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# News Literacy: Teaching the Internet Generation to Make Reliable Information Choices

James Klurfeld and Howard Schneider

INTRODUCTION



James Klurfeld is currently a visiting professor of Journalism at Stony Brook University. He was the Interim director of the Center for News Literacy and helped create the course. Klurfeld spent almost 40 years at Newsday on Long Island, where his positions included Washington Bureau Chief and Vice-President and Editor of the Editorial Pages. He was a member of the Newsday team that won the 1970 Pulitzer Prize for Public Service.



is the founding dean of the School of Journalism at Stony Brook University and the Executive Director of the Center for News Literacy. Previously, he was the managing editor and the editor of Newsday. Under his tenure in those positions, the newspaper won eight Pultizer Prizes.

n the morning of April 1, 2009, five-year-old Edgar Hernandez, a lively, kindergarten student living in the rural community of La Gloria, Mexico awoke with a high fever, complaining of a headache and sore throat. The boy showed no signs of recovery after taking medicine prescribed by local doctors, who told his mother Maria that her son had a common cold.

But the doctors were wrong.

Edgar Hernandez was "patient zero" in what would become a virulent H1N1 flu pandemic that quickly swept up the East Coast and spread through much of the United States. In a short time, Edgar, whose family lived suspiciously close to an industrial pig farm, would recover. But many others would not.

By February of the following year, the U.S. Centers for Disease Control estimated that 57 million Americans had been sickened, 257,000 had been hospitalized and 11,690 people had died. But what made this pandemic different was its target population. Researchers found that young people, especially those younger than 25, were unusually vulnerable, suffering from higher rates of hospitalization and serious complications and in some cases death.

Alarm bells sounded at many U.S. colleges and universities, where tens of thousands of young people gathered daily in close quarters, including at Stony Brook University, a top public research university located about 60 miles east of New York City with a remarkably diverse student body that mirrored the changing face of America. The new president of the university, Dr. Samuel Stanley Jr., a trained physician and expert on infectious diseases, was so concerned that at his installation in the fall of 2009, he

rolled up the sleeve of his white shirt and had a nurse mount the podium and administer a shot of the H1N1 flu vaccine. He then urged all 25,000 students on campus to become vaccinated as soon as possible.

But how many would listen?

Several weeks later Howard Schneider, the Dean of the University's School of Journalism, found out. Schneider had come to Stony Brook several years earlier to establish the journalism school, after leaving his post as editor of *Newsday*. Within months of teaching his first class, he had become convinced it was no longer sufficient for journalism schools in the 21st century to train just journalists. The greatest communications revolution in more than 500 years had made that impossible, spawning a daily, digital tsunami that threatened to drown the population in a flood of information and disinformation.

In response, he and his colleagues had created the nation's first course in News Literacy, a course aimed at educating the next generation of news consumers on how to make reliable news and information choices. Their goal was to teach the course to 10,000 undergraduates.

Now standing in a large lecture hall before a crowded class of News Literacy students, drawn from nearly every discipline on campus, Schneider asked a question: *How many of you have taken the H1N1 vaccine?* 

Of the more than 200 students present, nine hands slowly went up.

Schneider was taken aback. He told the class that he was not a physician, and his role was certainly not to provide medical advice, but since the news media was filled with detailed reports on the flu and its dangers, he was curious as to why more of the students had not taken the vaccine, which was readily available on campus.

"It doesn't affect us," one student said of the pandemic. "It only affects the very young and old people."

"My mother said it is a conspiracy by the drug companies," volunteered another.

"Taking the shot is dangerous," noted a third student. "It could make you seriously ill." In fact, Schneider had noticed crude posters scattered across campus adorned with a skull and crossbones and the words, "Say No to the H1N1 Flu Shot."

In the months ahead, other students would buttress their ongoing skepticism by pointing to the story of 25-year-old Desiree Jennings, a YouTube sensation whom students said had taken



the H1N1 shot and now could no longer walk forwards—only backwards—or speak coherently. (In fact, Jennings had never taken an H1N1 shot and her symptoms have never been definitively linked to the routine, seasonal flu shot she had taken.)

Schneider remembers leaving the lecture hall being struck by the enormity of the deficit he encountered. But he shouldn't have been surprised. By January of 2010, despite unanimous warnings from national and regional health officials, and a plethora of reliable news reports on the safety of the H1N1 vaccine, only 29.4 percent of U.S. children and only about 20 percent of the overall population had been vaccinated.

# INFORMATION AND DEMOCRACY IN THE INTERNET AGE

The great irony of our time is that there is more information available at our fingertips than anytime in human history, but less and less confidence in that information. Rather than being better informed because of the proliferation of easily available information, studies show news consumers are less informed on key issues of public policy. And the problem has only become more acute with the explosion of social media and mobile technology. Winston Churchill once said, "A lie gets halfway around the world before the truth has a chance to get its pants on." These days, that retweeted lie can circle the globe several times over before the truth even gets out of bed.

While there is no doubt that we are living in the midst of the greatest revolution in communication since Johann Gutenberg invented the printing press, there is no evidence that we as a polity are better informed. Indeed, recent surveys show the contrary.

The consequence of this for our democracy is alarming. Without an underlying consensus on the facts-on what we know to be true-we face unending dispute and policy paralysis.

The inability of Schneider's students to distinguish between reliable news reports and bogus information—or their resistance to wanting to believe what they read or viewed in the news media-not only threatens, literally, the civic health of the nation (rates of routine, childhood vaccinations continue to be relatively low in some states), but threatens to erode the underpinnings of civic life itself.

In a book released this year, The News: A User's Manual, Alain de Botton makes this point about the role of the news media in a democracy:

Central to modern politics is the majestic and beautiful idea that every citizen is-in a small but highly significant way—the ruler of his or her own nation. The news has a central role of play in the fulfillment of this promise, for it is the conduit through which we meet our leaders, judge their fitness to direct the state, and evolve our positions on the most urgent economic and social challenges of the day. Far from being incidental features of democracies, news organizations are their guarantors.<sup>1</sup>

But what happens when the public no longer can distinguish between legitimate news organizations and poseurs, between independent journalists and self-interested promoters, between news and infotainment, between a culture of assertion and one of robust verification, or between reliable news reports and propaganda or "native" advertising? And what happens when broad swatches of the public lose confidence in de Botton's "guarantors" of a majestic democracy?

