Tow Center for Digital Journalism

THE PLATFORM PRESS: HOW SILICON VALLEY REENGINEERED JOURNALISM

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-Emily Bell and Taylor Owen, March 2017

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Contents

Executive Summary	9
Introduction: Watermelons to democracy	13
Journalism's third wave	16
Platforms Become Publishers	21
A world of choice, but at a cost	23
Building your house on someone else's land	34
Whose audience is it anyway?	38
Follow the money	40
Can platforms fix it?	50
Facebook and the 2016 Election	55
An extraordinary day	55
From friends and family to viral news	57
Election year, perfect storm	64
The Facebook response	71
Conclusion: A fractious transfer of power	77
Structural impediments	79
Improving the news environment	83
Appendix I: Methodology	85
Appendix II: Timeline	87

Executive Summary

The influence of social media platforms and technology companies is having a greater effect on American journalism than even the shift from print to digital. There is a rapid takeover of traditional publishers' roles by companies including Facebook, Snapchat, Google, and Twitter ws no sign of slowing, and which raises serious questions over how the costs of journalism will be supported. These companies have evolved beyond their role as distribution channels, and now control what audiences see and who gets paid for their attention, and even what format and type of journalism flourishes.

Publishers are continuing to push more of their journalism to thirdparty platforms despite no guarantee of consistent return on investment. Publishing is no longer the core activity of certain news organizations. This trend will continue as news companies give up more of the traditional functions of publishers.

This report, part of an ongoing study by the Tow Center for Digital Journalism at Columbia Journalism School, charts the convergence between journalism and platform companies. In the span of 20 years, journalism has experienced three significant changes in business and distribution models: the switch from analog to digital, the rise of the social web, and now the dominance of mobile. This last phase has seen large technology companies dominate the markets for attention and advertising and has forced news organizations to rethink their processes and structures.

Findings

- Technology platforms have become publishers in a short space of time, leaving news organizations confused about their own future. If the speed of convergence continues, more news organizations are likely to cease publishing—distributing, hosting, and monetizing—as a core activity.
- Competition among platforms to release products for publishers is helping newsrooms reach larger audiences than ever before. But the advan-

tages of each platform are difficult to assess, and the return on investment is inadequate. The loss of branding, the lack of audience data, and the migration of advertising revenue remain key concerns for publishers.

- The influence of social platforms shapes the journalism itself. By offering incentives to news organizations for particular types of content, such as live video, or by dictating publisher activity through design standards, the platforms are explicitly editorial.
- The "fake news" revelations of the 2016 election have forced social platforms to take greater responsibility for publishing decisions. However, this is a distraction from the larger issue that the structure and the economics of social platforms incentivize the spread of low-quality content over high-quality material. Journalism with high civic value—journalism that investigates power, or reaches underserved and local communities is discriminated against by a system that favors scale and shareability.
- Platforms rely on algorithms to sort and target content. They have not wanted to invest in human editing, to avoid both cost and the perception that humans would be biased. However, the nuances of journalism require editorial judgment, so platforms will need to reconsider their approach.
- Greater transparency and accountability are required from platform companies. While news might reach more people than ever before, for the first time, the audience has no way of knowing how or why it reaches them, how data collected about them is used, or how their online behavior is being manipulated. And publishers are producing more content than ever, without knowing who it is reaching or how—they are at the mercy of the algorithm.

In the wake of the election, we have an immediate opportunity to turn the attention focused on tech power and journalism into action. Until recently, the default position of platforms (and notably Facebook) has been to avoid the expensive responsibilities and liabilities of being publishers. The platform companies, led by Facebook and Google, have been proactive in starting initiatives focused on improving the news environment and issues of news literacy. However, more structural questions remain unaddressed.

If news organizations are to remain autonomous entities in the future,

there will have to be a reversal in information consumption trends and advertising expenditure or a significant transfer of wealth from technology companies and advertisers. Some publishers are seeing a "Trump Bump" with subscriptions and donations rising post-election, and there is evidence of renewed efforts of both large and niche publishers to build audiences and revenue streams away from the intermediary platform businesses. However, it is too soon to tell if this represents a systemic change rather than a cyclical ripple.

News organizations face a critical dilemma. Should they continue the costly business of maintaining their own publishing infrastructure, with smaller audiences but complete control over revenue, brand, and audience data? Or, should they cede control over user data and advertising in exchange for the significant audience growth offered by Facebook or other platforms? We describe how publishers are managing these trade-offs through content analysis and interviews.

While the spread of misinformation online became a global story this year, we see it as a proxy for much wider issues about the commercialization and private control of the public sphere.

Introduction: Watermelons to democracy

They are publishers. They control the audience in many ways . . . They're the gateway to the audience, and they determine what they will allow and what they won't. It's their world.

-Kim Lau, SVP and Head of Business Development of The Atlantic

In April 2016, on a windswept pier in San Francisco, thousands of engineers and executives crowded into the Fort Mason conference center to attend the annual Facebook developer conference. In the Media Track theater there was not a spare seat available. Media executives from America and around the world crammed into the aisles, hoping to hear how Facebook would help them make money from their content.

On stage Jonah Peretti, the founder of BuzzFeed, and Chris Cox, the cofounder of Facebook and the company's head of product, discussed the best examples of "what works" on the social web. The answer, it turned out, was two BuzzFeed employees placing rubber bands around a watermelon until it exploded on Facebook Live video. At its peak, the watermelon experiment had a live audience of 807,000 simultaneous views. This was presented as a new opportunity for publishers to be enriched by a Facebook innovation. Many in the room likely felt empathy with the watermelon, as their businesses were being squeezed slowly to the point of implosion by external forces beyond their control. One of those forces is Facebook itself.

Seven months later, it was more than watermelons that had exploded all over Facebook. A week after the widely unexpected result of the 2016 US presidential election, BuzzFeed Media Editor Craig Silverman broke a series of stories exposing how misleading news had spread across social media during the election cycle, primarily on Facebook. Websites producing fake stories on an industrial scale were popping up from California to Macedo-

nia. Silverman's reporting demonstrated that in the months leading up to the 2016 election, the number of likes and shares for posts from sites such as Freedom Daily, on which almost half the content is false or misleading, was on average nearly 19 times higher than for posts from a mainstream news outlet such as CNN.

In the horror movie of journalism's disappearing business models, the fake news scandal was the equivalent of the phone ringing from inside the house. The hope was that the convergence of social media and journalism would create a superior version or hybrid of both; a rich network populated by useful and timely information, which could be easily augmented, shared, and commented on by a highly engaged population. Instead, the worst elements of both worlds have combined, tainting the old media and the new.

The unchecked viral spread of untrue, exaggerated, and wildly partian pieces is forcing a long overdue debate about the rights and responsibilities of both news organizations and social media platforms. Safeguarding the independence of good journalism as it becomes a subset of social media is a critical task for both publishers and platforms.

At the end of 2016, battered by the negative publicity for Facebook around "fake news," Mark Zuckerberg retreated from his rigid position that his creation was "just a technology company," to acknowledge that it was a "new kind of platform."

Technology companies including Apple, Google, Snapchat, Twitter, and, above all, Facebook have taken on most of the functions of news organizations, becoming key players in the news ecosystem, whether they wanted that role or not. The distribution and presentation of information, the monetization of publishing, and the relationship with the audience are all dominated by a handful of platforms. These businesses might care about the health of journalism, but it is not their core purpose.

News publishers are struggling to understand how to work with these powerful new forces in the industry. The rapid adoption of smartphones has transformed media consumption, turning technology companies with their apps and operating systems into the new gatekeepers of information. According to 2016 Pew data, 92 percent of young Americans from 18 to 29

own a smartphone, and 77 percent of the population as a whole—higher than the number with broadband connections at home. Over 62 percent of the US population gets news from some form of social media, with Facebook the dominant source. The length of time that people spend looking at their screens and the volume of personal data collected by these companies have created a completely new operating environment in which journalism must now function.

Social media and search companies are not purely neutral platforms, but in fact edit, or "curate," the information they present. Platforms for their part have started to acknowledge the role they play in news provision. But the exercise of editorial judgment has complicated their commercial mission: to get as many people as they can using their platforms as often as possible. The contradictions inherent in this developing role has led to rapid shifts and reversals in strategy. In August 2016, for example, Facebook fired its 30 editors or "curators," as it called them, to counter reports that the company was unfairly editing Trending Topics to suppress stories from conservative news outlets. Shortly after this, coverage of "fake news" suggested that the company ought to have had more rather than less direct editorial intervention on its platform.

Even after the "fake news" scandal of the last election cycle, Mark Zuckerberg insisted Facebook "must be extremely cautious about becoming arbiters of truth ourselves." Instead, the company formed partnerships with several fact-checking and news organizations to flag dubious stories. Its partners were believed to be unpaid.

Journalism and news organizations stand at a critical point in their history as an independent force in democratic society. The opportunity to reach a global audience through the swipe of a finger is here, and it offers tremendous journalistic possibilities that are still not fully understood. But hyper-connectedness through the social web and mobile telephony has created a vast marketplace of information of which journalism is only a small part. The essential nature of journalism has not changed; it is still about reporting stories and adding context to help explain the world. But now it is threaded through a system built for scale, speed, and revenue.

The platforms' business models incentivize "virality"—material people want to share—which has no correlation with journalistic quality. The

architecture that enables news organizations to reach their audiences on social platforms also militates against their sustainability.

Universal access to accurate information is at the heart of a well-functioning democracy, and that access is now shaped by the enormously powerful and largely unaccountable technology companies of Silicon Valley. While the market for information is still evolving rapidly, we have an opportunity to create a more robust and transparent model for journalism.

Journalism's third wave

The impact of social media on journalism has been as great an upheaval as any other in the history of the industry.

During the first phase of web development in newsrooms—which stretched roughly from the advent of the commercial internet in 1994 to the widespread availability of broadband in 2004—the principal concern among news organizations was how to transfer print products to the internet. In many traditional organizations there was deep uncertainty around this shift, but beyond that there was a hope that a new digital ecosystem could be built on the traditional values and methods of journalism are present, where a financial model supports, and even innovates around, the core accountability and civic functions of the free press.

In the next decade, the wider availability of broadband and Web 2.0 technologies made it possible to publish multimedia material anywhere. Interactive journalism, comments on articles, podcasting, and crowdsourcing all offered exciting opportunities for journalism. Small sites like Homicide Watch DC won awards for demonstrating the power of using databases to build and tell stories with just a team of two. Journalists collaborated to build completely new tools like the public document hosting site Document Cloud. In 2007 the first iPhone was launched and the opportunities for reaching new audiences grew even further.

The emergence of the internet, and the principles of the open web that initially underpinned it, wrenched control from the few, transferring it to the many. It was, at its core and in its design, a democratizing technology.

An explosion of new websites and services sprang up in the US over this

period. From nationally focused players such as Huffington Post, ProPublica, Business Insider, Quartz, BuzzFeed, and dozens of others to local innovators like The Texas Tribune, Patch, *Deseret News*, and others. Larger legacy organizations like CNN, the BBC, *The New York Times*, and *The Washington Post* were in a state of constant revolution, with varying degrees of success.

While this period saw tremendous experimentation, the financials were grim. For much of the twentieth century, journalism had been supported through three main revenue sources, all of which were undercut by the internet. Classifieds and display advertising were upended by Craigslist and Google, respectively, and subscriptions proved difficult to generate for digital products. These three trends exacerbated each other: necessary digital transition and experimentation was stalled by the reliance on slowly declining, but still significant, print circulation revenue.

This didn't simply reduce advertisers costs and publishers' revenues. It also broke the vertical integration of the industry, which guaranteed access to audiences through privileged and high-cost distribution systems. In the open web, the attributes that once bound the industry together the similarity of methods among a relatively small and coherent group of businesses, and an inability for anyone outside that group to produce a competitive product—were no longer present.

While this twin shift—in both the production and funding of news—was highly disruptive to established news organizations, it was also championed by many as a positive evolution in the practice of journalism. The civic design of the internet and the civic purpose of journalism were ultimately aligned.

Now we are experiencing a third wave of technological change. The move from desktop computers to the small screen of the smartphone and the development of a privatized mobile web enclosed and monetized the promise of the open web. The principles of the open web, which held promise for citizens and journalists alike, have given way to an ecosystem dominated by a small number of platform companies who hold tremendous influence over what we see and know. The internet we see today, one largely controlled by two to three companies, is a far cry from the open web of Tim Berners-Lee.

In the past two years alone, the integration between the news business

and social platforms such as Facebook, Twitter, Snapchat, and Google has accelerated. Globally there are well over 40 different social media sites and messaging apps through which news publishers can reach segments of their audience. Facebook operates at a scale hitherto unseen. No publisher in the history of journalism has enjoyed the same kind of influence over the news consumption of the world.

The rebundling of publishing power is arguably responsible for a mass defunding of journalistic institutions. Verizon, Twitter, Yahoo, Google, and Facebook take more than 65 percent of all digital advertising revenue, according to Pew in 2016. Digital Content Next reported that 90 percent of growth in digital ad revenue over 2015 went to Facebook and Google. This change does not encourage confidence in the idea that the closed environment of platforms is beneficial to the long term health of journalism, without dedication on the part of technology companies to make it so.

The influence of these companies over the exchange of information is often dictated by socio-technical systems that are hidden from view, and driven by incentives that are in private, rather than public, interest.

We seek to shed light on the dynamics of the convergence between publishers and platforms, using new findings from more than 70 interviews conducted over the past 12 months, and from content analysis conducted over four two-week periods. (See Appendix I for more on our methodology.) We also hosted two private roundtables, each with more than a dozen participants: one with academics and researchers focused on some aspect of this relationship, and one with social media managers from news organizations with varying business models. We focused our research and this report (and the timeline in Appendix II) on the platforms being used most by, and having the greatest impact on, news organizations.

