadership and risk-taking. This report proposes that journalism programs partner with other programs at their universities and with their local media and experiment with technology.

Bulletins From the Future

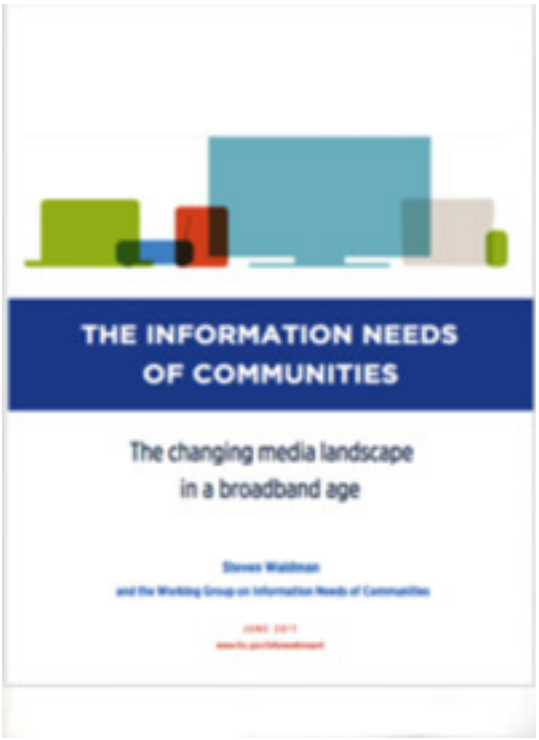
A major series in the Economist covered social media, how media is faring in different countries, WikiLeaks and other media "newcomers." Discussing impartiality, the magazine describes Fox News as "offer[ing] distinctively right-wing opinion and commentary," and says that "MSNBC... has lately been positioning itself to appeal to a left-wing crowd." From the other side of the Atlantic, the British seem to see our cable news slants more clearly than we do.

A pie chart in the report shows that American newspapers depend on advertising for 85 percent of their revenues — more than any other country. This is the very model now collapsing as ads become free or low-cost on the Internet. It reminded me of a seminar when the now-departed USA TODAY founder Al Neuharth asked circulation department leaders why they couldn't bear more of the burden of bringing in newspaper revenue. They looked at him like he was nuts. But he was right. The newspaper industry got too hooked on advertising during the time when American daily newspapers were local printed news monopolies, making tons of money on classified ads. The Economist series pointed out that other industrialized countries developed more hybrid systems, where half the revenue (or even more, in Japan) comes from subscribers paying for the content. Those nations will see easier transitions to the digital age than ours. We were the giants of advertising, and the bigger you are, the harder you fall.

The Economist stories were long on descriptions of problems but short on solutions. The "philanthrojournalism" piece was particularly weak: It suggests that foundations should fully endow nonprofit journalism, which many if not most foundation leaders worry would undermine the connection between the news organizations and the communities they hope to serve.

The Information Needs of Communities

The Federal Communications Commission Report, "Information Needs of Communities," written by Steven Waldman and the Working Group on Information Needs of Communities, is a massive 478-page tome looking at the health of American media in its different platforms (print, radio, television, and so on) as well as the evolving habits of media consumers. It notes that newspaper staffing levels are down to where they were in the 1970s; that network news staffs are down by half; and that reporters are so busy "on the hamster wheel" trying to produce copy, blogs and tweets that they don't have time to investigate stories.



Its main contribution is in declaring the crisis in "local accountability reporting" i.e., the watchdog news citizens need to run their communities. Its solutions include increased transparency, increased innovation from the Corporation for Public Broadcasting, and changes in tax policy to help nonprofit media organizations become self-sustaining. Other ideas include increased funding from philanthropists and foundations, as well as selling off unused spectrum bandwidth and reinvesting at least a little of that money into the media landscape. As much as I liked the massive report, you can absorb the main idea about the crisis in local accountability reporting in a later work by Waldman, this three-minute video.

Partners of Necessity

Sandy Rowe's paper, "Partners of Necessity: The Case for Collaboration in Local Investigative Reporting," concentrates on local media and determines that collaboration is the key to local accountability journalism.