A University of Maryland study of voter knowledge in the 2010 congressional elections conducted by WorldPublicOpinion.org found voters substantially misinformed on issues from the impact of the stimulus economic package to whether scientists believe climate change is occurring to President Obama's birthplace, to cite just a few examples. Said the report: "Voters misinformation included beliefs at odds with the conclusion of government agencies, generally regarded as non-partisan, consisting of professional economists and scientists."<sup>2</sup>

Among the misperceptions found in the survey:

- 40% of voters believe incorrectly that the TARP legislation was initiated under Barack Obama, rather than George W. Bush
- 86% believed their taxes had gone up or stayed the same while only 10% of voters were aware their taxes had gone down since 2009.
- 45% said most scientists think climate change is not occurring (12%) or that scientists are evenly divided (33%).
- 42% believed either that President Barack Obama was not born in the US (15%) or said it was not clear to them whether he was or not.

The survey also reflected a widespread perception of bias in the media that has too often poisoned any reasonable dialogue on the difficult issues of our times. An overwhelming majority of voters in the survey said they frequently encountered "misleading or false information." Rarely has the nation been as polarized and unable to take any action to deal with the challenges that will face the next generation and the generation after that.

In a 2011 study, the Pew Research Center for the People and the Press found that from 1985 to 2011, respondents who believe "in general, news organizations get the facts straight" fell



<sup>1</sup> Alain de Botton, The News: A User's Manual, (New York: Pantheon Books, 2014).

<sup>2</sup> Clay Ramsay, Steven Kull, Evan Lewis and Stefan Subias, "Misinformation and the 2010 Election A Study of the US Electorate," WorldPublicOpinion.org, December 10, 2010. (http://www.worldpublicopinion.org/pipa/pdf/dec10/Misinformation\_Dec10\_rpt.pdf)

from 55 percent to 25 percent, and those who agree stories are often inaccurate rose from 34 percent to 66 percent."

A later Pew study from 2012 found that ten years earlier, 71 percent of respondents had a positive rating of 13 selected news organizations. A decade later, the positive figure had declined to 56 percent. In some cases, it dropped dramatically. *The New York Times* had a positive rating of 49 percent, down from 62 percent; *The Wall Street Journal* dropped from 77 percent to 58 percent.<sup>4</sup>

The gap between those who identified themselves as Democrats and those who identified as Republican was even more dramatic. For instance, the New York Times received a 37 percent believability rating from Republicans, and a 65 percent rating from Democrats. The result for Fox News was nearly a mirror image: a 67 percent believability rating from Republicans and only a 37 percent rating from Democrats.<sup>5</sup>

The survey also found that the boundaries between news and advertising were rapidly blurring—by design. More and more news sites on the Internet - and in print and on television—were breaking down the traditional wall separating news content from advertising content, increasing the use of advertorials and "native" advertising, stories and video sponsored by advertisers, but not always clearly labeled as such (and sometimes produced by staff journalists). This was particularly true of social media, which is the fastest growing area of the digital information marketplace.

Political polarization and skepticism of the press has predated, of course, the digital revolution. So has the spread of rumor and disinformation.

But the advent of the Internet and the explosion of social media have produced tectonic shifts in the information landscape. For instance, stories that go viral often prove to be untrue, but continue to circulate, sometimes for years. The classic example is the news account of New York City office worker George Turklebaum, 51, who lie dead in his office cubicle for five days before being discovered by co-workers. The Turklebaum story continues to be posted on news websites around the world long after it was debunked as a hoax (and long after it clearly failed the "smell test").

<sup>4 &</sup>quot;Further Decline in Credibility Ratings for Most News Organizations," The Pew Research Center for the People & the Press, August 16, 2012. (<a href="http://www.people-press.org/files/2012/08/8-16-2012-Media-Believability1.pdf">http://www.people-press.org/files/2012/08/8-16-2012-Media-Believability1.pdf</a>)
5 Ibid.



<sup>3 &</sup>quot;Views of the News Media: 1985-2011: Press Widely Criticized, But Trusted More than Other Information Sources," The Pew Research Center for the People & the Press, September 22, 2011. (<a href="http://www.people-press.org/files/legacy-pdf/9-22-2011%20Media%20Attitudes%20Release.pdf">http://www.people-press.org/files/legacy-pdf/9-22-2011%20Media%20Attitudes%20Release.pdf</a>)

Unlike any other communications innovation that preceded it, the Internet also has proven to be unique in the scope of its empowerment. All of us are now no longer just news consumers; we are all publishers and broadcasters. No longer is the barrier to mass circulation millions of dollars to buy a printing press, build a distribution system, or afford a license for a television station. Now, it can be as simple as creating a viral YouTube video or sharing a news story on Facebook. Anybody can be a "citizen journalist" now, tweeting and texting first-hand accounts and photographs of horrific car crashes or unfolding revolutions.

In many ways this is a tremendously positive development, but it also brings new challenges. Renee Loth, a columnist for the Boston Globe who studied the Stony Brook News Literacy program while a fellow at Harvard's Shorenstein Center on the Press, Politics and Public Policy, said this about the rise of the Internet:

The great promise of the Internet is its democratizing effect, enabling countless diverse voices to be heard. But the Internet also promotes a culture that is dismissive of expertise, because anyone can be his own lawyer or car mechanic –or journalist–with a few clicks of the mouse...<sup>6</sup> (Schneider's wife was fond of asking him, "Would you have surgery from a citizen surgeon?")

Finally, the Internet has helped destroy the economic model that sustained a free press for almost two centuries and with it generations of "professional gatekeepers" who sifted through the news on behalf of the public, however imperfectly attempting to separate truth from falsehood. Newsrooms have drastically cut staffs, if not gone out of business altogether. Newspaper jobs have plummeted by nearly a third since 2006 alone, according to the American Society of News Editors.<sup>7</sup> Over time, the gatekeepers have been replaced in some cases by algorithms, and the wisdom of the crowd, tallies of ever-mounting "likes" and "retweets" which risk equating popularity with credibility.

# **TEACHING NEWS LITERACY**

It was during the still formative stages of these developments that Schneider and his colleagues sat down in the fall of 2006 to examine the following proposition: could they create an educational model that would prepare the next generation of news consumers to navigate the new, emerging information ecosystem and discover for themselves what news was trustworthy? What would such a curriculum look like? What concepts and analytical tools would they need to include? How would they know if they had succeeded?