Fake news, filter bubbles, the "post-truth society," and the decline of trust in the media are dominating the public debate. All of those issues are proxies for the fundamental question of how our world of news and information has been upended by technological change. This report is our contribution to a better understanding of that change.

Major platform launches, announcements, and acquisitions.

(See Appendix II for fuller list.) The frequency and type of publishing related developments among platforms has accelerated over time as platforms compete to meet the needs of publishers. Platforms are more explicit about their relationship to news, formalizing their relationships with publishers, and, in some cases, stepping into editorial territory.

February 2, 2004: Facebook launches as a Harvard-only social network. July 15, 2006: Twitter launches as Twttr. "Tweets" can only be 140 characters.

September 5, 2006: Facebook News Feed launches, displaying activity from a user's network.

May 1, 2009: WhatsApp, a mobile messaging app, launches.

October 6, 2010: Instagram launches as a photo-based social network.

September 26, 2011: Snapchat launches as a mobile app for disappearing messages.

October 12, 2011: Apple Newsstand, an app to read a variety of publications, released.

April 9, 2012: Instagram acquired by Facebook for \$1 billion.

October 3, 2013: Snapchat Stories, a compilation of "snaps" a user's friends see, launches.

November 20, 2013: Google Play Newsstand, an app to read a variety of publications, released.

January 30, 2014: Facebook Paper and Facebook Trending launched. Paper was an effort at personalized news. Trending is a list of the platform's top topics.

February 19, 2014: WhatsApp acquired by Facebook for \$19 billion.

April 24, 2014: Facebook Newswire launches. Publishers could embed newsworthy content from Facebook into own material, and use platform for newsgathering and storytelling.

June 17, 2014: Snapchat Our Story—a public Story aggregating many users' activity around an event—launches.

January 27, 2015: Snapchat Discover launches. Selected publishers create a daily Discover channel, like a mini interactive magazine.

March 9, 2015: Twitter acquires Periscope, a livestreaming video app.

March 31, 2015: Twitter Curator launches. Publishers can search and display tweets based on hashtags, keywords, location, etc.

May 12, 2015: Facebook Instant Articles launches. The faster loading articles within Facebook on mobile provide a 70/30 revenue share with publishers if Facebook sells the ads against the article.

June 8, 2015: Apple News announced, replacing the Newsstand app; 70/30 revenue share if Apple sells ads against content.

June 22, 2015: Google News Lab launches to support technological collaborations with journalists.

August 5, 2015: Facebook Live launches Live video streaming.

September 23, 2015: Facebook 360 video launches. Users can move their phones for a spherical view within a video.

October 6, 2015: Twitter Moments launches, providing curated tweets around top stories.

October 7, 2015: Google AMP announced. Accelerated Mobile Pages will allow publishers' stories to load more quickly from mobile search results.

November 11, 2015: Facebook Notify, a real-time notification news app, launches.

November 13, 2015: Snapchat Official Stories launches with stories from verified brands or influencers.

June 9, 2016: Facebook 360 photo launches. Users can move their phones for a spherical view within a photo.

August 2, 2016: Instagram Stories launches, a Snapchat Stories clone. November 21, 2016: Instagram launches Live Stories for live video streaming.

December 12, 2016: Facebook Live 360 video launches, giving users a spherical view of live video.

December 20, 2016: Facebook Live audio launches, allowing for formats like news radio.

January 11, 2017: Facebook Journalism Project announced to work with publishers on product rollouts, storytelling formats, promotion of local news, subscription models, training journalists, and collaborating with the News Literacy Project and fact-checking organizations.

February 14, 2017: Facebook TV announced: an app for Apple TV and Amazon Fire that will allow people to watch Facebook videos on their TVs.

Platforms Become Publishers

After more than a year of research into the relationship between platforms and publishers, it's clear that no newsroom is unaffected by the gravitational force of big technology companies. Decisions made by Facebook, Google, and others now dictate strategy for all news organizations, but especially those with advertising-based models. Platforms are already influencing which news organizations do better or worse in the new, distributed environment.

Starting in Spring 2016, through a mix of content analysis and over seventy interviews, the Tow Center started tracking exactly how publishers are using social media to distribute their journalism, looking at a sample of both publishers and platforms. The publishers covered include legacy businesses, new digital publishers, and video-based news organizations, with a mix of business models, from subscription to advertising-based and non-profit.

Publishers remain confused or undecided about how best to leverage relationships with technology companies. A growing number of news organizations see investing in social platforms as the only prospect for a sustainable future, whether for traffic or for reach. But algorithmic opacity makes it difficult for publishers to plan with certainty. What works now is not guaranteed to work in the future.

Relinquishing control of distribution has led to a greater transfer of power from publishers to platforms than anticipated. The single most controversial, influential, and secretive algorithm in the world is the one that drives the Facebook News Feed. While publishers can freely post to Facebook, it is the algorithm that determines what reaches readers; Cynthia

Collins, social media editor of *The New York Times*, said, "We surrender so much control in terms of what gets read."

As platform competition increases—Facebook and Twitter are, for example, both pursuing exclusive video deals with publishers—and their publishing tools are refined, news organizations have become more discerning about choosing partnerships. While publishers are publicly skeptical of the value of integrating their journalism with platforms, our data show they are nevertheless still publishing high volumes of articles and videos within proprietary systems or "walled gardens." Publishers might want to pull away from the system, but few are actually doing it.

Platforms, particularly Facebook, have dramatically altered their attitude toward news publishing in the past six months. Facebook added a Head of News Partnerships in the shape of former journalist Campbell Brown, hosting a series of workshops and hackathons focused on how to make Facebook better for journalists, and engaging in a vigorous program aimed at raising the issue of media literacy in the public sphere. Since the election (when the algorithm was credited, perhaps wrongly, with delivering vast swathes of misinformation and "fake news," in a way that affected the political process), there has been some investment in third-party services such as fact-checking. But there is no sign yet of a more significant transfer of wealth from technology companies to news organizations. Our research describes the scale of the changes in four areas: distribution and marketing, hosting and production, relationships with audiences, and monetization.

A world of choice, but at a cost

This is the biggest problem of the world: Facebook has bought two-thirds of the new media companies out there without spending a dime because they own a majority of their mobile. That's great for Facebook, but bad for their platform. That's why we're trying to get on all platforms because if we can monetize on all platforms then we can get away from the patrimony of Facebook.

You're giving another company your manifest destiny. Unless you are on those platforms, you're dead, but if you are on those platforms then you're not making money, so therein lies the rub and that's going to be the biggest challenge in media going forward.

—Shane Smith, founder of Vice

Audiences have moved onto the mobile and social web, and news organizations have had no choice but to follow. Understanding how to reach audiences, how to keep them, and how to thread each piece of journalism through a complex maze of different sites and applications, has fundamentally changed the way newsrooms operate.

This chart demonstrates just how many third-party options publishers are dealing with. While it might not be as competitive and diverse as it appears from the platform side, Facebook, Instagram, and WhatsApp are all Facebook-owned companies. The options represent a dazzling array of new opportunities to reach audiences. Or from another perspective, they show "everything wrong with journalism in one chart," as Jessica Lessin, founder of The Information technology newsletter, tweeted about Figure 1, on the following page.

Facebook and Google are by far and away the most important external referral sites for news traffic. According to publishing industry monitors Parse.ly, by the end of 2016 Facebook was responsible for 45 percent of referral traffic to publisher sites, and Google 31 percent.

A sense of how this looks for publishers, and affects their editorial decisions, is provided by Figure 2, which was shared by Meredith Artley, the editor-in-chief for digital at CNN.

Her point was to show the complexity of the choices available to publishers. At the center of the chart sits CNN, and on the inner ring the numerous different brands and proprietary platforms the news network publishes

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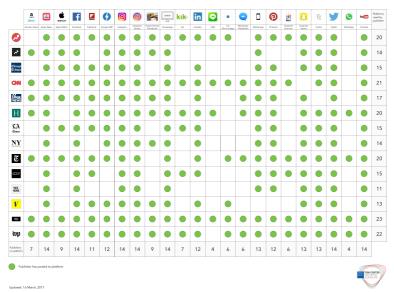


Figure 1: How the 14 diverse news organizations in our sample use 21 different technology platforms.

on digitally—mobile web, mobile apps, desktop and CNNgo. Beyond that is a layer of new video platforms—YouTube, Android TV, Apple TV, Amazon FireTV, and Roku. Then the social and messaging layer—Facebook Live, Facebook Instant Articles, Facebook Messenger, Facebook News Feed, Instagram, Twitter, LINE, Kik, and Snapchat. And then an outer ring of "emerging and off-platform" services, which stretch the idea of a social platform: virtual reality, Apple and Samsung watches, Amazon Echo, and Google AMP.

"Beneath each one of those colored circles, there is a set of different decisions about what to publish, when, and how. Sometimes it is just part of one person's job, sometimes it is a whole team," said Artley, who has a global team of over 50 dedicated to fashioning stories for distributed platforms. "Our aim is to be number one in video news for mobile—everything is oriented around that goal."

Balancing the opportunities of social distribution against investing in a

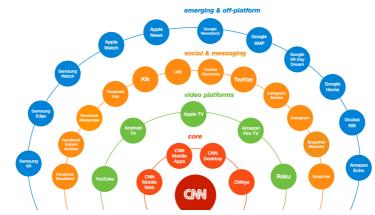


Figure 2: Organizational editorial product chart. Courtesy of CNN Digital.

proprietary platform is a key strategic question for news organizations. You have to do both, says Mark Thompson, chief executive of *The New York Times*, which has staked its sustainability on reaching large numbers of potential subscribers. To develop loyal readers, the *Times* plants what they call growth editors across desks and sprays social platforms with *Times* links. Even BuzzFeed, which started from the premise that it would live on social and would not spend much time worrying about the presentation of its own website, has adjusted its course, and relaunched its homepage in 2016. Editor in Chief Ben Smith, talking at a panel on fake news in 2017 said that, contrary to expectations, "homepage traffic kept going up, as people liked what they saw, liked our brand, and went to the homepage."

However, a high proportion of many news organizations' content is designed to be consumed natively, on platforms including Apple News, Facebook Instant Articles, Instagram, and Snapchat, rather than driving audiences back to publishers' websites. Native publishing products, including Google AMP pages, Facebook Instant Articles, Twitter Moments, Apple News, Snapchat Discover, Instagram Stories, mean that a reader might look at a story from *The Economist* on Google without ever touching *The Economist*'s own app or site.

Figure 3 shows the total number of pieces posted to native pages on social apps, compared to the number on social media with a link back to their home site.

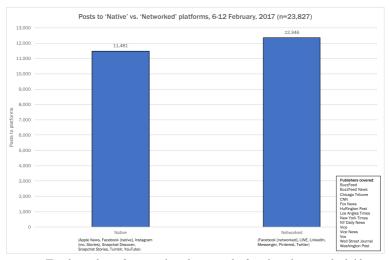


Figure 3: Total number of native (residing on platform) and networked (driving audiences back to websites) posts made by 14 publishers in our sample, the week commencing February 6, 2017.

While publishers all need to have a presence across a broad range of platforms, how they distribute their content—and, in particular, the amount they "give away" to platforms in the form of native content—differs considerably.

Compare, for example, *The New York Times*, The Huffington Post, and CNN during a week in February in Figure 4. All three publishers were active on 10 different platforms over the course of the week. During the period, The Huffington Post and the *Times* made an almost identical number of posts across platforms (1,655 and 1,673, respectively).

However, there were sharp differences in their use of native and networked content. While native content means pieces entirely hosted on third-party platforms such as Snapchat Discover or Apple News, networked content means links posted to media that send the reader to originator's

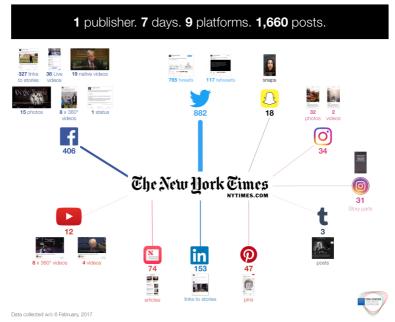


Figure 4a: Posts made to platforms by *The New York Times* during the week commencing Monday, February 6, 2017.

own site. Two-thirds of posts from The Huffington Post (66 percent) are in native formats, including 695 articles on Apple News and 305 pieces of native Facebook content (Instant Articles, live video etc). These native Facebook posts also represent 98 percent of Huffington Post's total Facebook posts. By contrast, just 16 percent of the *Times*' posts across platforms were native; the remaining 84 percent were designed to drive audiences back to nytimes.com, where they can consume small amount of the *Times*' journalism for free before being required to pay for a subscription. Having since abandoned Instant Articles, just 79 of the *Times*' 406 Facebook posts (19 percent) at the time were native to the platform. And only 74 articles were posted to Apple News, the lowest number we have recorded for the *Times* in four rounds of quarterly data collection.

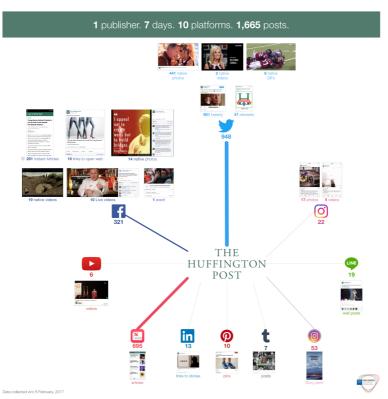


Figure 4b: Posts made to platforms by The Huffington Post during the week commencing Monday, February 6, 2017.