Joan Shorenstein Center
on the Press, Politics and Public Policy
Discussion Paper Series
#D-62, June 2011
Partners of Necessity:
The Case for Collaboration in Local Investigative Reporting
by Sandy Rowe
Shorenstein Center Knight Fellow, Fall 2010 & Spring 2011
Former editor, The Oregonian, Portland
PRESS • POLITICS
• PUBLIC POLICY •
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Rowe, a longtime industry leader as the editor (until 2009) of the Portland Oregonian, presents case studies that include partnerships between newspapers and nonprofits, newspapers and journalism schools, and newspapers amongst themselves. The paper is especially valuable when it delves into successful nonprofit reporting experiments in Colorado, Oklahoma and elsewhere. Rowe argues that collaborations are the best way to compensate for lost newsroom resources because they pool people's skills and expertise. Because all newsrooms operate differently, collaborations also encourage flexibility and adaptability. She rightly argues that journalists need to let go of their devotion to exclusivity and internal secrecy. Her call for collaboration, transparency, public participation and networking is in the same family as former Sacramento Bee editor Melanie Sill's paper on "Open Journalism," which created a surge of interest in the phrase. I first wrote about pre-Internet versions of the techniques in the early 1990s in rough form in a workbook called The Open Newspaper.

Re-Imagining Journalism

In "Re-Imagining Journalism," former Seattle Times editor Michael Fancher argues that the media industry must take drastic action to transform itself. "If journalism did not

exist today," he writes, "it would not be created in the form that it has been practiced for the past century." The report offers concrete solutions in response to the Knight Commission's recommendations in "Informing Communities."

Fancher's report was a one of a series of white papers produced by the Aspen Institute. Many news organizations won't survive the digital age, and those that do are likely to have the types of hybrid models involving digitalization, community engagement, collaboration, students and nonprofits. I recommend reading this report back-to-back with one written by the former editor of The Des Moines Register, Geneva Overholser's "On Behalf of Journalism: A Manifesto for Change." The manifesto, written almost a decade ago when she was an endowed chair at the University of Missouri, warns that journalism as we knew it was over. A big question, then, is why so little happened between Overholser's work and Fancher's. Why wasn't there a sense of urgency?

Digital tools can open up newspapers

To improve print, we must think digital. We need to use the new tools, even in traditional newspapers, to include our communities in our task of covering the news.

This is true whether you are working in the east, where, like the sun, printed newspapers

are rising, or in the west, where they are setting. Digital tools make print reporters a hundred times more readable and relevant than they were in the last century.

We hear a lot about the digital delivery of news. Digital delivery is great: it allows newspapers to provide audio and video. It saves money. It gives editors infinite space and instant timing.

Yet using digital technology only to deliver the news is a horrible waste, sort of like using a space shuttle to drive to the corner store. We must stop sticking digital on the end of the industrial age mass media assembly line and calling it a day. It's a totally different, interactive medium. To succeed, journalists can't just be on the web; we must be of the web.

Used well, digital tools help us decide what to cover and give us new ways to cover it. The early adopters use them throughout the news process, to crowd-source, to analyze data, to find facts fast. For them, digital news collection is just as important as digital news delivery.

There is no dearth of tools. Some of them come from the Knight News Challenge, an open contest anyone can enter. The challenge shows we can all experiment. Even if the projects don't take off, we learn, and try again, smarter, as we search for a future where technology and truth can co-exist.

A good example is Spot.Us. The brainchild of a young graduate of New York University, it demonstrated the next evolution of crowd-sourcing. On this website, freelance journalists present the stories they would like to do. People pay small amounts of money to fund the stories they would like to see done. When those small amounts add up, the

reporter does the story. If it's good enough, with permission of the participating news organizations, the story appears online, on air or in print. It's beyond crowd-sourcing, it's actually crowd-funding.

So why is this better than traditional ways of paying for stories? It engages your community in helping establish a news agenda. It doesn't allow the community to drive the news, but it does invite people into the car.

One famous example of the use of Spot.Us: a journalist wanted to go to the Pacific Ocean to do a story on a gigantic patch of garbage floating around the Pacific. She was a professional freelancer. The New York Times said they would be happy to print the story. But times are tough, and they didn't want to pay the $10,000 she needed to get into a 50-foot catamaran and sail the world's largest ocean looking for garbage.

So a hundred people used Spot.Us to donate to her story, all kinds of people, even well-known digital names like Pierre Omidyar and Craig Newmark. In the end, freelancer Lindsey Hoshaw got to go out and find the giant trash patch. The New York Times published the story and photos. Since then, hundreds of other stories that newspapers would not have been able to afford otherwise have been done through Spot.Us.