<sup>7 &</sup>quot;Newsroom Census," American Society of News Editors, 2013. (<a href="http://asne.org/content.asp?admin=Y&contentid=121">http://asne.org/content.asp?admin=Y&contentid=121</a>)



<sup>6</sup> Renee Loth, "What's Black and White and Retweeted All Over? Teaching news literacy in the digital age," Shorenstein Center on the Press, Politics and Public Policy Discussion Paper No. D-71, February 2012. (<a href="http://shorensteincenter.org/wp-content/uploads/2012/03/d71\_loth.pdf">http://shorensteincenter.org/wp-content/uploads/2012/03/d71\_loth.pdf</a>)

Schneider made two early decisions. In an effort to embed the new course into the university's general education curriculum, helping to maximize enrollment, he strongly argued that the course was not a journalism class, but a course in critical thinking and civic education. The argument helped sway skeptical academic colleagues that the course should be available to all students. He also was aided considerably by a \$1.8 million grant from the John S. and James L. Knight Foundation, which enabled him to hire adjuncts and graduate students to help meet the teaching demand.

Second, he quickly learned that a key linchpin of his thinking was faulty. He began one of his first classes by asking the assembled students, "Do you believe you are getting the truth from the news media?"

A hand shot up. "What do you mean by truth?" asked a Philosophy major.

The following week Schneider invited a scientist and a philosopher to debate him on the meaning of truth. The debate convinced him of two things: scientists and journalists actually agree more than they might imagine on a common definition of truth-a definition that later would be incorporated into the course-but that using "truth" as a standard to judge news and information would lead to far more intellectual fog than clarity.

Instead, he settled on the standard of "reliability."

At what point can a news consumer conclude that a news report is reliable? He defined reliable information as actionable information that is sufficient for one to make a judgment, reach a conclusion or take an action. It would remain the benchmark for his students until two years ago, when it was modified in a nod to the rapidly evolving social media landscape to include information one can..."share responsibly with others."

# **NEWS EXPOSURE VERSUS NEWS AWARENESS**

To help demonstrate the omnipresence of news, the first assignment in the Stony Brook course is for students to undergo a total news blackout for 48 hours—no news, no sports scores, no weather—and then write a short essay describing their experience.

The student experience is often surprising. Many students said they began the blackout thinking it would not be a major problem, but found that as the blackout progressed they became ever more concerned about what was happening in the outside world, even to the point of feeling panicked. Others have said it is the hardest thing they have ever been asked to do. One student said that when she sits around the kitchen table with her mother, they usually discuss current events. But because they could not talk about news, they just sat and stared at each other. Yet another student said the blackout would have no effect on him because he



never looks at news anyway. But as time passed, whenever he saw a newspaper he had a desire to run over and rip the pages open. It was the allure of the unknown, the forbidden. More problematic was the year that the blackout coincided with a hurricane.

The point: News is everywhere and impacts everybody even if you believe you have minimum contact or interest. It is almost impossible to avoid in an age of text alerts and news screens at your local gasoline pump, and is grossly underestimated as a force in lubricating socialization.

The results of the blackout also surprised the Stony Brook professors by challenging one of their key assumptions. Many students enrolled in the class score poorly on a pre-test of news knowledge, failing to correctly identify major newsmakers or sufficiently understand the implications of important news stories. Professors assumed this was due to underexposure, that students simply didn't consume enough news. In fact, a Pew poll in 2012 found that nearly 30 per cent of those younger than 25 said they "got no news yesterday," either from digital or traditional media.<sup>8</sup>

But over time, the blackout experience seemed to suggest the contrary; students reported they were saturated with news-perhaps oversaturated. What seemed to explain their lack of news awareness was not a lack of exposure or consumption, but a *lack of processing* the news they did consume.

In an essay, a student who was surprised at all the news he missed, wrote, "Who knew I read the news...I sure didn't." Others characterized themselves as "mindless" news consumers, one describing her experience as "incognitive" or destitute of the faculty to comprehend what she was consuming. The result is that students often lacked the capacity to develop a "filter" to understand what *valuable* information they needed to retain and what they needed to discard. (In a <u>TEDx talk</u> Schneider referred to this condition as "newsmosis.")

Translating news exposure into news awareness is one of the major goals of the course and is accomplished in a variety of ways. Timely news stories are routinely incorporated into class lectures and discussions; students are regularly given analytical news assignments from a variety of sources and are periodically tested on the news; on class blogs, students are asked to nominate a news story each week they want to share with classmates and explain why it matters.

The theme of "News Matters" is one of the motifs of the course, which begins with a much more fundamental question: Why are some people willing to murder, and others willing to

<sup>8 &</sup>quot;Trends in News Consumption: In Changing Landscape, Even Television is Vulnerable," The Pew Research Center for the People & the Press, September 27, 2012. (<a href="http://www.people-press.org/files/legacy-pdf/2012%20News%20">http://www.people-press.org/files/legacy-pdf/2012%20News%20</a> Consumption%20Report.pdf)



risk their lives, to control news and information? Information as power—why are so many journalists killed every year (1055 since 1992, already 15 in 2014)<sup>9</sup>—and why do governments go to such lengths to control information are early lessons that help build a foundation for the course. Many students say they are shocked by the figures gathered by the Committee to Protect Journalists. Professors also ask students what they would do if they were at the head of a major digital company operating in, say, China and found that the company's website was being censored by the government. Stay there because China is the largest market in the world, or pull out on principle?

But perhaps the key lesson early in the course comes in defining how journalism is different from other forms of information—such as public relations, advertising, propaganda, entertainment, or just unfiltered, digital text and video. In her Shorenstein report, Loth said differentiating news from other forms of information is a key aspect of the course. "...the Stony Brook course boils down to one indispensable acronym: VIA, for Verification, Independence and Accountability."<sup>10</sup>

Students are taught that if the item they are examining does not have all three of those qualities it is not journalism. To apply those skills, students are asked to watch three videos of the Iraq war on the Internet, and place each in its proper "information neighborhood," (see Figure 1) judging whether any of the reports are journalism. Students experience the most trouble with a video that looks like raw, battle footage of soldiers firing on insurgents. But the address should have been a giveaway: <a href="http://www.mnf.lraq.com">http://www.mnf.lraq.com</a>. Because the source was "the multi-national force in Iraq," including the U.S. Defense Department, the video—whatever it is—lacks independence and cannot be journalism.