A third approach is visible in CNN (Figure 4c), with its generous smattering of posts across platforms. While the proportion of native (59 percent) content is broadly comparable to that of The Huffington Post, what stands out about CNN's strategy is the sheer volume of posts made across platforms of all kinds. The total of 2,811 (around 40 percent more than both Huffington Post and the *Times*) includes 1,016 articles on Apple News, 948 tweets, and 278 YouTube videos. CNN's concerted effort to reach younger audiences is also evident in its Snapchat Discover channel, on which we saw a shift away from scrollable articles repurposed from

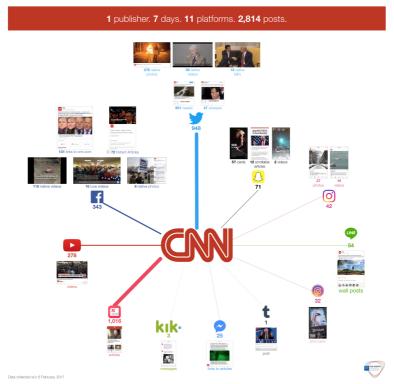


Figure 4c: Posts made to platforms by CNN during the week commencing Monday, February 6, 2017.

cnn.com to more bitesize news cards, and its ongoing commitment to chat app LINE.

Taken to the extreme, the strategy of emphasizing distribution produces NowThis News, a video news service which tells readers (on its landing page) that there is no homepage: "HOMEPAGE. EVEN THE WORD SOUNDS OLD. WE BRING THE NEWS TO YOUR SOCIAL FEED." The embrace of platforms is shaped by the business model of the publisher, in the case of NowThis, ads and scale.

Platform strategy varies with news organizations' business models. Jim Brady, founder and CEO of Billy Penn, a Philadelphia mobile news plat-

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form, said that when it came to Instant Articles, "I can afford to be a little bit more agnostic about it than someone whose revenue is tied to where the page view lies." Gabe Dance, former managing editor of the not-for-profit news organization the Marshall Project said their resources were focused on "impact" because that's what funders care about. And, after an unsuccessful experiment with NPR to host audio natively on the platform, Wright Bryan, senior editor for engagement, walked away wondering, "Does audio really fit a format like Facebook?"

While overall it was clear how business models shaped platform strategy, there are outliers, like Vice, which like NowThis News, depends on ads and scale:

"I think because there's a continuous debate as to the very question: 'What do you need to control, and what things do you not?' Going all in, solely on the platform to support your entire ecosystem in every way, is a big gamble."

—Sterling Proffer, SVP and Head of Business Strategy and Development at Vice

We also saw dramatically different patterns of use over time. *The New York Times*, for example, withdrew altogether as of February 2017.

Figure 5 shows what some of the major players were doing on Facebook's Instant Articles as of February 2017:

- Vox (92%), BuzzFeed News (90%), BuzzFeed (85%), Fox News (91%), The Washington Post (96%), and The Huffington Post (94%) have fully embraced Instant. (The Washington Post is no surprise; it decided to go all in on Instant Articles as early as September 2015.)
- The New York Times, Chicago Tribune, Los Angeles Times, and Vice News are not using Instant articles. The Wall Street Journal, which relies on subscriptions, posts a tiny proportion of their links as Instant Articles (3%).
- The New York Daily News (20%) and CNN (35%) are striking a middle ground.

But for smaller and local publishers, choice–about which platforms to use, and how far to go in on them–feels like a luxury. "We are outsourcing our core competency to third parties. We simply don't have a choice," said

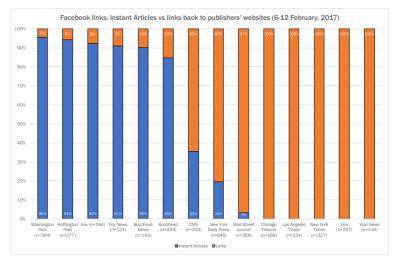


Figure 5: Proportion of Facebook links posted as Instant Articles, during the week commencing Monday, February 6, 2017.

David Skok, a digital media executive who has worked for among others, the *Boston Globe* and *Toronto Star.* "I feel as if we are collateral damage in the war between these platforms. They'll give some publishers a chance to play, but not others. They'll give favorable rates and treatments to some and not to others. They are already picking winners."

Take Snapchat for instance: Snapchat Discover is only available to a limited number of publishers. The platform decides who to offer contracts to, and publishers must commit to performance terms. Discover, the most resource intensive of the social platforms, is serviced by newsroom teams of up to a dozen or so people that produce and redesign stories to fit the platform. What was once a healthy size of team for a small website is now managing a mix of original and repurposed journalism for one social app. Many publications do not have the right brand to be attractive to Snapchat, or the resources to service its requirements. Overall, resource was a concern in smaller newsrooms when it came to platform distribution. "Their pitch to us is [that] it's totally free to [use these tools]," said one

31

local publisher about Instant Articles. But it's not free in that it takes a staff member's time to to it.

Still, when a platform introduces a new format, publishers tend to adopt it quickly. Instagram Stories was only one week old when we collected data in August 2016, but many publishers were already showing a willingness to use it. During the week of our analysis, we recorded 151 stories across five accounts (Figure 6). (CNN in particular used it extensively in coverage of the Rio Olympics.) During election week, that figure jumped to 253 stories from eight accounts, dropping only slightly during our February collection to 228.

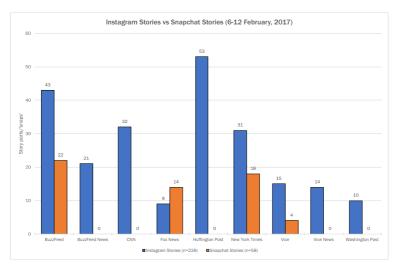


Figure 6: Number of story parts or "snaps" posted to Instagram Stories and Snapchat Stories, during the week commencing Monday, February 6, 2017.

The efficiency with which platforms reach far larger and more targeted audiences is the single largest benefit to news organizations and individual journalists. The scale is addictive. With 1.86 billion active monthly users on Facebook, 313 million on Twitter, and 1.2 billion on WhatsApp, and 160 million daily active users on Snapchat, the connective power of platforms is only growing. Innovation now surfaces on services such as Instagram, where

there are seamless opportunities for creating new offshoots or verticals for publications.

Billy Penn, a local, mobile-first site serving Philadelphia, is the type of business that would not exist without the new distribution structures. While its revenue comes primarily from events, and therefore it is not as dependent on platforms like Facebook for ad revenue, it still relies on Facebook to reach audiences about those events. "To be a site going after an 18 to 34 audience and say we're going to sit out these external platforms it's just like opening a restaurant in St. Petersburg [Florida] and not being open for the Early Bird Special," Jim Brady of Billy Penn, a veteran of digital publishing, said. "We're fine to subsume the brand to Facebook if it helps us get in front of more people."

Brady's sanguine approach to the trade off between brand and reach touches a key source of anxiety for many. Pew found that only 56 percent of online news consumers who had clicked on a link could recall the news source (2016). And the American Press Institute's Media Insight Project (2017) found that on Facebook only 2 of 10 people could recall the source, while far more trust was placed in the sharer. "If we're out here for branding and nobody even recognizes it, if our brand is related to the Snapchat brand then . . . maybe it's not worth it," says one magazine publisher.

Another local publisher interviewed for our report notes that, in the embrace of a larger news environment, their local readers feel distant:

I think when our content is removed from the context of our own sites and placed in a different display, such as Facebook, it's natural to assume that some of the branding will be lost to the new host. We have to work harder now to build that brand recognition and loyalty.

Now, scale is everything, from number of likes and shares to ultimate reach; social platforms have leveled the playing field for content, prioritizing shareability over everything else. Newsrooms were chasing traffic and shares before the advent of Facebook, and have themselves played a large role in defining the metrics that have shaped the current ecosystem. Many of the tricks of making fake news perform virally are taken straight from the historical playbook of tabloid or yellow journalism. The popular items often have headlines that promise more than the piece delivers, sensational or

aggressive opinions that grab attention and stir controversy, or endlessly repeat already popular stories.

We are telling stories that other outlets aren't telling, which is almost to our detriment in the world of viral news. When it comes to the way Facebook and Twitter currently surface trending content and breaking news, it's not about the story that no one has. It's about the story that everyone has.

—Delaney Simmons, Director of Digital Content and Social for WNYC

Back in 2013, AllThingsD reporter Mike Isaac wrote a piece entitled, "Facebook Wants to be a Newspaper, Facebook Users Have Their Own Ideas," which laid out the vision Mark Zuckerberg and Facebook's Chief Product Officer Chris Cox had for the platform and News Feed that it would be a paragon of "useful"-ness. The reality, however, was that users wanted to see cat videos, and memes and jokes—they weren't looking for Facebook to be "useful."

As Isaac noted at the time: "The gap between these two Facebooks—the one its managers want to see, and the one its users like . . . —is starting to become visible. Earlier this year, Facebook users rejected a redesign that Zuckerberg announced with much fanfare. Now Facebook is adjusting its algorithms to emphasize content that it thinks readers should see, which will push down some of the stuff that's currently popular. Which version of Facebook will win out?"

Building your house on someone else's land

When you launch on a new platform, you connect with new audiences that may be different in some ways from your typical readership. For us, it's important to ask ourselves how do we stay authentic and maintain our voice in order to publish in a way that makes sense on that platform. —Carla Zanoni, Executive Emerging Media Editor, Audience Development, of *The Wall Street Journal*

The integration of journalism within the fabric of the social web started a long time before any of the smart new publishing formats and tools came

into being. In 2009 Facebook launched a plug-in option to host comments from websites on its platform, alleviating news organizations' need to tangle with the expensive and difficult business of moderating comments. Publishers who adopted the idea of Facebook hosting their comments were relieved and delighted that the part of their universe they found the least rewarding—reader interactions—were given to an expert hosting community. But it also meant that the shape of social conversations was controlled by Facebook rules—real name policies, and of course a Facebook profile.

Facebook allowed publishers to launch "social reader" apps in 2011, and it was adopted by publications including *The Washington Post* and *The Guardian*. The social reader was a forerunner to Instant Articles in that it hosted the journalism within a Facebook app, and drove enormous traffic to the pieces featured. Two problems dogged the experiment however: Traffic patterns were unpredictable—an early manifestation of the News Feed algorithm problem—and it spooked users by showing people in their social graph what they had been reading.

Since then, platforms have been developing exponentially more tools to move publisher content onto their sites. It is not a surprise that social platforms are better at hosting social content and conversations; after all, it is their core business. While news companies had tried to retrofit community and engagement into their monolithic websites for a decade, social media started from the proposition that the environment created was for everybody, to allow everybody to publish.

The tools for publishers to help them produce material on specific platforms—such as Facebook Live video, Instagram Stories, Snapchat Discover, and Twitter Moments—serve the dual purpose of allowing journalists and news organizations to produce stories directly onto a platform, and allowing platforms to incentivize the type and format of the journalism they host. Video is a more expensive advertising medium, and Facebook has prioritized it. When Facebook introduced its Live video product for publishers it took the unusual step of paying publishers up to \$5 million each to use it.

The incentivizing of publishers to produce certain types of content is driven by the demands of the advertising market. Video and images are more powerful for advertisers than words. Mark Zuckerberg in 2015 said that much of the content on Facebook, "fast forward five years, it's going

to be video." This is a reflection of economic realities for an advertising platform.

The problem for publishers is again the cost of production. Video is both more difficult and more expensive to produce than text. But Facebook has been clear that mid-roll ads would play at 90 seconds, pushing publishers toward longer videos, and says longer videos will be prioritized by the algorithm. And, unlike with Instant Articles, Facebook always gets a cut of video ad revenue.

All publishers in our interviews saw the allocation of resources and the creation of work on third-party platforms as a daily reality (see Figure 7).

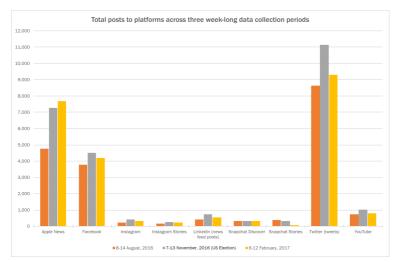


Figure 7: Total number of posts made to major platforms during our three most recent phases of data collection, 2016 and 2017.

While at one time internal technology teams at news organizations were developing formats and products within their own platforms, they are now likely to also be focused on how to develop products that integrate with a third-party platform.

At platform companies there is a great deal of clarity that they believe they can create far better publishing tools and environments than publish-

ers, just through scale and expertise. Virtual reality, artificial intelligence applications like Amazon's Alexa, and Google's Home, augmented reality, are all applications that are difficult to develop within individual newsrooms.

But with these new tools come new costs. News organization structures, workflows, and resource allocation are increasingly dictated by platforms, according to our interviews. Where publishers once had social media managers, increasingly there are staff dedicated to managing specific platforms, creating content for those specific platforms, and managing the consequent relationships, and increasingly these teams are central to the newsroom. Cynthia Collins of *The New York Times* jokingly referred to regular checkins with Facebook during the early days of Instant Articles as "the state of our union together meetings."

And while platforms may not have a say in the editorial choices of newsrooms, in hosting their work, they undoubtedly shape those choices. Some of the accommodations publishers make are minor, and more in service of user behavior on a platform than the platform itself. For example, people were muting videos on Facebook, so publishers moved toward a text-onscreen format. Others, like Snapchat, require a sort of mini-newsroom. But in some cases, our research showed a more direct influence. In one case, Snapchat commenting on a publication's logo; and in another, it asserted the genre of content a publisher should focus on.

Publishers are making micro-adjustments on every story to achieve a better fit or better performance on each social outlet. This inevitably changes the presentation and tone of the journalism itself. Publishers might say that metrics are only one indicator of performance, and that the core values of a news organization are not shaped by them. However, the central role of audience strategists and social platform editors in deciding which stories are commissioned is increasing. One publisher said that if their audience team doesn't think a story will perform, it may not be assigned.