The Spot.Us platform didn't become a household name. But it proved the concept. A crowd can fund a story idea and a major newspaper can print the story, and the earth will not open up and send the reporter and editors into the flaming pit of journalistic perdition. The crowd-funding platforms that came later -- Kickstarter, WeFunder and others -- were variations on that theme. Together they have funded millions of dollars in journalism. Even public broadcasters began experimenting with the idea of asking people to fund specific stories rather than their institutions. People, it turns out, are

willing to pay for journalism that 1) they want and 2) can't be had for free.

In the global context, think of how a Diaspora community in the west or north might pay for stories in the newspapers or websites they count on from their home countries.

How many stories do you wish you could do, but can't afford? Are you willing to try crowd-funding?

Cell phones and crowd-sourcing

Next, look at Ushahidi, another early news challenge winner. Developed in Kenya, Ushahidi allows journalists to reach out to any community that has cell phones. Citizens text news to a digital site that collects and displays it. Say it's an election day. You're looking for problems at polling stations. You ask your readers to text in what they see. Their reports are collected on an interactive map. You can instantly see where your community is reporting problems.

These maps are used in more than 100 countries for anything you can think of, from reporting on disasters to stories of crime and corruption. Its founders have moved on to other ideas, like Swift River, trying to create technology that helps filter falsehoods from the digital stream.

A more detailed kind of crowd sourcing can be done with Public Insight Journalism. The creation of American Public Media, it allows you to seek volunteers from your community willing to share their expertise to make the news better.

The Miami Herald, for example, has recruited nearly 10,000 people to be in its Public Insight Journalism network. People give their contact information. A data steward takes

care of the database and training journalists how to use it. Here is an example of how it works: reporters were looking for a recording of a controversial political advertisement that had been delivered to voters by telephone. No one in the newsroom knew anyone who had a copy of the "robo-call." They asked the public insight network. In 10 minutes, they had the recording.

The Herald, like many major newspapers, has less than half the newsroom it once had. But if papers in that situation are willing to devote just one person to building a public insight network, they can replace the lost journalists with many thousands of new contributors.

Next, let's look at the innovation each of us is carrying right now. When I was a young print reporter, I hauled around a tape recorder to make sure my interviews were just right. Over my shoulder I lugged a camera. But today I can do all that with one device — my phone. The group Mobile Active has produced a mobile media toolkit for both professional and citizen journalists. A smart phone can be used as a recording studio, a camera, a map, a library, a telephone, a printing press, a telegraph — and a lot more — the history of journalism technology fits in the palm of your hand. Just one example: Journalists are now tweeting from government meetings they're covering. You tweet the notes and quotes. This generates interest in the story before you write it.

But most newspaper journalists don't do that. They haven't tweeted in the right ways because they tend to think of Twitter as just another newsboy, hawking the paper on the streets. Write a piece, tweet the link. But that approach won't grow your Twitter followers, says our journalism vice president Michael Maness, frequent speaker on social and mobile media. Maness says many types of tweets are needed to engage a community: You need to beat the drum in advance of a story, ask questions to help you

do the story, complement good comments, and yes, send out links.

New ways to tell stories

A generation ago, reporters had little to do with charts and graphs. They often were done in an entirely different part of the newspaper. Before the personal computer, they were usually done by hand and difficult to change. The opposite is true today. Data journalism has come into its own, and ways of displaying that data are finally beginning to be seen for what they are: stories.

The digital age brought us the era of Big Data. Today, rank-and-file journalists should be able to do their own charts and graphs. A new suite of data visualization tools -- timelines, maps, motion charts, pie charts — allow us to communicate a maximum amount of information in a minimum amount of time. A variety of tools, from open-source, Drupal-based Vidi to Open Street Map, are free and ready to use.

This raises a serious question about the education of journalists. For centuries, we have been, for the most part, writers. Artists, photographs and videographers were seen as specialists and proportionately few in number. The rest of us wrote. We were word people, as a rule not good at math. But today, when a clickable map, a database or an algorithm can be a story, we need journalists with numeracy. On top of that, the new age has raised the importance of both still photographs and video. The word people now must become word people, numbers people and visual people.

That leads me to the greatest digital tool of all — education.

News University is the world's most successful online journalism school. It's based at the Poynter Institute, the best journalism training organization in the United States.

NewsU has more than 250,000 registered users, and without any international promotion, a third of them come from all over the globe. Journalists in Asia, in the Americas, in Africa all want training so much they found their way to News University.

There are classes for everyone — top managers, photographers, reporters, citizen journalists. They have classes in how to use digital tools, how to interview, photograph, write, understand specialty beats. All the things journalists do. And many of these classes are free. So here's a question for editors: how many of the journalists in your newsroom need a little more training?