<sup>10</sup> Renee Loth, "What's Black and White and Retweeted All Over? Teaching news literacy in the digital age," Shorenstein Center on the Press, Politics and Public Policy Discussion Paper No. D-71, February 2012.



<sup>9</sup> Committee to Protect Journalists, Data and Research. (<a href="http://cpj.org/killed/">http://cpj.org/killed/</a>)

FIGURE 1: TAXONOMY OF INFORMATION NEIGHBORHOODS

	JOURNALISM	ENTERTAINMENT	ADVERTISING	PUBLICITY	PROPAGANDA	RAW INFORMATION
GOAL	<u>To Inform</u>	To Amuse or engage people during their leisure time in activities in which they are passive recipients	To Sell goods, services by increasing their appeal to consumers	To Promote talent, personalities by increasing their visibility	To Build Mass Support for an ideology by canonizing its leaders or demonizing its opposition	To Bypass institutional filters and distribution costs in order to sell, publicize, advocate, entertain, and inform
METHODS	Verification, Independence, Accountability	Story-telling, performance, the visual arts, and music	Paid advertising, staged events, sponsorships, product placement, and websites	Public relations activities, press releases, public statements, staged events, websites, and viral videos	One-sided accounts or outright lies, relying on emotional manipulation through images, appeals to majority values, and fallacious reasoning	Facebook, YouTube, Twitter, blogs, websites, website comment sites, chain email, text message forwarding, flyers, graffiti
PRACTITIONERS	Reporters, photographers, videographers, editors, producers	Actors, musicians, writers, producers	Ad agencies	Publicists, public relations experts, government spokespersons	Political operatives and organizations	Anyone with a web connection, photocopier, or can of paint
OUTCOME	Empowers citizens by educating them	Distraction from or changed view of daily life. Reinforcement or critique of social norms	Increased sales of products and services	Higher fees for talent being promoted	Helps an ideological group seize or maintain power, by influencing public opinion and motivating the public to take action consistent with the ideology	Outlet for self- expression, entertainment, promotion, advocacy, propaganda

Source: News Literacy Program at Stony Brook University

In its early stages, the course examines fundamental issues in journalism: what constitutes news, how editors decide what is news, and the difference between opinion and news.

At a time when cable networks such as Fox and MSNBC inexpensively fill much of their airtime with opinion filtered through a strong lens of partisanship in an attempt to build loyal viewership—clearly one of the reasons for the decline in trust of the news media—the lesson on what separates news from opinion, and what constitutes legitimate opinion journalism from mere bloviation, is particularly relevant. It is even more so on campus, where a growing

number of students receive their news from Facebook, YouTube and other digital sites where sharing, "liking" and commenting can foster a culture of opinion, provocation and argument. The answer is that if the story, blog or commentary doesn't meet the criteria of VIAverification of facts, independence from special interests and accountability (who is the author?)—students are not in the opinion journalism neighborhood. Labeling and transparency (who does the author or commentator work for or represent) are key factors in determining whether you are in the journalism neighborhood.

The course advocates that thoughtful opinion journalism can be very helpful after you have become familiar with the major facts of a news story, not the least of which is to challenge your point of view on an issue, if you have the courage to go there.

# **BIAS, OBJECTIVITY AND RELIABILITY**

The most common criticism of today's news media from students and adults—and perhaps the most toxic in eroding trust-is that they strongly believe that news reports are laced with bias and that true objectivity is not humanly possible.

At Stony Brook, this becomes obvious each semester when professors ask students during the first lecture, "How many of you trust the information you receive from the news media?" Routinely, only a few hands go up. For the past four semesters, a survey administered at the outset of the course found the same results: Eighty-three percent of students agreed or strongly agreed that "most news outlets exhibit bias."

And when asked what the bias reflects, about two-thirds believe-mimicking their parents and grandparents in national surveys—that there is a liberal bias.

In response, the course emphasizes the importance of defining terms. Objectivity might not be humanly possible, but fairness is. The course also distinguishes between balance and fairness. Strict balance in a news account is not always fair. For instance, giving those who say global warming is a hoax equal time or space with those who say it is a problem distorts reality. But balance is called for when writing about a presidential debate, for instance, or any issue where the evidence remains inconclusive (i.e. the long-term impact of the Affordable Care Act).

For students, bias as a concept is even more problematic. For example, many students confuse news media bias with sloppy reporting or editing errors, or assume a clearly-labeled commentary is evidence of an outlet's biased news coverage, or that one unfair news account is proof of bias. In the Stony Brook course, bias is defined as a pattern of unfairness.

In one instance, students are asked to watch and judge an actual news video of the arrest of an African-American school bus driver who is charged with selling drugs to his students. The story is filled with police accusations, but the reporter never even attempts to get the bus driver's side of the story. In that regard, the story is clearly unfair, but by itself it is not an example of news media bias. To prove bias, students would have to show a pattern by the news outlet of treating white and African-American defendants differently in its reporting.

The course also emphasizes that bias frequently is the bias of the news consumers who interpret news through their own prism of beliefs. A spotlight is put on confirmation bias: the human tendency to reject information that does not conform to one's already held beliefs. Over the past several years, this issue has received increased attention in the course, informed by research in neuroscience, social science and psychology. It is perhaps one of the most intractable barriers for news consumers to overcome, especially partisans—they are literally fighting their own evolutionary brain history.

In 2006, researchers from several universities studied Democrat and Republican "brains" in the context of political decision-making.

At Emory University, highly partisan supporters of George Bush and John Kerry were asked to evaluate information that challenged their candidates' positions, while researchers monitored the brains of the subjects using magnetic resonance imaging. According to Dr. Drew Weston, who headed the project, subjects from both parties consistently ignored information that could not be rationally discounted.

"We did not see any increased activation of the parts of the brain normally engaged during reasoning," Weston was quoted as saying before reporting the findings at an annual conference. "What we saw instead was a network of emotion circuits lighting up."

Here's what Weston further noted, "Essentially it appears that partisans twirl the cognitive kaleidoscope until they get the conclusions they want and then they get massively reinforced for it, with the elimination of negative emotional states and activation of positive ones." <sup>12</sup>

Even more discouraging are studies on knowledgeable citizens.