In other cases, the way platforms build new products is becoming more editorial. Twitter has a team of curators who package together fragments of stories into Moments. This represents a form of editing for social platforms. Snapchat created a Story for the San Bernardino shooting. Facebook employed editors to curate its Trending section. YouTube and Instagram work

with individuals to help them craft content for the platforms. Growing partnership teams in each of the platform companies are in constant contact with the editorial and social teams within news organizations.

"The relationship between newsrooms and outside businesses is brand new. Especially within the newsroom, it's a new experience for us to discuss with an outside party what content mix performs well on which platform and work within the constraints of having someone direct us in some way," said Carla Zanoni, Executive Emerging Media Editor, Audience Development, of *The Wall Street Journal*.

Whose audience is it anyway?

What do we claim as our audience? And how do we monetize that? When we go to an advertiser and they say, 'We'd really like to know what's on your dot com,' . . . it's like, do you have any understanding of how people consume content?

—A magazine publisher

With hosting, distribution, and monetization all being handed over to platforms, the critical advantage they gain is the capture of data about the audience. The billions of active users all leave data trails within the proprietary systems of the companies. Every time a user logs on to a site using Facebook's very efficient universal log in, more data is gathered about the user. Facebook can track its users both on and off its site, and this matching of large data sets enables much finer grain targeting by the bigger companies, and therefore potentially higher revenue from advertisers. The data helps platforms configure products and algorithms that adapt instantaneously to user behavior.

The process for buying an advertisement on Facebook or promoting an editorial post is the same: as the advertiser you are asked to create a targeted demographic, depending on location, profile information, and even affiliations Facebook has collected from both the direct input and the wider behavior of users. Once the audience parameters are set, the post or advertisement will be targeted at the select individuals. As long as the

material is compliant with Facebook's terms of use, almost anything can be promoted through payment, and often is.

Understanding that profile information—the accrual of data around the behavior of those who use the platform—is essentially the way that Facebook and other social platforms interpret their relationship with the user, and is critical to understanding the business engine of social media. When Facebook says it has listened to its users, it has not only literally listened to its users through surveys. It has also interpreted behavior from data.

When the Tow Center hosted a conference on the subject of the relationship between Silicon Valley and Journalism in November 2015, Facebook executive Michael Reckhow, who at the time was in charge of the launch of Instant Articles, referred to Facebook users as readers, saying "we think of our readers as the customers that we want to serve with great news." Mark Thompson, the chief executive of *The New York Times*, referred to *Times* readers on Facebook as the *Times*' readers. How that relationship with news brands develops—whether we discuss Facebook users reading the *Times* or *Times* readers on Facebook—is of overwhelming importance.

The biggest change across all outlets we monitored and interviewed over the past year has been the acknowledgement that their brand and destination are important. *The New York Times, The Washington Post,* and even nonprofit ProPublica saw surges in subscriptions or donations after the US election. This idea of a direct relationship with readers is critical for all subscription or membership businesses, and as the faltering advertising drives publishers into direct payment models, the ownership of that relationship is essential. Data in many cases is a proxy for "relationships."

Success, says Carla Zanoni of *The Wall Street Journal*, "hinges on the nature of the platform and your ability as a publisher to engage with that audience and build a long-standing relationship that extends beyond the platform." But, the development of a new audience on a platform, and strategizing how to market to and monetize that audience, raises the question of "who owns the relationship with the user," says Cynthia Collins of *The New York Times*, and "who controls that relationship and that data?"

Further, access to data is essential for publishers to measure the success of their distribution strategies and to evaluate their relationships with plat-

forms. Platforms provide a promise of potential performance, not a guarantee, but publishers never have a crystal clear picture. Data access and clarity were a repeated concern from publishers throughout our interviews.

Haile Owusu, Chief Data Scientist at Mashable, said this creates limitations for even well resourced newsrooms to properly test the performance of Instant Articles. There is a "technical impediment to actually establishing just how much upside or downside there is," he said. "Facebook gets to retain all the information. So, from a data perspective, our ability to assess the long-term value is explicitly cordoned off by Facebook."

For years news publishers were drowning in customer data but had no ability or motivation to imagine what they might do with it. As data science has become an integral part of successful publishing, media companies are realizing they have lost something as valuable as money itself. Platforms, which are rooted in the use of data to build, launch, refine, and monetize products are by their construction always going to be at an immense advantage simply by dint of their vast scale. As one annoyed publishing executive put it: "They know more about our readers than we do—and can sell it back to advertisers in ways we can't." The platforms of course would contend the user is *theirs* in the first place.

Follow the money

The problem is not fundamentally Facebook or Google, it's the internet . . . obsessing about how things would be fine if it wasn't for Facebook and Google misses the point. The widespread hope that digital advertising revenue generated by vast numbers of unique users would be sufficient to pay for quality journalism was always illusory. Advertising revenue goes principally to those who control platforms. In print and TV, that has been news publishers, but in digital the platforms are technological: search, social networks and devices. Digital advertising is a useful supplementary revenue stream but, to successfully maintain high quality newsrooms, publishers need to attract paying customers.

—Mark Thompson, President and CEO of The New York Times Company

For those expecting the new swathe of integrated relationships and publishing on social platforms to increase their revenue, 2016 was a disap-

pointing year. The news organizations we interviewed felt that return on investment goals for fashioning their journalism on different platforms was difficult to define, and, in the more recent interviews, that the monetary returns were low.

In order to understand this atmosphere, one needs to understand the rapidly changing nature of online advertising.

Digital advertising soars, for Facebook and Google

Over the past 10 years, advertising technology (adtech) has shifted power from publishers to advertisers. Adtech broadly refers to a set of digital tools that give advertisers both far larger audiences and more targeted audiences than before.

Google came to dominate the digital advertising market by building an end-to-end stack of software that provided all of the services that an advertiser (from a major brand to a local restaurant) would need to place an ad to a targeted group. This system was far more efficient than what publishers had historically offered (advertisers did not need to negotiate and purchase ads through human salespeople), far more targeted (there was no guess-work in the demographic that was seeing the ads), and infinitely more scalable (the market size was exponentially larger than any one publisher could offer). In so doing, Google replaced the core revenue driver for journalism. And, by capturing a large segment of a rapidly growing digital ad market (Figure 8b), they emerged as the world's most profitable media company.

Facebook was later to the advertising game than Google, but whereas Google dominated web advertising, Facebook focused on mobile. The problem for advertisers was that the cookies used to track user movement on the internet did not transition well between desktop and mobile devices. Because users were often logged into Facebook across their devices, their Facebook ID was able to more effectively track their behavior than cookies. In addition to this ability to track users more effectively, Facebook's other advantage in advertising was the amount of data it had on the lives and behaviors of its 1.9 billion users. Not only data that users shared willingly, but also data collected by observing their behavior on the platform and eventually across the internet. With all of this data, ads could be targeted

at specific user groups and inserted directly into the News Feed. This strategy was remarkably successful, and by 2014 they had captured the leading market share of mobile advertising revenue (Figure 8a).

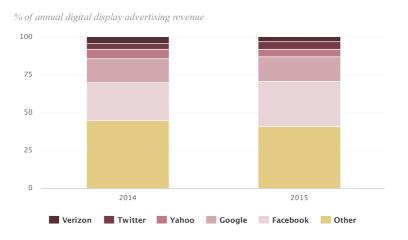
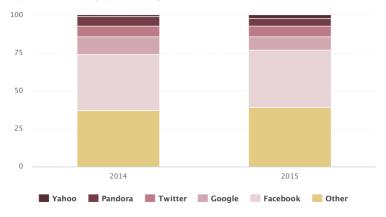


Figure 8a: Percent of annual digital display advertising revenue, 2014 and 2015. Source: Pew.

This upending of the advertising model has had serious financial repercussions for publishers, and is, in part, why many were willing to consider platform products like Instant Articles that allow access not only to new users, but new advertising opportunities.

Publishers could no longer claim the privilege of their demographic access nor the reach of their hyped-up circulation numbers. On the internet, an adtech company knows who is viewing the sports page and who is reading the in-depth reporting—and it can target ads directly to those individuals. In digital advertising it generally does not matter where an ad is displayed, only who sees it.

Because there is so much content on the internet and the adtech software is so efficient, the value per impression is very low (fractions of a cent and on a downward trajectory). In response, adtech networks have very low



% of annual mobile display advertising revenue

Figure 8b: Percent of annual mobile display advertising revenue, 2014 and 2015. Source: Pew.

thresholds for participation, and Google and Facebook place few limits on who can participate in their ad products and the news products like Instant Articles against which those ads are placed. This leads to an environment in which scale dominates. This need for scale pushes even journalism publishers to create viral and click-bait content. While BuzzFeed produces remarkable works of journalism, it is the viral content that drives their revenue, and many legacy publishers have imitated aspects of BuzzFeed's approach.

Digital advertising revenues soared in the past two years. In 2015, Google and Facebook received 76 percent of digital ad revenue (Figure 9). And in the third quarter of 2016, digital ad revenue was 20 percent greater than the same quarter in 2015, according to International Advertising Bureau figures and the total for 2016 is expected to be over \$70 billion. During the same period there was a dramatic drop in money spent on print advertising—over 8 percent for most publishers, the largest decline in print advertising since 2009. Large news publishers, even those like *The New*

York Times and The Wall Street Journal, with healthy digital subscriber numbers, found themselves restructuring and losing staff. The problem for news publishers—outside the cable TV channels—is that digital advertising revenue is not growing fast enough.

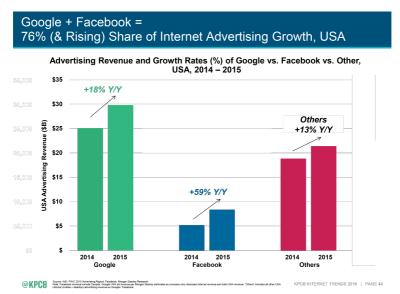


Figure 9: Advertising revenue and growth rate of Google and Facebook versus the rest of the market. Source: http://www.kpcb.com/internet-trends.

Publishers determined to monetize audiences on their own sites, rather than on platforms, face an increasing threat: ad blockers. On mobile phones the kinds of data-heavy, intrusive ads that publishers traditionally hosted on their sites became not just more irritable but actually cost users time, and money—by chewing through their phones' data plans. In 2015 Apple rocked the publishing world by listing ad-blocking software in its app store. It seemed as though even the minimal revenues from mobile advertising would be choked off.

As a result of adblocking and the limitless amount of available inventory, native advertising has become the only advertising format that works for most publishers in a digital environment. It has enabled organizations

like Vox and BuzzFeed to disrupt the traditional agency business as their understanding of how to reach consumers through social is far more adept than most creative agencies. In addition, the footprint of their social traffic enables native advertising to travel down the same path as their editorial lists, quizzes, hot takes, and stories. After numerous requests from publishers, the ability to publish branded content as an Instant Article was added nearly one year after Instant launched, and just one week before it was opened to all publishers.

One magazine publisher said, of the importance of this advertising format, "They very much control the monetization piece and while it's in their interest to allow us to do branded and native contents on their platform . . . they could change an entire industry overnight."

Platform opportunities

As the advertising market has become increasingly difficult for publishers they have looked to platforms for more significant revenue streams. Monetizing on platforms can mean several things. First of all in advertising, it can mean selling advertisers expertise and content of the type that performs well on social media. In other words, platforms offer media companies the opportunity to disrupt advertising agencies. BuzzFeed is the most obvious exponent of this approach. Its lifestyle verticals, such as the wildly popular food channel Tasty, are effectively all native advertising. But the language and presentation of what works on social has been learned from many experiments with editorial content (like, for instance, the gripping business of blowing up a watermelon).

With platforms also able to sell advertising more effectively, new options exist for revenue sharing. For instance on Google AMP—Google's fast loading mobile page product—publishers keep all the revenue. On Facebook Instant Articles, the revenue for Facebook-sold advertising is 30 percent, unless the publisher sells the advertising themselves in which case it is 100 percent. Snapchat strikes deals for revenue with publishers for upfront payment, though the terms of these deals do not seem to be consistent or standardized. Perhaps the most eye-catching of the platform opportunities was the direct incentive to publishers by Facebook to use its trumpeted Facebook Live video product. Here Facebook paid a small hand-

ful of publishers money to produce videos and paid news organizations up to \$5 million each. The experiment came to an end at the end of 2016 and Facebook said it would no longer pay producers directly for live video.

Many publishers see opportunity for lasting revenue in using the greater reach of social platforms to help drive users and readers "down the funnel" towards becoming subscribers on a publisher's own site. We notice a large uptick in the use of Apple News for instance after the release of iOS 10 allowed news organizations to integrate subscriptions (Figure 10).

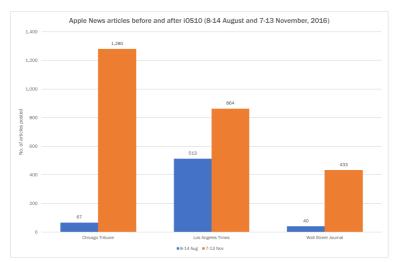


Figure 10: Number of articles posted to Apple News by the *Chicago Tribune*, the *Los Angeles Times* and *The Wall Street Journal* before and after iOS 10.

Too little, too slowly

Digital Content Next, the body that represents digital publishers, published a survey at the beginning of 2017 wed that the average publisher received \$7.7 million, or, 14 percent of their overall revenue, from native platform experiments. To go from zero to 14 percent of revenue in a two year period suggests that this could become a very significant part of news organizations' revenue if it grows at a reasonable rate. However, the revenue does

not account for extra costs that can be very significant, particularly for producing a Snapchat Discover channel or a large number of Facebook Live videos.