We're willing to go the extra mile when we're chasing down stories. Can we muster even a fraction of that courage to give ourselves permission to change much faster than we're changing now? Can we embrace a learning culture, a culture of continuous change?

The basic devices we've talked about are only the beginning, as is using them in traditional ways, to find stories that shed light. There's an entirely different level of tool we need to learn next. Software and even hardware that people can use to get their own stories, like the portable radiation detectors that contradicted what the Japanese government said about danger in the wake of the recent nuclear meltdown. Those tools that are more like sunglasses than searchlights. They help us filter meaning from the rising tide of information.

Education matters. If you take just one thing away from this discussion, I hope it's this: newspapers can't improve their print products without going digital, and they can't do that without establishing a culture of continuous change, a learning culture, in their newsrooms.

This is an updated version of a talk originally given in Vienna, Austria, before the World Editors Forum at the annual meeting of the World Association of Newspapers.

Ten tools to learn, more to explore

People who have edited large newspapers know journalism psychology. If city hall was on fire, editors could call reporters in the middle of the night, and no matter how senior they were, they would get up and go. A little cursing, maybe, but no argument.

Picture that same veteran reporter coming in after the fire. If I told him to forget about working at his desk, and instead sit on the other side of the newsroom to write the story, there would be hell to pay. "This is MY spot," he would growl. Followed by a lot of cursing, maybe, and a big argument.

That's journalism psychology. It is fine for news to change every second. It is not fine to change the way we do the news. News changes fast; not so, culture. Deadlines do this to people. Look at hospital emergency rooms or military combat units. Doctors and soldiers stick to the basics or things turn ugly. For a long time, being a workplace fundamentalist worked. (The book News, Improved explains how training can lessen defensiveness).

A notebook, a pencil, a manual typewriter. That's all a reporter needed in 1870 and that was all we needed in 1970. But change came, in the form of electric typewriters, mainframes, dummy terminals, personal computers and cell phones. We had to learn new ways to put the story into the news assembly line. Now, the innovations come not every few years but every few weeks. This has made some of the older folks more than a

little anxious. They call them “fads” and “gizmos,” the same labels that have greeted every new form of media.

To help out, the American Press Institute and Poynter Institute have started an online tutorial series to show journalists how to use new tools. DocumentCloud was the first: You can still see the tutorial showing how to use it to tame paper documents. Advanced uses included USA TODAY’s “Ghost Factories” investigation revealing toxic wastes at abandoned factories across America.

I asked Knight’s Journalism and Media Innovation team exactly what journalists should be learning. Here’s the list, updated as of this writing:

DocumentCloud: annotates, publishes and manages documents; shares information across newsrooms.
Tor: allows journalists and sources to communicate securely online by bouncing communications around a network until they can’t be traced back.
Timeline.js: Creates timelines about any story you can link to or embed. Great for developing graphic skills.
Scraper Wiki: A more advanced tool. You can write computer code to acquire, clean and analyze data sets. Or you can request the Scraper Wiki community of data scientists to do it.
TileMill/Map Box: A simple way to make your own maps, to use in apps.
Frontline SMS: Used all over the world, this mobile texting device lets you communicate with large numbers of people in an organized way.
Zeega: A mixed media packaging tool that allows you to make interactive documentaries in new formats with sound, videos, pictures and text.

Amara: A volunteer-driven translation system that can turn any video in any language into a captioned, understandable piece.

Ushahidi: As we've noted, perhaps the most popular of them all, a powerful yet simple crowd sourcing system that allows any group of people using cell phones to "map" just about anything.

Poderopedia: Analyzes relationships among civic, political and business leaders in a country, or a city, or a company or any organized collection of people. Visualizes relationships within these power and influence networks.

These are some of the most useful tools. There are many more. I like Overview, which helps find stories in documents by sorting them and making it easy to see what's there; Spundge, which helps filter and republish digital content; video notebook, which lets you annotate audio and video content and sync video with tweets; Storify, which helps you collect and republish social media; and Panda, a database helper geared toward public information.

Overview, Zeega and Spundge also have been subjects of online tutorials, all of them free at News University as part of the permanent, Knight-endowed tutorial series. Did you notice how many of the new software tools are types of digital filters? The news community needs sunglasses even more than everyone else.

Thousands of journalists are learning these new tools. Yet most are not, and more innovations are coming. In a generation, maybe less, they will begin to arrive daily. For the first time, both the news and the way journalists do it will change constantly.