When pro-Arab and pro-Israeli partisans were shown straight-forward television images from the 1982 war in Lebanon more than 20 years later, both sides equally concluded that the American media coverage was hopelessly slanted in favor of the other side. When the subjects

<sup>11</sup> Emory University Health Sciences Center, "Emory Study Lights Up The Political Brain," *ScienceDaily*, January 31, 2006. (http://www.sciencedaily.com/releases/2006/01/060131092225.htm)
12 Ibid.



with the most knowledge about the conflict were tested, one might have assumed-or at least hoped—that better informed news consumers would be more discerning. It was the exact opposite. According to Stanford psychologist Lee D. Ross: "The best-informed partisans were the most likely to see bias against their side."<sup>13</sup>

In a recent interview with the American Press Institute, Daniel Kahneman, the Nobel laureate and author of the bestseller Thinking, Fast and Slow, says, "The odd thing is that educating people doesn't seem to be enough because we find that educated people are no-less polarized than non-educated people in their politics and their biases. So education by itself does not reduce polarization. It is interesting and disheartening."<sup>14</sup>

So if education is not a solution, what is? At Stony Brook, a possible solution begins with self-awareness.

In addition to reviewing studies like those described above, students are assigned to take an online Implicit Bias Test developed by researchers at Harvard University, University of Washington and the University of Virginia that measures their attitudes on issues such as race, ethnicity, age or sexual preference. Not surprisingly, many students who take the test intensely dislike the results and conclude that the test is flawed. It is not.

One student said she was shocked by her implicit bias against black people. "My father is black and my mother is white," she said.

Another example involved two Pakistani, Muslim women who grew up in NYC and found that they have a slight preference for non-Muslims. In both cases they resisted believing this was true, but it turned out that they had grown up in largely white, non-Muslim neighborhoods and during discussion in class admitted that they only had non-Muslim friends.

# **ASSESSING EVIDENCE**

To appreciate the birth of an iconic moment in News Literacy, consider the case of Brian Thevenot, a highly regarded reporter for the New Orleans Times Picayune.

In the aftermath of Hurricane Katrina, Thevenot was assigned to write about the reports of violence and even murder in the Super-Dome, where thousands of homeless had gone for shelter, Arkansas National Guardsman Mikel Brooks was stationed outside of the dome's giant food freezer. He and other officials had told Thevenot that there were 30 or 40 bodies

<sup>14</sup> Millie Tran, "How to lean against your biases: A conversation with Daniel Kahneman," American Press Institute, April 4, 2014. (http://www.americanpressinstitute.org/publications/good-questions/lean-biases-conversation-daniel-<u>kahneman/</u>)



<sup>13</sup> Shankar Vedantam, "Two Views of the Same News Find Opposite Biases," The Washington Post, July 24, 2006. (http://www.washingtonpost.com/wp-dyn/content/article/2006/07/23/AR2006072300512.html)

inside that freezer. But before he even had a chance to ask, the guardsman said they were not allowed to open the freezer.

Thevenot wrote his story quoting Brooks and another soldier saying that the freezer contained a "seven-year-old with her throat cut," as well as a mass of decomposing bodies. The headline the next day read: "Katrina's body count could reach 10,000; Bodies found piled in freezer at Convention Center."

There was only one problem: the story was not true.

Thevenot, later writing for the American Journalism Review on why he had been so wrong, said he subsequently learned that Brooks and others who said there were dead bodies in the dome's freezer had heard it on the food line at Harrah's Casino, a law enforcement and military staging area a block away.<sup>15</sup>

Why had Thevenot gone wrong? He didn't open the freezer himself! Or, at the very least, ask the officers how they knew what was inside.

After Schneider first used the example, students in subsequent weeks, analyzing news stories that had nothing to do with Katrina, rose to say, "I didn't see the reporter open the freezer." Or, "In this story, the reporter only opened the freezer part way." (Hundreds of bright, red buttons saying "Open the Freezer" are given to students as they leave the News Literacy final exam each semester. And if they show their button outside the test hall, they get to "open the freezer" and take an ice cream sandwich.)

The critical point is that news consumers must read or watch a story with a critical eye, always asking three questions: What do I know? How do I know it? What don't I know? Students are given help in breaking down those questions into a series of further questions. What is the difference between direct and indirect evidence? What is assertion and what is verification? Is the reporter transparent in telling the news consumer what she doesn't know and why? Is there enough *context* in stories that use numbers to help reach a valid conclusion?

In assessing evidence, the most complicated challenge for students is often to judge the reliability of news sources in the story-the people who talk to the reporter. To help, the Stony Brook professors created a second key acronym: I'M VAIN:

- Independent Sources are better than self-interested sources.
- Multiple sources are better than a single source.

15 Brian Thevenot, "Myth-Making in New Orleans," American Journalism Review, December/January 2006. (http:// ajrarchive.org/article.asp?id=3998)



- Sources who Verify are better than sources who assert.
- Authoritative/Informed sources are better than uninformed sources.
- Named sources are better than unnamed sources.

The most difficult aspect of this approach for students is that the evaluation of evidence and sources is not a black and white matter. Instead students must weigh the evidence and sourcing and come to a conclusion that may be in a gray area. Not all anonymous sources are inaccurate. Sometimes a self-interested source knows more than anyone else about a story. Students are urged to judge the totality of the evidence in a story.

During their three-hour final examination, students are asked to "deconstruct" three video stories and one longer news story by answering a series of key questions about the evidence, sourcing, context and fairness in the story. The final two questions are always the same: Can you come to a conclusion or make a judgment based on the information presented in this story? Why? (Sometimes the correct answer is simply: "I don't have enough information.") The Katrina story also highlights another key News Literacy lesson involving the nature of journalistic truth and its implications for news consumers.

In 2006, three Duke University lacrosse players were accused and arrested for raping a woman at a team party. The story received sensational coverage across the nation. The players were suspended from school, the lacrosse team's remaining schedule canceled and the lacrosse coach fired. But over about 15 months, subsequent information revealed that the accuser was lying and had serious drug abuse and mental health problems. The district attorney, it was revealed, had withheld exculpatory evidence. Upon further investigation by the state's attorney general, the Duke students were cleared and the district attorney disbarred and sentenced to jail. (He served only one day.)

The story is a dramatic example of how journalistic truth is provisional; it changes over time as new facts emerge, developments unfold, reporters dig deeper, mistakes are made and the record is corrected. Carl Bernstein is fond of defining journalistic truth as "the best obtainable version of the truth on any given day." In this regard, journalistic truth has similarities to scientific truth, which is rarely certain, but often a statement of probability proportional to the evidence. And the evidence can change. (Remember, Pluto was once considered a planet.)