Of all the products released by technology companies to help news organizations publish through their technologies, the most anticipated was Facebook Instant Articles. By the end of 2016 many publishers in our interviews were disappointed with the return on investment from Instant Articles and some, like *The New York Times*, abandoned them altogether.

"I'm in the same place I was before," says Kim Lau, Senior Vice President and Head of Business Development of *The Atlantic*, describing her hope that more than a year on Instant Articles would yield some clarity on its value: "We have no reason to believe that Instant has been bad for us, but we still have no reason necessarily to say that it's been a positive" (though she is more optimistic with the recently announced Facebook Journalism Project). She added, "Part of what I'm giving up is the ability to do the recirculation efforts . . . to try and get readers to sign up for other things, to sell them subscriptions."

In crafting a relationship with news publishers, it is not surprising that the largest areas of contention are those over return on investment. Interviewees in publishing are still unclear whether the efforts to share revenue with them are worth the long-term trade-offs of losing control of brand, of audience data and relationships.

There is a range of benefits publishers can derive from using social platforms, but these vary between platforms, making the strategic approach to adoption a more complicated equation. As one local publisher said, "sometimes what optimizes to one platform goes against what would optimize for another one." Our research showed we are seeing the end of singular social media strategies in newsrooms, as multivariate approaches increase. In our interviews, for example, it became clear that Snapchat is understood by publishers to be a resource-intensive way to build a brand recognizable to young audiences, and that Instant Articles are a way to reach wider audiences easily, but not profitably.

Whitney Dawn Carlson, the former social media editor for the *Chicago Tribune*, spoke of the struggle for news organizations to not only define but agree on what represents return on investment. "It's building community,

that's what social media is. And the higher-ups just don't get it, because [some platforms are] not bringing pageviews and money," adding, "it's a very print mentality."

While the costs of producing high quality journalism for distribution cut into publishers' platform profits, distributors of fake or misleading content can make tens of thousands of dollars on stories that take seconds to churn. At the benign end this means human-interest stories—or these days more often animal-interest stories. But at the other end of the spectrum, it means stories can be successful by playing on fears or partisan allegiances, and exaggerating or even fabricating for effect. Jestin Coler is a 40-yearold father of two living in California who set up Disinfomedia.com as a shell company through which to proliferate fake news sites, like Denverguardian.com. What started as an exercise by a registered Democrat to expose and "infiltrate the echo chambers of the alt-right" with totally fabricated stories ended with the same false stories spreading like wildfire. They were adopted as true by partisan groups who did not care whether the stories were true or not, and Coler could earn between \$10,000 and \$30,000 in advertising in one month.

The mechanics and architecture of platforms such as YouTube and Facebook have provided a rich breeding ground for these types of cheaply produced content. Facebook and Google have both shown concern about how much trashy automated or deliberately made up content is being generated by random individuals because of the financial incentives attached to them. But the same financial system that incentivizes low quality, sensational, or made-up pages in exactly the same way it incentivizes serious reporting is only going to find itself overrun by the former.

The publishers' dilemma

The opacity of the markets within all of the platforms, the unreliable metrics and the possibility that the rules for compensation might change at any moment without warning, are all reasons for publishers to be investing aggressively in finding revenues that stand apart from the technology players. However, we did not see the desire many publishers articulated to be more independent from platforms demonstrated by a wholesale withdrawal of their articles from social distribution. There was a glimmer of possibility

that extra revenues might be available, for instance through Apple News, but the opposite was the case.

For companies such as BuzzFeed or NowThis News, there is no possibility of withdrawing from the platform distribution model, not least because it is intimately tied to their business models. The companies that live or die by the value of social media relationships are almost as vulnerable as those with a suboptimal media presence. The introduction and withdrawal of incentives, and the uncertainty of how distribution might continue to work, makes it particularly important for these organizations to be able to influence platform decisions.

Privately two views were expressed as to how some kind of equanimity might be achieved: The first would be a more coordinated approach to negotiation; the second that the platforms' own competition will prove fruitful for news organizations. But the most popular content is not often the most expensive. In this environment serious news organizations have only one route open to them and that is to try and increase subscriptions or fees directly from readers. The native advertising model might work for some publishers, and a handful of business sites, like Quartz are confident they can remain profitable without relying on platforms for advertising revenue (Quartz is not on Instant Articles).

The development of a three-tiered support model—advertising, subscription and not for profit—has seen high quality journalism become more reliant on non-advertising based models.

There are incidents of the pendulum at least temporarily swinging back towards news organizations wanting to redefine and consolidate their publishing status: the proliferation of membership and subscription services is both a route to solvency and independence for many. Exceptional brands in American journalism, *The New York Times*, *The Washington Post*, *The New Yorker*, BuzzFeed, and even CNN (although there are many who might balk at including cable news in this section), are far better placed in terms of safeguard their own audience relationships and keeping their brand awareness intact within a fragmented market for attention. They can also invest in the technology and expertise to make better advertising products, and to keep pace with the platform developments too. Very few publishers have the resources that allow them to do the same.

The "pay to play" nature of the walled gardens of the mobile web is making it harder to start businesses in the "traditional" way for digital start ups, with writers, editors, technologists, and commercial staff. It is not impossible to build a new publishing enterprise, as experienced innovators like Mike Allen and Jim VandeHei of Axios have shown. It is still possible for new models to build ground-up businesses largely free of the influence of platforms. Examples such as the Silicon Valley subscription-only newsletter The Information, the stripped-down newsletter service TinyLetter, or podcasting businesses like Gimlet Media, are all fringe examples of innovative businesses which are creating products away from the control of social platforms. Many see a bifurcation of the market, between those businesses able to grow at scale, and those who are small enough to operate in niche markets.

Can platforms fix it?

The disappointment of digital ad revenue is pushing both platforms and publishers to rethink their relationships with subscription and membership payments. Social platforms and Google architecture were predicated to some extent on free or cheap information flows, without the impediment of subscription or paywalls. However, with increasing evidence in the market that subscribers are willing to pay news organizations for digital subscriptions, the attitude is changing. Even within companies like Google for which subscription has been anathema, there is an acceptance that developing subscription products might be the only way for news providers to earn adequate revenues.

The shift towards more controlled environments away from the highly dynamic world of distribution is a trend in platforms as well as publishers. Snapchat's \$24 billion IPO is essentially supporting a more traditional media model, of very restricted access to certain formats, an advertising platform that is more linear and a mitigation of publishing risk by making sure everything disappears without trace once it has been published.

The Snapchat formula is unproven as a sustainable business model, it has not yet shown a profit, but it points a much clearer way in which

platforms might pick the winners among publishing brands, only allowing those that it favors onto its closed, exclusive platform, dictating publishing frequency and setting performance targets. In effect, Snapchat Discover shifts the powers associated with publishing entirely under its own control. In early 2017 Facebook announced it would recalibrate the way Instant Articles worked in order to deliver more revenue back to publishers. At the time of publication, there were few details on what this might look like.

When Facebook launched Instant Articles in 2015, Michael Reckhow, then product manager, described a utopian way forward for publishers to work with Facebook—to offload the costs of advertising sales and production tools and just concentrate on editorial. Publishers who need to be self-sustaining are looking at how to slash costs and restructure their newsrooms. If the financial incentives were adequate, Facebook might see the ambitions for their publishing product realized more quickly.

Time and again in interviews with platform executives, there was a genuine enthusiasm about how to elevate better journalism. Uncertainties aside, publishers throughout our interviews spoke positively about new storytelling opportunities and the ability to reach new audiences or engage existing audiences in a new way.

The platforms are also changing the way that newsrooms think about the work they produce, which, despite its problems, is not always an unwelcome change:

One of the good things about the Google and the Facebook changes is that they forced everybody to start thinking about speed where nobody was thinking about it before. And page performance and user experience, like those are things that are becoming fundamentally part of the core way that publishers are thinking about growing and presenting their content and then a couple of years ago we rarely talked about the user and how much we wanted them to think about their needs versus our own. —Kim Lau, *The Atlantic*

At the outset of the research there was a cautious optimism if Facebook could really sell advertising more efficiently, then that would be welcomed.

But there is also a strong sense of disconnect. Publishers have existential anxiety about the migration of audiences to larger platforms that deliver all manner of things more efficiently.

After all, one of the elements of journalism that the platforms do not do, and say they will never do, is reporting. And social platforms have vastly aided in the resources available to reporters. Some of the most effective reporting in the 2016 campaign came from reporters like David Fahrenthold of *The Washington Post* who was able to use his social following to help him investigate the use of Donald Trump's Foundation funds, or Craig Silverman, media editor at BuzzFeed, who has uncovered into the prevalence of fake news and changed the political agenda as a result.

But good reporting is not currently algorithmically privileged on many platforms. Not on Facebook, not on YouTube, not on Instagram, not even on Twitter—although its open environment does allow it to be elevated within informed groups. If the political events of 2016 and the concurrent and subsequent reporting on the issues proved anything, they proved that the failure of platforms to "edit" themselves could lead to widespread damage. The plausible deniability of platform companies that they are not in the business of publishing is at an end.

The evolution of this relationship points to a critical question for news organizations. Is publishing going to remain a core activity that supports journalism, or will it over time, migrate more fully into the fabric of technology and hosting companies?

It is entirely possible that what it means to be a news organization might be increasingly defined in terms that stand apart from monetization, hosting, and even the development of formats, and is expressed instead in terms of the tone, content, and community around reporting.

The present anxiety is that for the rest of journalism, this will not be possible, and that any level of sustainability that serves every segment of the market with at least some durable and useful news, particularly in smaller markets, will shrivel or perish. In mid-sized and small local markets this is already happening.

If the monetization of material given to social platforms by news organizations does not improve, it will exacerbate the crisis in sustainable journalism at the local and regional level. If the tools and design of platforms do not have civic purposes as well as commercial purpose, this is an inevitability rather than a possibility. However, in the unlikely event platforms do create a really viable economic model for journalism within

their own ecosystems, what then? The case for independence becomes more difficult to make on a financial basis, but might still remain a civic concern.

Facebook and the 2016 Election

For too many of us, it's become safer to retreat into our own bubbles, whether in our neighborhoods or on college campuses, or places of worship, or especially our social media feeds, surrounded by people who look like us and share the same political outlook and never challenge our assumptions. The rise of naked partisanship, and increasing economic and regional stratification, the splintering of our media into a channel for every taste—all this makes this great sorting seem natural, even inevitable. And increasingly, we become so secure in our bubbles that we start accepting only information, whether it's true or not, that fits our opinions, instead of basing our opinions on the evidence that is out there.

-Barack Obama, January 10, 2017

An extraordinary day

At 9 p.m. on January 10, President Barack Obama gave his farewell address at McCormick Place in Chicago. He used his final speech as President, 10 days before the inauguration of Donald Trump to deliver a warning to the American people: American democracy itself is under threat by economic inequality, racial division, and, not-so-subtly evocative of the election, the rise of a fragmented and self reinforcing media. The problem, according to Obama, is that we have become increasingly secure in our siloed bubbles of information, isolated from one another by competing "facts."

Only hours earlier at 5:20 p.m. EST, BuzzFeed published a dossier of unsubstantiated rumors about President-elect Trump's financial and sexual behavior in Russia. The document, compiled by former British intelligence agent Christopher Steele, had circulated for months among journalists who could not verify the claims. Earlier that day CNN reported that both President Obama and President-Elect Trump had been briefed on the dossier.

BuzzFeed published the whole document, with the rationale that the people had the right to judge its contents for themselves.

BuzzFeed News Editor-in-Chief Ben Smith later appeared on the CNN show Reliable Sources for a heated debate with host Brian Stelter, which focused on the distinction between CNN's mention of the dossier's existence and BuzzFeed's publication of the document itself. At the core of their dispute were competing notions of journalism. As Stelter summarized, whereas news organizations traditionally started with the premise that the document being reported on should not generally be shared with the public, new media start with the question: Why not?

The following morning, Donald Trump spent much of his first press conference as President-Elect dismissing the contents of the Russia dossier and undermining the journalism that brought the story to light. He called CNN "fake news," compared the publication of the dossier to something that might have happened in Nazi Germany, and said that BuzzFeed, "a failing pile of garbage," would "suffer the consequences" of publication.

That same morning, Facebook announced the Facebook Journalism Project. The three-pronged initiative stated that the company would commit to building better tools for publishers to help support their business models; offer training courses to journalists; and start a media literacy program for everyone else. The announcement was a rapid response to both the growing disgruntlement of publishers with the poor returns on Facebook Instant Articles, and a public response to the close linkage between Facebook and "fake news" pointed to by coverage of the subject. The announcement also launched a new partnership with third-party fact-checkers whereby posts can be more easily flagged by users.

This 24-hour period illustrated how media and politics had changed in the years preceding the election. Since the 2008 election, a distinct rightwing media network had grown, made up of relatively new outlets. Part of their agenda was to discredit the mainstream media and to develop an alternate narrative, and Facebook was a crucial vector for distributing their stories. The Trump campaign harmonized with that model, spending heavily on Facebook to amplify its messages.

The election results reverberated throughout Facebook, and caused a significant volte face in its attitude towards its associations with journalism.

In encouraging news businesses to make fuller use of Facebook as a distribution outlet, Facebook had in turn opened up publishing tools to everyone else too. While the rapid spread of misinformation on Facebook certainly represented a discrete problem during the election, it is also indicative of a much larger structural problem caused by the economic model and system of automation that lies at the core of Facebook.

It was a series of iterations to how the platform was monetized and how information was disseminated and filtered on it that has clarified the challenges facing the business of journalism today—and, ultimately, creation of a system that exacerbated the spread of false information during the 2016 election cycle.