Perhaps it will not be as frightening as it sounds. I don't even remember the last time I saw a manual typewriter. I am writing this on a tablet for a blog to be read on smart

phones and, I hope, Googled, Tweeted, Facebooked and (to use a 20th century verb) debated. This is the real world, as growing, changing and boundless as the human need to know.

This is an updated version of a Knight Blog post.

The evolving profession of journalism

Where there are people, there's news. And where there's news, there are journalists. Why? Because open societies have learned that when professionals make it their business to look at the world as it really is, we all benefit. Examples:

Two news organizations, ProPublica and NPR, revealed that military doctors were wrongly treating American veterans who had concussions. Fixing this will save at least $200 million.
The Center for Public Integrity and the Washington Post exposed bad federal housing policies, and six big lenders were dumped. Taxpayers will save more than $100 million.
The Center for Investigative Reporting detailed earthquake hazards in California schools, and officials opened up a $200 million safety fund.

Just three stories, with a social impact of more than $500 million. The cost of producing the stories? About a thousand times less than that. Such is the value of watchdog journalism.

Doing stories that keep government honest is still a big part of the modern role of professional journalism. Where the press is free and plentiful, corruption is low. But

there are new roles for journalists as well.

The examples above were reported with nonprofit news organizations. One, ProPublica, won, in its first year of existence, a Pulitzer Prize. In its second year, it won another. Forming new kinds of news organizations is part of a modern journalist's role.

The stories shared above were collaborations. News people chose to partner rather than compete. For-profits and nonprofit groups — worked together. Collaborating — including tapping the wisdom of the crowd — is now part of a journalist's role. To mine, curate, verify and clarify data is part of our role.

With these new tools we need new ethics. Do our 21st century responsibilities extend to an ethical obligation to be both transparent and interactive? I think so. Transparency, like the use of objective tools, serves the basic idea of fairness. Interactivity, like the use of multiple sources, serves the fundamental value of accuracy. Keeping ourselves honest, current and transparent is part of our role.

If we fail to engage the next generation we lose them — and our future. So some universities are teaching more than storytelling. Their students learn how to create and run media companies; how to work with computer scientists to invent new ways to produce, curate and deliver stories; how to create cultures that support change, and how to interact with communities. Supporting good journalism education is part of our role.

Today, anyone on the Internet can create news, pass it along, critique it. We must tell the story of how people need reliable news and information to run their communities and their lives. We should tell people more about how and why journalists do what we do. Promoting media literacy in the digital age is part of our role.

Today, journalists can be citizens. Stories can be databases. Media can be smart phones. Audiences can be interactive. Redefining our role is part of our role.

Telling the story of journalism's impact

Professional journalists matter. We are as important as ever. We know we are a force for good because all over the world evil people try to kill us. In Arizona, we found a powerful approach to the murder of journalists in 1976, when a car bomb killed Arizona Republic reporter Don Bolles. Dying, he whispered the word "mafia." Journalists came from all over to create the Arizona project. They finished Don's work. His murderers went to jail.

Those journalists went on to form Investigative Reporters and Editors, a professional group thriving today with many thousands of members.

A generation later, in 2007, when a man with a shotgun killed Oakland Post editor Chauncey Bailey on a street corner, we knew what to do. Finish the story. Find the killers. Journalists in California created the Chauncey Bailey Project. They came from all forms of media. They finished Chauncey's story about the shaky finances of a local bakery, tying it to killings and kidnappings. Three criminals were jailed, two for life. Oakland's police chief resigned after reporters revealed that police had planned to raid the bakery, but delayed it. Then they covered it up because that raid would have saved Chauncey's life.

In the summer of 2011, the verdicts came. The man who ordered Chauncey's murder and his accomplice are guilty: Life in prison, no parole. The man who pulled the trigger confessed and got 25 years. Prosecutor Nancy O'Malley said, "I would especially like to recognize and acknowledge the Chauncey Bailey Project (which) worked diligently and

tirelessly to ensure that the defendants responsible for these senseless murders were brought to justice.'" She said, "violence against the free voice of the press will not be tolerated in our society."

Ensuring that murderers go to prison is part of our role.

Is our role too big? Is it too much? Hardly. Today, an individual journalist can do more than ever. Our profession is limited only by our own imagination — and our courage.

The original version of this speech was presented in Moscow at the second meeting of the sub-group on media, part of the U.S.-Russia Bilateral Presidential Commission.