For news consumers, this leads to a second powerful imperative. If you want to get the complete story, you must follow the news. One needs to be a regular news consumer, as well as a critical news reader. This is particularly important when making judgments during the early stages of major breaking stories, such as Hurricane Katrina, the Newtown massacre, the Boston Marathon bombing, or even the Trayvon Martin shooting. In these cases, students are urged to withhold judgment until key information can be verified.

If the professors could encapsulate the entire course, perhaps, into one message, it might be this: None of us can hold back the tide of change. We'll never slow down an ever hyperaccelerating news cycle. But we can, with discipline, slow down the way we *process* and evaluate the news.

What happens, though, in a world awash in social media and mobile technology, where instead of following the news, the news increasingly follows us? Does that make it easier or harder to make sense of the world?

# CHALLENGES OF THE INFORMATION AGE: RANK DOES NOT EQUAL RELIABILITY

From the outset, the Stony Brook team designed its course to be platform-agnostic: the same critical thinking skills could be applied to news reports from any platform, whether it be, in the words of Loth, "dead tree media, the cloud, or anything in between."

And for the most part, the course hews to that principle. If you want to find your way in the new media wilderness, use the same navigational tools that got you through the old media landscape: check sources and evaluate the evidence, seek out independent information, be open to information that challenges your pre-conceived assumptions, look for accountability....

It works to a point. The Stony Brook team first discovered that point examining the case of Martin Luther King.

In 2007, as online news aggregators and search engines became a major tool for finding information about a specific topic or person, students were asked to find news about King. Many typically used the Google search engine and discovered MartinLutherKing.org, which was among the top three search results. What they found was a robust site, rich in multimedia materials, photographs of King, links to historical documents, "educational videos," and reference to a "Civil Rights Library."

There was only one problem. If students bothered to explore a little further, and clicked the link to a "forum" on the very bottom of the home page, they would have discovered who actually ran the site. It was Stormfront, a white supremacist organization. Racist material was also salted throughout the site, once you got past the home page.

For many students, it was a jaw dropper. It also led to the realization that while core course principles could remain across all media platforms, new ones would be needed to address changes in the way students were accessing the news.

In the case of King, it led to two admonitions: When using a search engine to find news, *rank* does not equal reliability; and, as helpful tools, domain names are often meaningless (with the notable exceptions of .gov and .edu). The King site, which has since become notorious, remains a top search result, perhaps because some teachers now use it as an object lesson.

In retrospect, the "Big Bang" inflation of the World Wide Web already looks like a less complicated time, given the meteoric expansion of social media sites like Facebook, Twitter and Instagram and second-generation crowd sourcing sites like Reddit, Newsvine or Wikinews (with Wikipedia being everyone's granddaddy).

A recent study by the Media Insight Project, a collaboration between the American Press Institute and the Associated Press-NORC Center for Public Affairs Research at the University of Chicago, found that 40 percent of adults now say they get some news each week from social media. For those under 30, the number jumps to 70 percent. And a rapidly growing number are doing more than just consuming news; they are contributing stories or photographs of news events.

The potential complications for news consumers are painfully obvious. Social media can amplify the problem of speed over accuracy. It can exponentially add to information overload (Eric Schmidt, the former CEO of Google, has famously noted, "Between the dawn of civilization through 2003 about 5 exabytes of information was created. Now that much is created every 2 days.")

The greatest challenge is that social media can short circuit the process of verification and compromise authenticity. For example, social media can foster a culture of anonymity, often making accountability impossible. In the contagion of "sharing" news, recipients may confuse the reliability of the *source with that of the sender*, especially if the news comes from a trusted friend or relative.

And rather than confusing search rank with reliability, news consumers are now prone to equating credibility with "popularity," in the form of retweets or "likes," or mistaking the "wisdom of the crowd" for the process of verification.

That is to say, it is easier to get fooled and act on faulty information. In a recent paper called "Rumor Cascades" researchers found that nearly two-thirds of rumors spread on Facebook, turned out to be-perhaps not surprisingly-baseless.<sup>17</sup>

<sup>17</sup> Adrien Friggeri, Lada A. Adamic, Dean Eckles, and Justin Cheng, "Rumor Cascades in Social Networks," a joint paper by Stanford University and Facebook prepared for the International Conference on Weblogs and Social Media, 2014. (https://www.facebook.com/publications/244240069095667/)



<sup>16 &</sup>quot;The Personal News Cycle," The Media Insight Project, March 17, 2014. (http://www.americanpressinstitute.org/wp-content/uploads/2014/03/The Media Insight Project The Personal News Cycle Final.pdf)

For striking lessons, you don't have to look much further than the manipulated photos of sharks swimming in New Jersey neighborhoods after super storm Sandy, or the now infamous case of the Boston Marathon bombers on Reddit.

In that case, Reddit asked its followers to help find out who was responsible for the bombing. Reddit users vacuumed up every photo they could find on Facebook, Twitter and Instagram combined with vague police statements, and crowd sourced a photograph of the two bombers. The New York Post then picked up the photo and plastered it on its front page. A great example of the value of social media...except for one problem: it was wrong. The two young men in the photo were completely innocent.

In response to these perils, the Stony Brook course offers two possible remedies: it reinforces the use of foundational critical-thinking skills for students both as consumers or producers (urging them to apply News Literacy's own version of the Golden Rule: Share and send information to others you would only have them send unto you.) It urges students participating in crowdsourcing sites to become leaders in responsible newsgathering and verification: If you see something, say something. And, as always, it urges them to slow down.

One News Literacy assignment involves sending two different e-mails stories to samples of students, asking each whether they would pass the email on to a friend. One story sounds plausible, but with some checking it will be clear it is not true. The other story sounds implausible, but is true. The point is that citizens need to be aggressive in evaluating information on the web or social media.

As students migrate to new digital platforms, the course also provides specific tools and strategies to adapt, ranging from how to identify the owner of a web URL, to the value of using the hoax-busting site Snopes.com, to how to search "incognito" on Google to avoid the "filter bubble," which customizes your search results without your knowledge.

Most recently, the course has offered the following five ways to spot a fake twitter account from BBC social media expert Sue Llewellyn.

- 1. The bigger the story, the more fakes and hoaxes there will be.
- 2. Fake twitter accounts often substitute a O for an O, or a 1 for an I, playing on the real name of some person or organization.
- 3. Beware tweets from persons making news themselves. Hoaxers target newsmakers. (Within minutes of Pope Francis's selection, there was a "land grab" for fake twitter handles, creating a mass of confusion.)
- 4. Check the bio on the Twitter handle. Are there troubling typos or poor
- 5. If a public personality's account doesn't have Twitter's official "checkmark" be extra cautious.