From friends and family to viral news

Days after the first story about the phenomenon of "fake news," written by BuzzFeed's Alex Kantrowitz, went viral on Facebook, Mark Zuckerberg reiterated in late August that Facebook is a platform, not a publisher. "No, we are a tech company, not a media company," he told a group of Italian students while on a trip to Italy to see the Pope. "We build the tools, we do not produce any content."

Yet Facebook is, without doubt, the largest publishing company in the world. With 1.9 billion active users and 2 trillion searchable posts, the platform reaches more people than any media organization in history. A recent study by Pew (2016) found that 67 percent of American adults are active on Facebook and 47 percent of Americans get news on the platform. This is a staggering number, and vastly overshadows other social media platforms; the second most popular platform, Twitter, is used by 16 percent of Americans and only 9 percent get news from it. Twitter's reach extends beyond these numbers—tweets, not least from Donald Trump are embedded and amplified across all media—but it is Facebook that has the audience. As John Herrman, David Carr fellow at *The New York Times*, has noted, Facebook "hasn't just become nearly ubiquitous among American internet users; it has centralized online news consumption in an unprecedented way."

It is also remarkable in comparison to even the height of legacy media.

In 1980, for example, 42 percent of Americans watched the ABC, NBC, and CBS evening news and only 3.56 million Americans received a paper daily from the largest newspaper publishing company of the time, Gannett Co.

But Facebook's role at the center of the journalism ecosystem is a new phenomenon. As recently as Obama's reelection campaign, Facebook played a very different role in the journalism landscape.

In November 2012 a photo of Barack and Michelle Obama embracing, with the text "Four more years," became the most shared tweet in history, as Kantrowitz reported in for BuzzFeed.

While Twitter was much smaller than Facebook—in 2012, it had only 200 million users, to Facebook's 1.06 billion—it was emerging as a threat; not for overall reach, but for the type of moment-to-moment sharing needed to fuel regular user visits. Twitter's retweet function allowed for pieces of content to go viral far more easily than on Facebook, where at the time content had to be manually re-posted. While Facebook had regular users, large numbers of them only used the service to check in on family and friends.

Eight days later, Facebook launched its equivalent to the retweet: the Share button. This feature allowed users to easily circulate a post to their followers, pushing the same post to an ever-widening audience. In 2013, Facebook added hashtags and, in January 2014, a "Trending" section, which listed the most popular topics beside the News Feed.

As Kantrowitz concludes, "Adding a slew of Twitter-like features gave Facebook a new capability to rapidly disseminate of-the-moment content. Facebook still wasn't as fast as Twitter's real-time updates, but it didn't have to be. It was fast enough, and its 1 billion monthly active users, compared to Twitter's 250 million or so, made up in mass what it lacked in energy."

At the same time, Facebook was experimenting with its News Feed algorithm. Because the algorithm determines what content each individual user sees, it can be adjusted to reflect user data or behavior. For example, as communications and media scholars Nicole B. Ellison and danah boyd argue, the platform can determine who of your friends is most important to you and prioritizes posts from this subset of users. The addition of the ability to hide posts from certain users/pages on Facebook in 2011 gave

the algorithm further information about the type of information each user wants to see. According a study by Facebook employees titled Exposure to ideologically diverse news and opinion on Facebook (2015), these personally selected individual preferences have the strongest weight on what content the algorithm shows to each user. Facebook also controversially experimented on a users emotional responses to different types of content, allowing them in theory to prioritize information that made users happy. In its simplest form, these data points help to tailor the News Feed to the preferences of each user.

The result is that when a publisher posts a piece of journalism to Facebook, unless it pays for exposure, it does not know whether it will even show up in the feeds of their followers. In the Facebook information system, control over the distribution of journalism is ceded to the algorithm. The NewsFeed algorithm decides what users see first when they open Facebook. This equation is constantly iterated in order to optimize the experience and maximize the commercial value of the News Feed. Readers are shown the material they are most likely to agree with, because likes and shares are the currency of the advertising market. Second, to encourage publishers to share content, Facebook built new tools to aid in the creation and distribution of journalism, and developed financial incentives to accompany them.

This was, of course, intended to be, and in some ways was, an improvement on the limitations of traditional media. No longer did the audience have to rely on a limited number of sources to filter and bundle all of their media content. In a Q&A in November 2014, Zuckerberg claimed that it was Facebook's goal "to build the perfect personalized newspaper for every person in the world. We're trying to personalize it and show you the stuff that's going to be most interesting to you." This was needed, he argued, because users were increasingly exposed to huge numbers of stories, of which they could only consume a small fraction. He continued, "There's more competition for what they (users) see, so only the highest-quality content is actually going to get through." When the algorithm determines what content is high quality Facebook becomes the gateway to the audience.

The immediate consequence, however, was not a personalized newspaper but the emergence of a cottage industry of companies seeking to capitalize

Tow Center for Digital Journalism

on the viral potential of content on Facebook. Facebook has been able to translate its spectacular numbers of active users into advertising revenue, particularly on mobile. As Tim Wu documents in *The Attention Merchants* (2016), new programmatic advertising technology allowed for the micro-targeting of audiences, driving the revenue growth of the large platform companies.

Any content publisher, legitimate or otherwise, could game the algorithm to increase the chances of content going viral. By creating content that spoke directly to a particular constituency, with enticing or even salacious headlines, anyone could create articles that would be shared widely, regardless of what they linked to. While some, such as Upworthy, sought to leverage the Facebook algorithm to make positive messages go viral, others benefited from the capability to spread of misinformation, conspiracy theories, and hoaxes, as Craig Silverman has documented extensively for BuzzFeed.

The ability to design content that would become viral—both by legitimate advocacy and news organizations as well as by more questionable content farms—became an increasing problem for Facebook – clickbait was frustrating to users and the excess of misinformation was starting to affect the quality of information users were seeing on Facebook. Craig Silverman's Tow Center report "Lies, Damn Lies and Viral Content" (2015) argued that mainstream news organizations were also culpable in circulating false or misleading stories, and often failed to correct them, because they were chasing clicks: "Rather than acting as a source of accurate information, online media frequently promote misinformation in an attempt to drive traffic and social engagement. The result is a situation where lies spread much farther than the truth, and news organizations play a powerful role in making this happen."

In January 2015, Facebook responded to these issues by announcing that "a post with a link to an article that many people have reported as a hoax or chosen to delete will get reduced distribution in News Feed." The company anticipated that this would translate to decreased audiences for hoaxes and scams. But it would become the first in a series of largely unsuccessful attempts to quell the problem. In order to scale to Facebook's massive content flow they need to be algorithmic, rather than human, and

it is very difficult to train algorithms to resolve complex questions of truth and falsehood.

Next, in April 2015, Facebook began prioritizing posts from users' friends and family over those from publishers they follow. Users, with their news feeds cluttered with clickbait, were worried about "missing important updates."

Nearly a year later, Facebook's efforts to adapt the News Feed to increase the ease of sharing and to evolve into a more regular information stream were having their desired effect. As the technology website The Information reported, people were sharing more. But, they were also posting less.

To this day, Facebook continues to struggle with how to incentivize the spread of good information and deter the bad. A hoax or a lie going viral provides short-term gains for a questionable publisher, but hurts the credibility of Facebook and can have serious repercussion for public understanding. While initial efforts to define and tackle this problem were focused on hoaxes, the root of the problem is that both good and bad content are incentivized by the same sets of tools and algorithmic changes. It is very difficult to stop the spread of misinformation without also curtailing the spread of journalism unless they start making editorial decisions about who are trusted organizations.

Facebook's News Feed, 2006–2017

September 5, 2006: Facebook News Feed launches.

August 25, 2014: Facebook News Feed algorithm altered to reduce priority of clickbait.

January 20, 2015: Facebook News Feed algorithm altered to "show fewer hoaxes."

April 21, 2015: Facebook tweaks News Feed to emphasize family and friends because people are worried about "missing important updates."

May 7, 2015: Facebook releases internal research on filter bubbles that finds "most people have friends who claim an opposing political ideology, and that the content in peoples' News Feeds reflect those diverse views." June 15, 2015: Facebook's News Feed algorithm updated to prioritize time spent on a story above engagement.

April 21, 2016: Facebook tweaks the algorithm to focus on articles people are likely to spend time viewing.

May 9, 2016: Gizmodo reveals details that Facebook's Trending Topics is actively curated by people who "suppressed" conservative news.

May 12, 2016: Facebook releases a 28-page internal document outlining guidelines for staff curating Trending Topics, in response to media reporting suggesting potential bias.

May 23, 2016: Facebook's general counsel responds to Congress Republicans concerned about bias with a letter; the previous week, Facebook's legal team met with chairman of the US Senate Commerce Committee, John Thune.

May 24, 2016: Facebook says it will revise the way it curates its Trending topics section, including no longer using external websites to validate a story's importance.

June 29, 2016: Facebook's algorithm changes to place further emphasis on family and friends and on creating a feed that will "inform" and "entertain."

August 4, 2016: Facebook tweaks the News Feed to reduce clickbait.August 11, 2016: Facebook's News Feed is modified to place emphasis on "personally informative" items.

August 26, 2016: Facebook Trending becomes fully algorithmically driven.

November 19, 2016: In response to post-election pressure, Mark Zuckerberg addresses Facebook's role in fake news.

December 5, 2016: In an effort to combat misinformation, Facebook prompts users to report "misleading language."

January 11, 2017: Facebook announces the Facebook Journalism Project, to work with publishers on product rollouts, storytelling formats, promotion of local news, subscription models, training journalists, and collaborating with the News Literacy Project and fact-checking organizations. On the same day, TechCrunch reports Facebook agrees to censor content in Thailand at government's request.

January 31, 2017: Facebook updates the algorithm to prioritize "authentic" content and will surface posts around real-time/breaking news.

February 6, 2017: News surfaces that a Syrian refugee identified as a terrorist pursues legal action against Facebook on grounds of "fake news."

February 16, 2017: Mark Zuckerberg writes a nearly 6,000 word manifesto, "Building Global Community," on the future of Facebook and global civil society.

March 3, 2017: Facebook releases its "disputed news" tag.

Election year, perfect storm

In early 2014, Facebook launched a number of failed experiments for news. A product called Paper allowed users to customize their own newspaper based upon the user's chosen "themes and topics." Facebook Newswire allowed publishers to embed "newsworthy" content from Facebook in their own material, using the platform for newsgathering and storytelling. The product was powered by Storyful. With these initiatives, Facebook was earnestly dipping their toes into publishing, attempting to both assist publishers in leveraging the potential of platform, and to incentivize the evolution of the News Feed into a regular flow of information about the world.

In announcing Newswire, Andy Mitchell, the director of news and global media partnerships, wrote:

News is finding a bigger audience on Facebook than ever before. Journalists and media organizations have become an integral part of Facebook, which is visible in features like Trending Topics, improvements to Pages, and recent changes to News Feed. Publishers are seeing the results of our commitment, with referral traffic from Facebook to media sites growing more than 4x in 2013, and we're excited to deepen our relationship with media organizations and journalists in the days to come.

By 2015, Facebook was presenting an existential threat to many publishers as the central distribution platform for news. Already seeing steep declines in their circulation, classified, and print advertising revenues, many news organizations had begun to make the painful downsizing and organizational transition towards digital sustainability. Facebook was now making plans to absorb more of their digital distribution.

After a series of consultations with publishers, in May 2015 Facebook launched Instant Articles, a tool on their mobile platform allowing publishers to post formatted content directly in Facebook rather than linking to content on their own sites. As Chris Cox, Facebook's chief product officer, told *The New York Times* following the launch, this was initially intended as a limited service to a limited group of publishers, "We're starting with something that we think is going to work for some publishers for some arti-

cles and for some business models, we're not trying to go, like, suck in and devour everything."

No longer was it sufficient to have a website and to link to it in social media, a system upon which many publishers had already become reliant for traffic to their sites. Facebook would also soon become the platform in which journalism was consumed, not just the top platform on which it was discovered.

The platform's stated rationale behind introducing Instant Articles was that users were dropping off when pages took too long to load. Providing them with content inside Facebook would lead to greater time spent on the article–and on Facebook. The cost to publishers was control over audience. Either Facebook sold the ads and kept 30 percent of the revenue, or publishers sold the ads and kept 100 percent. And as we outlined above there were strong incentives to give Facebook control, including access to their user targeting system. Should publishers post links on Facebook to drive audience to their sites, or should they embrace the potential reach of Instant Articles and give up control of their audience and traffic to their own sites?

Facebook's proposition proved attractive to many publishers. Large media companies such as BuzzFeed, *The New York Times*, and *National Geographic* initially signed on. For a limited time top publishers had exclusive access to this feature, and were even differentiated on mobile from other content with a lightening bolt label. But this privileged position was about to change.

In February 2016, Facebook announced that Instant Articles would be opened to any content producer, not just approved journalism organizations. Even a brand like Intel could publish content directly into Instant Articles, and they were the first to do so that June, saying "we believe we're a publisher." In April Facebook allowed sponsored or branded content to appear as Instant Articles with the sponsor or brand tagged.

The entrance of native advertising onto a platform previously reserved for publishers blurred the brief distinction made on Facebook between journalism and other content. When all of a sudden these features were open to anyone, the result was a further undermining of the signals available to users to distinguish the quality of information on Facebook. (This is in line

with the American Press Institute's finding that only 2 of 10 people could recall the source of stories shared on Facebook, and that when shown the same story from two different brands, one made up and the other the Associated Press, 45 percent called the made-up source "trustworthy," while only slightly more, 48 percent, said the same for the AP.)

A major shift was taking place on the platform. Once a place for checking in on family and friends, Facebook was rapidly becoming a single stop for all information, including news, gossip, entertainment, and advertising. What's more, the lines between how these different types of content were presented to users and monetized by publishers, advertisers and Facebook alike, were becoming increasingly blurred.