"Digital forensics" is likely to grow in importance and sophistication. Both the Knight Foundation News Corp. and others are investing heavily, for example, in new technology to spot fake or manipulated photographs, all of which should be a boon for news consumers.

And there is more good news.

Recent studies show that news consumers are becoming more aware of the pitfalls of social/digital space. A large majority of Americans say they are skeptical of the news they receive from friends on social media, according to the survey conducted by the Media Insight Project.<sup>18</sup>

The survey also found that rather than relying on any one platform for news, consumers—across all ages—are turning to a mix of platforms each day. (This was dramatically underscored for the Stony Brook team at the end of the spring semester in 2011, as news broke of the death of Osama bin Laden. Most students reported that they first got wind of the story on social media, but then immediately turned to television or major newspaper websites to confirm the news.)

But perhaps the most encouraging news of all is that in the Age of Social Media, Americans are consuming more news than ever before.

The Media Insight survey found that "regardless of platform, people across age groups are avid consumers of the news. Three-quarters of Americans get news at least daily, including 6 out of 10 adults under 30. And a solid majority says it is easier to get news today than 5 years ago."<sup>19</sup>

#### **DOES IT WORK?**

At its most basic, the Stony Brook model advances the following proposition: At a time when the public perception of practicing journalists according to recent Gallup poll hovers somewhere between bankers and car salesmen,<sup>20</sup> every student in America should acquire the critical thinking skills of a journalist.

The reason is simple. In the Digital Age, the ultimate check against the spread of rumor, pernicious falsehood, disinformation, and unverified reports masquerading as fact, will never be just more and better-trained journalists and professional gatekeepers. Instead, it will require a generation of astutely educated news consumers, as well as native producers and distributors, who will learn to be their own editors and identify for themselves fact-and-evidence-based news and information.

<sup>19 &</sup>quot;National Survey: The Personal News Cycle: How Americans Get Their News," *Associated Press*, March 17, 2014. (<a href="http://www.ap.org/lmages/AP-NORC%20Personal%20News%20Cycle%20Final%20Release\_tcm28-15954.pdf">http://www.ap.org/lmages/AP-NORC%20Personal%20News%20Cycle%20Final%20Release\_tcm28-15954.pdf</a>) 20 "Honesty/Ethics in Professions," Gallup, December 5-8, 2013. (<a href="http://www.gallup.com/poll/1654/honesty-ethics-professions.aspx">http://www.gallup.com/poll/1654/honesty-ethics-professions.aspx</a>)



<sup>18 &</sup>quot;The Personal News Cycle," The Media Insight Project, March 17, 2014.

Initially, the Stony Brook strategy focused exclusively on introducing News Literacy at the university level, with the hope that journalism schools, too often viewed as professional schools residing on the fringes of research universities, would reposition themselves and take on a new mission: to teach analytical, news and information life skills to every graduate.

To some extent this has worked. In 2008, the Ford Foundation awarded Stony Brook \$200,000 to create a <u>Center for News Literacy</u> and export its curriculum to other universities. In the past five years, nearly 50 other universities and colleges have adopted some or all of the Stony Brook material, although none remotely at the scale or ambition of Stony Brook, which will reach its initial goal of teaching the course to 10,000 students this fall. Increasingly, however, attention is now focusing on introducing News Literacy to high school students, or even to pupils in middle school.

None of this will come without its challenges.

Some critics charge that the Stony Brook course is little more than journalism hagiography, a romanticized shout-out to the virtues of journalism by former journalists, with one critic calling the course "nostalgic propaganda from the old guard desperately trying to remind young people about a world that doesn't exist anymore." In some cases the criticism, drawn from the ranks of those teaching Media Literacy—an academic discipline that dates back decades and takes a broader look at the creation and impact of media on society—has been a barrier to adoption of News Literacy, which is, in fact, a clearly-mapped civic tributary of Media Literacy.

In 2012, Dr. Jennifer Fleming, now of California State University at Long Beach, spent three months at Stony Brook, studying the curriculum, attending classes and interviewing faculty and students for her doctoral dissertation. In an article last year in *Journalism and Mass Communications Educator*, she said that she found the course far from an unvarnished portrayal of the press. "The fact is that News Literacy is quite critical of sloppy, emotion-laden, unsubstantiated or argumentative journalism," 22 she wrote.

A more substantive criticism, perhaps, is whether there has been rigorous enough assessment to conclude whether the course does what it promises to do.

In other words, does it work?

The Stony Brook team has commissioned and completed two independent, longitudinal studies, comparing a sample of students enrolled in the course with a control group of students who

<sup>21</sup> Jennifer Fleming, "Media Literacy, News Literacy, or News Appreciation? A Case Study of the News Literacy Program at Stony Brook University," *Journalism & Mass Communication Educator*, December 31, 2013. (<a href="http://jmc.sagepub.com/content/early/2013/12/31/1077695813517885.abstract">http://jmc.sagepub.com/content/early/2013/12/31/1077695813517885.abstract</a>)
22 Ibid.



did not take the course. Students from both groups were surveyed and tested before and after the course and then a year later to see what, if anything, changed.

While it is far too early to reach a definitive conclusion—the team is hoping to launch a third round of testing next year—here are some of the preliminary findings:

After completing the course, the News Literacy students routinely consumed more news from more sources, rated keeping up with the news as more important, registered to vote in higher numbers, could deconstruct some video news stories more effectively, had a higher regard for the "watchdog function" of the press and had a more nuanced view, in general, of the news media. For example, at the outset of the semester only 17 percent of those taking the course felt the media treated both sides of a story fairly; by semester's end the number had jumped to 52 percent.

At the same time, there were minimal differences with the control group in other areas of critical thinking skills. More importantly, a year later, many of the gaps between the two groups began to narrow, or disappear altogether.

Shorenstein's Loth was more encouraged, however, about the course's long-term benefits. In the fall of 2011, she set out on her own to see if any of the News Literacy training endured beyond the classroom, surveying several dozen students who had taken the course three years before.

She found that a majority reported they were more "engaged, empowered, and skilled consumers," and many had adopted new habits of mind. They verified stories before retweeting or linking to them and said that they checked out emails before forwarding them to friends. Nearly three-quarters agreed with the statement: "After having taken the course, I feel that I have the power to find out what's really going on in the world."<sup>23</sup>

Still, the lingering question of whether one 42-hour, three-credit course late in the academic life of a student is sufficient preparation to successfully cope with what Alberto Ibarguen, the CEO of the Knight Foundation, calls "the bombardment of information that is part of modern digital life" is a real and growing one. Should News Literacy concepts and skills be embedded, instead, at a far earlier point, or *throughout* the educational trajectory of students?

As far back as 2008, while Stony Brook was launching its initiative, Alan Miller, a former Pulitzer-prize winning investigative reporter at the Los Angeles Times, created the News Literacy Project, which brings working journalists into high schools to collaborate with

<sup>23</sup> Renee Loth, "What's Black and White and Retweeted All Over? Teaching news literacy in the digital age," Shorenstein Center on the Press, Politics and Public Policy Discussion Paper No. D-71, February 2012.



teachers and students. To date, Miller's team has visited more than 75 schools in Washington D.C., Bethesda, Md., Fairfax County, Va., Chicago, and New York City and developing materials that can be delivered digitally.

The argument has taken on more power and relevancy with the recent adoption by 44 states of Common Core standards, with its emphasis on critical thinking skills. "If I didn't know better, I would think the field of News Literacy was invented to address the Common Core standards," says Diana Hess, a senior vice president for civic education at the Spencer Foundation.

In Brooklyn's Coney Island, Carmen Amador, principal of IS 303, has been working with the Stony Brook team to integrate News Literacy concepts and skills throughout the 6th, 7th, and 8th grade <u>curriculums</u>. Teachers report marked success in heightening students' news awareness and building critical-thinking skills using VIA and I'M VAIN exercises. "So if my middle schoolers in Coney Island can do it," Amador asks, "why can't other middle schoolers do it?"

Amador is one of nearly 150 educators from 32 states who have enrolled at Stony Brook's two-week summer workshop during the past five years to study the course and develop lesson plans. Increasingly, they represent multiple disciplines—from English and American Government to Statistics and Reading—come not only from universities, but from community colleges, high schools and middle schools.

Three years ago, some observers were startled when an elementary school teacher showed up. She taught a sample lesson in New Literacy using *The True Story of the Three Little Pigs*, a children's book written in 1989 by Jon Scieszka and Lane Smith. The book argues that the true story of what happened to the unfortunate pigs has never been really told because it doesn't include the point of view of the maligned wolf. The teacher explained how using the book enabled her to teach second-graders to understand the need to get all sides of a story.

"That's News Literacy," she said.

# **EXPANDING NEWS LITERACY**

In response to these developments, Schneider and his team have altered their strategy to address their biggest challenge: how to embed and scale News Literacy across the spectrum of American education, and even globally. It is a daunting, even audacious proposition,

As a first step, Stony Brook is developing a Digital Resource Center that will provide teachers with curated, multi-media New Literacy materials customized by grade-level and theme. The online portal, scheduled to be completed and launched next fall, will eventually provide a fresh



"News Literacy Lesson of the Week" ripped from the headlines, space where users can share best practices, and links to partner resources. The Robert R. McCormick Foundation and the MacArthur Foundation are funding the initiative.

McCormick is also helping to fund efforts by the Stony Brook Center to coordinate development of a Spanish-language version of the curriculum and to develop an online teacher training course which, in conjunction with the Digital Resource Center, could help rapidly scale the program.

"Any teacher with an Internet connection will now be able to teach News Literacy," says Dean Miller, the director of the Stony Brook Center.

But whether individual teachers will be supported in these efforts is still uncertain. Ultimately, it will require more than individual champions to scale the program; it will require entire districts or states willing to integrate and pilot a new curriculum as part, perhaps, of the Common Core. At a time when U.S., students continue to lag their global counterparts, remaining competitive in the information economy will require accelerated efforts. Already, News Literacy is spreading overseas.

In 2008, Pek Dorji, the director of Bhutan's Center for Media and Democracy, contacted Stony Brook about helping her nation—then the world's newest democracy—adopt News Literacy as a strategy to successfully make the transition from a feudal media society to one with a hundred channels of cable TV. The Stony Brook team already has made three visits to train local teachers.

Then in 2013, Stony Brook was invited to send one of its faculty, Richard Hornik, to teach the course at the University of Hong Kong. Hornik is not an easy man to impress. A 24-year veteran of Time, Inc., he has reported on everything from the Solidarity uprising in Poland to the events leading up to the June 4 massacre in Beijing. He joined the News Literacy faculty convinced that the future of the news media in America rests not with journalists, but with the audience. "Society gets the quality of journalism that it demands and no more," he says.

Despite serving as a correspondent in Beijing and Hong Kong, Hornik didn't know what to expect from his 130 students, including 25 from mainland China. He learned two important lessons. First, with significant alterations the course could be successfully taught beyond the boundaries of the U.S. He calls some of his Chinese students "the best I've ever taught."

The second lesson he learned was more surprising. He found wide interest in News Literacy beyond the confines of Hong Kong. He conducted two workshops that drew two dozen academics from mainland China, Myanmar, Vietnam and Cambodia. He attributes this initial

interest, in part, to the course's focus on teaching critical thinking skills, a growing imperative for academics everywhere preparing their students for a competitive global economy. "No matter what else the course does," he says, "it is a better way to teach critical thinking skills because it draws real, relevant examples from the news and social media. It's alive."

Hornik also is convinced that the rise of social media has changed the equation, even in authoritarian regimes, where governments now understand that their citizens have access to a flow of unchallenged information that includes both rumor and fact. "News Literacy could be one strategy to deal with the problem," he says.

Next fall, Hornik, who is now director of the Center's Overseas Partnership Program, will return to China to teach elements of the course, this time at the Communications University of China in Beijing. Elsewhere, the course will be taught at Xiamen University in China, the Higher School of Economics in Moscow, the University of Tel Aviv, Queensland University in Australia, as a workshop in Vietnam, and possibly at Adam Mickiewicz University in Poland, which has expressed interest in establishing a Center for News Literacy for Eastern Europe.

Hornik is not naive. He knows some of these efforts may turn out to be problematic or unsustainable. But he is more convinced than ever of one thing. "The ability of the next generation of citizens to judge the reliability and relevance of information," he says, "will be a leading indicator of the public health of civil societies around the world."

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