In parallel to these changes, another controversy was brewing. Facebook had been using human editors to curate the stories in its Trending Topics list. While this could be considered a positive editorial intervention to ensure the integrity of the highly visible list, a May 2016 report in Gizmodo revealed that the human editors were biasing their selections against conservative stories and causes. The story caused widespread outcry in the conservative media and beyond, and prompted an unlikely meeting at Facebook headquarters between Zuckerberg and a group of conservative media leaders, after which he re-iterated their focus on the ideological integrity of their products.

Likely in response to this pressure, Facebook again tweaked the News Feed in August 2016 to place a greater emphasis on "personally informative" items. In a blog post announcing the change, Facebook stated:

One of our News Feed values is that the stories in your feed should be informative. What makes someone feel informed about the world is personal. Something that one person finds informative may be different from what another person finds informative. This could be a news article on a current event, a story about your favorite celebrity, a piece of local news, a review of an upcoming movie, a recipe or anything that informs you.

Read another way, this post lays bare how Facebook can create a bubble of ideas, causes, and ideologies that a user has identified with.

The opacity of algorithms

A key criticism of Facebook's effect on the world is that it reinforces filter bubbles, and makes it almost impossible for people to know why or how they come to be reading certain pieces of news or information.

Eli Pariser, chief executive of Upworthy, argues that algorithms can have two effects on our media ecosystem. First, they "help folks surround themselves with media that supports what they already believe." Second, they "tend to down-rank the kind of media that's most necessary in a democracy—news and information about the most important social topics." The content that every user sees on Facebook is filtered by both their social choice of friends and behavior on the platform (what they choose to like, comment on, share or read), as well as by a set of assumptions the platforms algorithm makes about what content we will enjoy.

A 2015 study published in the journal *Science* and written by three members of the Facebook data science team found that the News Feed algorithm suppresses what they called "diverse content" by 8 percent for self-identified liberals and 5 percent for self-identified conservatives. The study, which was initially positioned to refute the impact of filter bubbles, also found that the higher a news item is on the Feed, the more likely it is to be clicked on and the less diverse it is likely to be. As media and technology scholar Zeynep Tufekci writes on Medium, "You are seeing fewer news items that you'd disagree with which are shared by your friends because the algorithm is not showing them to you."

And this process of algorithmic filtering can of course be manipulated. As Eli Pariser told us: "Algorithms [were] pulling from different sources . . . then it gained consciousness. The creators of the content realized that's the dynamic they were working in and fed into it. What happens not only when there's that dynamic, but people know there is and they think about how to reinforce it?"

Take, for example, the initial lack of coverage of the Ferguson protests on Facebook. Tufekci's analysis revealed that "Facebook's News Feed algorithm largely buried news of protests over the killing of Michael Brown by a police officer in Ferguson, Missouri, probably because the story was certainly not "like"-able and even hard to comment on." Whereas many users were immersed in news of the protests in their Twitter feeds (which at

Tow Center for Digital Journalism

the time wasn't determined by an algorithm, but was instead a sequential display of the posts of the people you follow), when they went to Facebook, their feeds were filled with posts about the ice bucket challenge (a viral campaign for to promote awareness of ALS). This was not simply an issue of the amount of stories being written about each event. As journalist John McDermott describes, while there were far more stories published about Ferguson than the Ice Bucket challenge, they received far fewer referrals on Facebook. On Twitter, it was the reverse.

These types of algorithmic biases have significant implications for journalism. Whereas print and broadcast journalism organizations could control the range of content that was packaged together in their products, and thereby provide their audience with a diversity of views and content-types (sports, entertainment, news, and accountability journalism), in the Facebook algorithm all information—including journalism—is atomized and distributed based on a set of hidden, unaccountable, rapidly iterating and individualized rules. The filter bubbles effect means that public debate is less grounded in a common narrative, and set of accepted truths, that once underpinned civic discourse.

Misinformation goes viral

On August 26, 2016, Facebook removed human editors from Trending, making it fully algorithmic. The change confirmed Facebook's overall disposition towards algorithmic rather than human solutions. As Sam Thielman detailed in *The Guardian*, over the following weekend Trending "pushed out a false story about Fox News host Megyn Kelly, a controversial piece about a comedian's four-letter word attack on right-wing pundit Ann Coulter, and links to an article about a video of a man masturbating with a McDonald's chicken sandwich."

As Craig Silverman reported exhaustively for BuzzFeed, the next three months would see a spike in what he called "fake news"—misinformation made to look like legitimate journalism. During this critical period leading up to the election the top 20 false stories generated greater engagement on Facebook than the top 20 stories from major news outlets.

Nearly all of the top false stories shared on Facebook in the three months before the election were pro-Trump, according to Silverman's analysis,

though there was anti-Trump fake news going around as well. The popularity of pro-Trump stories proved lucrative to those creating them, incentivizing sites like the now well-known example of the Macedonian teenagers who earned tens of thousands of dollars operating sensationalist pro-Trump websites. The American site Ending the Fed is another example which has repeatedly published false, right-wing stories (such as those listed below) that have contributed to a massive growth in its website traffic, and its election content generated significantly more engagement on Facebook than articles from legacy news publishers such as *The New York Times* or *The Washington Post.* A formula had emerged: right-wing, sensationalist stories performed exceedingly well on Facebook's algorithm.

Among the most shared stories on Facebook during the run-up to the 2016 election was a hoax claiming that Pope Francis endorsed Donald Trump for president, a collection of stories that contributed to growing conspiracy theories around Hillary Clinton's deteriorating health, and the claim that President Obama had banned reciting the Pledge of Allegiance in schools (one story generated more than 2.1 million shares, comments and reactions on Facebook). One of the most talked-about pieces of viral misinformation is the conspiracy theory known as "Pizzagate," which came to a head when an armed man went to "investigate" the claim that Hillary Clinton and other Democrats were operating a child-trafficking ring out of a bar in Washington D.C.

This environment is ripe for the spread of disinformation and networked propaganda, which Harvard Law Professor Yochai Benkler calls "a systematic effort to create and circulate a set of stories, narrative, beliefs that shape how people look at the world." In a study of over 1.25 million stories published online between April 1, 2015 and Election Day, Yochai Benkler, Robert Faris, Hal Roberts, and Ethan Zuckerman show that a right-wing media network centered around Breitbart developed a distinct and insulated media system in which false information was circulated and confirmed. A truth was created. As Benkler argues, the role of the Fourth Estate needs to adjust to a situation where there is a persistent relationship between a president and a propaganda network that creates a fluency of disinformation with the intent to manipulate a narrative. Journalists need to make a stand for shared modes of identifying validity, but the challenge

they face is that validity holds little weight in an ecosystem determined by confusion.

Gilad Lotan, vice president of data science at BuzzFeed, is similarly concerned about the core erosion of civic discourse created by the proliferation of propaganda on social platforms. He argues that one of the core challenges of the current media system is how facts and fiction intermingle. In story after story, journalists and conspiracy theorists alike coalesce around a topic giving it continuous coverage, but polarizing the public discourse into communities of shared belief. Neither side of the frame is necessarily false, but the carefully crafted story on either side omits important details and context. When this happens consistently and persistently, Lotan argues, it systematically and deeply affects our perception of what is real.

For example, the director of advertising for the Republican National Committee Gary Coby told Wired journalist Issie Lapowsky that on any given day, the Trump campaign was testing 40,000 to 50,000 versions of its ads on Facebook, calling it "A/B testing on steroids." Unlike the bulk of political advertising, these ads are almost entirely unmonitored and unregulated, allowing the Trump campaign to speak to an infinite number of market subsets with custom unregulated messages. This is made possible by mass data collection and the decline of user internet privacy. As David Carroll, Associate Professor of Media Design at The New School explains,

if we consider how increasingly weaponized ad targeting has become, especially since this past summer when Google and Facebook consolidated our browsing histories into their user IDs, and we think about how anybody in the world could target anyone else in the United States with surgical precision by their susceptibilities and propensities, maybe this election was similar to a 9/11 moment, but non-violent and invisible, where we realize that our commercial infrastructure was used against us, and we don't realize it until after the catastrophe? Will it only get worse for future elections?

This micro-targeting capability also applies to journalism. Instead of building audiences on their own sites, and leveraging social media to drive traffic to them, publishers can now simply purchase views. The ability of publishers to buy access to audience has made it increasingly difficult for small media organizations who do not have this purchasing power to grow their audience. The same ad ecosystem that has allowed "fake news" to

thrive is the same one that some publishers are dependent upon to survive. All information is monetized the same way.

Changing this will not happen with the flick of a switch, as it would need to involve editorial decisions at scale, to determine what is legitimate information. Facebook has largely opted to outsource this capacity to date to third-party fact-checkers. But this solution sits on the surface of a much larger structural challenge: once all content is disaggregated and commercialized across a very large community exchanging information, is there any way of scaling human oversight?

This blurring of boundaries between types of content and how they are able to be distributed and monetized has led to the rise of many different types of content creators, ranging from those targeting and monetizing misinformation to ideologically defined communities, to those selling the profiling and micro-targeting of highly defined electoral groups.

Carroll is pessimistic about the collective impact of this shift in how advertising works:

The people who create journalism aren't reaping the revenue gains increasingly captured by the duopoly, and these platforms who distribute and profit from content creation are taking over the industry without assuming the responsibilities of being media companies. If we don't fix this, it's over. We're in a death spiral for the journalism business and the democracy it aims to protect.

The Facebook response

Initially Mark Zuckerberg was dismissive of the concerns over the spread of misinformation on Facebook during the campaign. He wrote in a personal Facebook post four days after the election that "more than 99 percent of what people see is authentic" and that "overall, this makes it extremely unlikely hoaxes changed the outcome of this election in one direction or the other." This is almost certainly true. But nonetheless, Facebook has contributed to the spread of falsehoods masquerading as facts, as Zuckerberg acknowledged four days later. In a post admitting that misinformation was a problem on Facebook, he outlined several projects Facebook was develop-

Tow Center for Digital Journalism

ing in response, including better reporting mechanisms, warnings for false information, and the notion of "disrupting fake news economics," an idea that surely would strike at the core of the organization's business model. This shift appeared to be driven by the growing public outcry, rightly or wrongly, over fake news.

Elliot Schrage, Facebook's VP of global communications, marketing and public policy, was less sanguine. At Harvard's Campaign Managers Conference that took place on January 29, 2017, he acknowledged that the spread of false information was a problem that they needed to address. "For so long, we had resisted having standards about whether something's news-worthy because we did not consider ourselves a service that was predominantly for the distribution of news. And that was wrong!" He continued, "This election forced us to question whether we have a role in assessing the validity of content people share. And I have to tell you all, and one of the reasons I came here—that's a pretty damn scary role to play."

A month later, following a series of public events around the US that led to speculation about his own political ambitions, Mark Zuckerberg released a 6,000-word manifesto on the future of Facebook and global civil society:

A strong news industry is critical to building an informed community. Giving people a voice is not enough without having people dedicated to uncovering new information and analyzing it. There is more we must do to support the news industry to make sure this vital social function is sustainable—from growing local news, to developing formats best suited to mobile devices, to improving the range of business models news organizations rely on.

The aspirational statements remain opaque enough to avoid discussing the underlying structural problems. Take the issue of flagging false information. Zuckerberg appears sincerely concerned about the spread of false information on his platform. But ways to tackle this problem directly would conflict with both Facebook's worldview and its business realities. Zuckerberg is committed to individual users' power of choice, and their influence over the information that they post and that they see in the News Feed.

Efforts to implement human editors into the flow of information on Facebook both run counter to this view and could be costly to imple-

ment within Facebook's existing policies. As technology writer Adrienne LaFrance writes:

Viewing this approach through the lens of journalism, however, you can see how Zuckerberg is continuing to push Facebook's hands-off approach to editorial responsibility. Facebook is outsourcing its decision-making power about what's in your News Feed. Instead of the way a newspaper editor decides what's on the front page, the user will decide.

Zuckerberg's manifesto is ultimately a helpful reminder of how far we have come since the early promise of the internet. Rather than a world of narrow walled gardens of content created and curated by a very small number of people (newspapers), the internet was to allow for a far more open exchange of information, with agency placed in the hands of individual content creators and those that chose to consume and share this content. The media would be decentralized, and democratized. For a time this culture of individualism and the need to democratize journalism were aligned. We saw media companies begin the at times painful shift from the closed ecosystem of print and broadcast, to the more open wild-west of the internet. The result was a period of tech-driven experimentation in legacy and new media journalism alike.

But something notable has changed. Platform companies have become the establishment they once derided. Whereas platform companies once railed against government regulation and the pre-internet laws that they felt constricted innovation, they have now expanded into areas where government collaboration is critical (aerospace, health technology, surveillance and national security, and the auto sector).

For a sector that sought to disrupt twentieth-century institutions (including journalistic organizations), they are in many ways replicating the system of control that characterized traditional media—simply through algorithms rather than human editors. These automated decisions are no more objective than the editor of a newspaper, but they are far more opaque. And while the platform has the pretense of being open to everyone, it is in fact a closed system, where norms of behavior are strictly enforced one can "like" not "dislike" a post.

And the problem with this, as Martin Moore, the Director of the Centre for the Study of Media, Communication, and Power at King's College Lon-

don, summarizes succinctly in his 2015 report, Tech Giants and Civic Power is that

The aspiration of these companies to withdraw from the public realm, and to find spaces unfettered by legal restraint suggests a limited commitment to civic duty, or at least to civic duty as currently framed. Yet though these companies may want to free themselves of civic constraints, their services now play increasingly important civic roles.

This is particularly the case in global markets where Facebook is the main way through which citizens access the internet.

While Zuckerberg frames the global expansion of Facebook in idealized civic terms, what is being offered is a closed system where information is atomized, automatically distributed, and in which the behaviors of users are captured and monetized. While the cultures and core objectives of platforms and publishers were for a moment aligned via the principles of the open web, they are no longer.

The culture that underlies the historical *raison d'être* of Facebook is in growing conflict with the nature of the highly controlled, surveilled (by both Facebook and, in effect, governments), and the closed markets they are building. The political economy of platforms is a far cry from the civic principles of the open web.

The pernicious effect of viral misinformation on Facebook's platform is unquestionable. The financial and political climate incentivizing the creation, promotion and rapid spread of fake information threatens to undermine the trust users place in Facebook. What's more, since different types and qualities of content have become indistinguishable on Facebook, this crisis in trust arguably extends to far broader debates about the nature of reliable information, and the role of journalism, in our civic discourse.

Whether Facebook's intention behind these algorithmic shifts, tool development, and new monetization strategies was legitimately to help journalism publishers, to drive traffic and to keep users within Facebook, or simply maximize their own advertising potential, is largely beside the point.

As journalism scholar Mike Ananny argues:

By continually claiming that it is a technology company—not a media company—Facebook can claim that any perceived errors in Trending Topics or News Feed products are the result of algorithms that need tweaking,

artificial intelligence that needs more training data, or reflections of users. It claims that it is not taking any editorial position.

If Facebook is going to function as the new social arbiter of trust, replacing a role journalism has, however imperfectly, long served, then they will need to both counter the spread of misinformation and encourage the spread of journalism based in fact. They will simply need to begin making editorial decisions.

Conclusion: A fractious transfer of power

All news organizations, whether the most traditional publisher or the youngest start-up, now share a strategic necessity to think about their future health as tied to third-party platforms. Newsroom decisions and resources are increasingly oriented around the needs of external platforms; everything from commissioning stories, to integrating with a wide variety of technical standards.

Despite new opportunities and publishing models offered by the huge variety of platforms, most news organizations have not been able to find reliable return on investment. Publishers have been publicly skeptical of investing in platform strategies, but our data show that there is no retreat from a path of rapid convergence. This is troubling for small and mid-sized publishers, particularly at the regional and local levels, who feel the new paradigm discriminates against them.

Facebook now dominates the conversation among news publishers because of the size of its audience and its share of the mobile advertising market, but many have been disappointed by the initial returns from formats such as Instant Articles. The "fake news" scandal that broke after the election has prompted Facebook to seek better relationships with professional publishers rather than retreating from the market. It also prompted Mark Zuckerberg to pointedly use Presidents' Day to thank all journalists for their work in a Facebook post which pictured him and his wife Priscilla standing outside the offices of the *Selma Times-Journal*.

The current progression of publishers into the social world is creating two types of news organizations: one that maintains and develops its own presence, subscriptions, and destination sites, and one where publishing stops being the activity which is used to support journalism.

Tony Haile, the former chief executive of editorial analytics company Chartbeat and now the founder of scroll.com, describes this progression:

There are two routes for publishers. [One is to] accept that they are [in the] advertising business but . . . the point of control has shifted to platforms and thus the point where margins accrue has also shifted. In that case, [publishers] need to jettison as many of their costs as possible and assume the mentality and framework of a low-cost/low-margin scale provider. Or, if they decide they want margin more than scale, [they] need to plan for a non-advertising future with multiple revenue streams (not just the access model) . . . The total revenue might be smaller but the margin larger.

The challenge for the publishers is in general an unwillingness to make a hard decision. . . They end up sitting in the middle trying to optimize for both, which means optimizing for neither.

What would journalism look like if publishing is no longer the principal activity of the organizations that fund it?

NowThis News does not have a homepage that serves any function other than to redirect users to the social web. Its output is entirely consumed through the web, and it is very light on original journalism. Reuters and the Associated Press have never had publishing as their core business model but relied on others who did. Ditto newer non-profit organizations such as ProPublica and the International Consortium for Investigative Journalism. BuzzFeed might be building out its website, but its chief economic activity is that of an advertising agency, with news carefully separated out as a different autonomous division. CNN's goal is to be "number one in video news on mobile," and has already implemented a structure which takes it away from broadcast and into producing multivariate stories for dozens of platforms.

Google, Apple, Facebook, Snapchat, Twitter, and albeit to a smaller extent, even other platform companies like LinkedIn or Google's own YouTube, are publishers, and most have begun to develop teams and strategies that are focused on promoting journalism. For example, LinkedIn recently announced a Facebook-style trending topics section.

However, this speedy and relentlessly logical progression of a marketdriven outcome has not given us enough time to calibrate the consequences of this transfer of money, function, and influence between the press and

technology companies. Facebook has taken fourteen years to go from dorm start-up to potentially the most important newsroom in the world. They employ only a handful of people focused on journalism, but none of them are actually doing it.

And yet, platforms cannot put a firewall between their own activities and journalism. Whereas Napster would have cheered the demise of EMI, Facebook, Google and Apple have an instrumental need to at least appear to be protecting journalism and free speech.

Any desire to assist the viability of journalism, however well motivated, bumps up against the design and incentive structures of the platforms. Until these are changed, or until there is an effort to delineate and incentivize high-quality material, social platforms will continue to undermine rather than sustain good journalism.

Structural impediments

The recent push to develop tools for flagging misinformation and digital literacy campaigns are important initiatives and signal that platform companies are beginning to engage with problems they have long avoided. These efforts will make a tangible difference to the quality of information shared on digital platforms and will help citizens responsibly engage with the false information that will always get through. But these types of initiatives are limited by their detachment from the structural problems inherent in the platform ecosystem. Namely, the near dominance of Silicon Valley ideology, the pernicious effect of adtech economics, and the opacity of automation.

In response, it will be important for journalism to seriously engage with four key issues.

How to report on a system of power, if journalism is embedded within it:

Silicon Valley has long been dominated by a pretense that the tools and platforms they build empower individuals. But the principle way these same companies have made money is by selling data about the behavior of their users. When Mark Zuckerberg proposes "Building Global Com79

Tow Center for Digital Journalism

munity" on Facebook, he is also eyeing the expansion of one of the largest companies in the world.

At the same time, as many technology companies move their businesses into areas of federal regulation (aerospace, automotive, telecoms, national security), they are increasingly working in close partnership with and under the direct oversight of the government.

The consequence is that a small number of companies have significant control over both the free press, and areas that journalism traditionally covers. This tension strains the viability of accountability journalism, in particular work focused on holding government and corporate power to account. This work requires a degree of independence that is hard to imagine in a world where the publishing function of the press is subsumed under several large platform companies.

How can journalism hold the new nodes of power accountable when they are dependent on them for distribution, audience, and money?

Fixing incentives for journalism on the social web:

On platforms, all content is atomized into monetizable categories (ads, sponsored content, personal updates, etc.) and bought and sold in the same manner. There is no premium for the quality of information, only for scale. What's more, as Facebook already tells advertisers, the behavior of their audiences can be shaped by the information they are shown. The same is surely true for political influence. The interests of big tech companies are driving a trend towards greater atomization and automation, both of which are difficult to reconcile with the role of journalism as a social good.

If they wish to retain independence, it goes without saying that news organizations need to find models for funding that work independently of the social media ecosystem. This may mean leveraging platforms as a tool for reaching and engaging with audiences, but not relying on them to monetize their content. It may also entail a major rebalancing of funding for journalism, akin to public support of journalism in many other democracies. Arguably America needs a radical new market intervention similar to that made by the UK Government in 1922 when it issued a Royal Charter and established the BBC. Given current political realities, a more viable option might be for platform companies themselves to collaborate to fund such a venture.

Resolving the difficulty of editing at scale

Platforms rely on algorithms because they must operate at scale.

The problem is that while a human judgment can quite easily filter an obviously fake news story, it is far more difficult for an algorithm to do so. There are ways of delineating different types of contributor or information—such as the Twitter verified badges or Google PageRank. Facebook is recruiting third-party fact-checking sites to flag stories, and moving towards more editorial intervention in Trending Topics. This present a devil's bargain for journalism—give platforms more discretionary power over the information ecosystem, but lose control as intermediary.

There is another risk in seeking algorithmic solutions—the automated constraint of speech. As Jonathan Albright, assistant professor of communications at Elon University, argues,

The next era of the [information wars] is likely to result in the most pervasive filter yet: It's likely to normalize the weeding out of viewpoints that are in conflict with established interests. . . . In the coming decade, Alpowered smart filters developed by technology companies will weigh the legitimacy of information before audiences ever get a chance to determine it for themselves.

This restraint of speech can come from governments forcing algorithmic changes, from organizations purchasing audiences on platforms, or from platform companies tweaking their algorithms for whatever reason they deem fit. Regardless, the opaque nature of this filtering presents a challenge to journalism's civic function in a democratic society.

The response may ultimately require not simply algorithmic solutions, but a re-imagining of journalism's role in the information ecosystem. As Ethan Zuckerman has pointed out,

We need to work harder on building media that pushes us to see different perspectives and helps us understand the complex political reality we live in. The answer is not to fight fake news—it's to build wide news, media that helps us understand people we disagree with and people we seldom hear from.

These types of civic spaces to will require human, as well algorithmic solutions.

The role of public policy and regulation

Tim Berners-Lee recently suggested in an open letter that the principles on which he built the World Wide Web 28 years ago are today threatened by loss of personal data, the spread of misinformation, and the evolution of political advertising. To combat them, he argued, will require efforts to protect personal privacy, to build alternative payment systems, and to fight government surveillance. There is a strong argument for greater algorithmic transparency and a better regulation of political campaigning, argues Berners-Lee. In short, the current platform businesses need to restore the values of the open web to their businesses.

Many of these ideas may require government engagement—an idea that has proven anathema in the US, despite a long history of state media regulation. This is certainly the path that other countries are following. Proposed initiatives in the EU, Germany, and Canada would push back on the open markets of the dominant platforms and, in some cases, hold platform companies financially liable for the spread of misinformation on their platforms.

It could also be that we see a new generation of anti-trust suits, as the large platform companies enter into broader market segments and expand globally.

Only when damaging commercial practices got out of hand, like the snake oil salesmen of the early twentieth century, has the law intervened to regulate US media in the past. The bold changes have been made by the market—and, over the last twenty years, almost entirely by the Silicon Valley companies we have focused on for our research. However, as we reach a moment where the relationships, structures, norms and rules around the news environment are in flux, we have an opportunity to ask what types of other private, philanthropic, or public intervention are possible.

As *New York Times* columnist Tom Edsall argues, these types of substantive reforms may be required to ensure a technology that serves rather than undermines democracy.

Improving the news environment

In the US publishers were given an opportunity against the backdrop of the 2016 election to restate the value of an independent press. The same election cycle also demonstrated the dangerous shortcomings of the emerging news environment. The failure to define civic as well as commercial targets within technology businesses is as egregious as the carelessness news organizations displayed over the last two decades in failing to rethink their technologies and business cases quickly enough.

With media regulation in freefall, the leadership of both journalism institutions and technology companies are left to arbitrate the rules of engagement between themselves. Economically, and increasingly, culturally, the technology companies hold the balance of power. It is necessary that organizations and stakeholders that care about journalism find common cause in addressing not just the specific issues of platform and advertising market design, but also the broader and more enduring issue of what kind of news environment we want.

Appendix I: Methodology

Our content analysis has been designed to include news outlets from a variety of backgrounds, covering legacy broadcasters (CNN, Fox News), legacy national publishers (*The New York Times**, *The Wall Street Journal**, *The Washington Post**), legacy regional metros (*Chicago Tribune**, *Los Angeles Times**, *New York Daily News*), digital natives (BuzzFeed, BuzzFeed News, The Huffington Post, Vox) and print/digital hybrids (Vice, Vice News). Data about the volume of posts made to the following platforms from each publishers main brand account (e.g. @cnn, @nytimes, etc.) is gathered over one-week periods (Monday-Sunday) once every three months: Apple News, Facebook, Instagram, Instagram Stories, LINE, LinkedIn, li.st, Messenger, Pinterest, Snapchat Discover, Snapchat Stories, Tumblr, Twitter and YouTube. Where possible, data is gathered via the platforms own APIs. For platforms or products not covered by APIs (e.g. LinkedIn, Facebook Instant Articles, Apple News, Snapchat, Instagram), data is either scraped via websites or collected manually.

The publications and platforms covered by this research has expanded over time. Platforms not included in the first phase of analysis include LinkedIn, Pinterest, Tumblr, and Instagram Stories. We were also unable to include retweets, due to the limitations of the Twitter API. The first phase of data collection also did not include BuzzFeed, Vice or the three regional metros.

When a publisher we interviewed is unnamed in the text, they are speaking under the condition of anonymity.

*Denotes subscription-based business model.

Appendix II: Timeline

The timeline below identifies key developments on the top platforms used by journalism publishers: Facebook, Google, Twitter, Snapchat, Instagram, Apple, and WhatsApp.

2000

October 23: Google AdWords launches.

2002

October 4–21: Harvard study finds 113 white nationalist, Nazi, anti-Semitic, and radical Islamic sites, and at least one fundamentalist Christian site, were removed from French and German **Google** listings.

2004

February 2: Facebook launches as a Harvard-only social network.

2006

January 23: Google News formally launches; had been in beta since September 2002.

January 25: Google launches Google.cn, adhering to China's censorship policies until March 2010.

July 15: Tw
ttr (later renamed Twitter) is released. "Tweets" can only be 140 characters

September 5: Facebook's News Feed launches and displays activity from a users network.

September 10: Google delists Inquisition21, a website seeking to challenge potentially incorrect child pornography convictions in the UK. Google

implies the delisting is because Inquisition21 tried to manipulate search results.

2007

January 10: Facebook launches mobile site m.facebook.com.

April 16: Google's Terms of Service unveiled, including provisions granting Google "perpetual, irrevocable, worldwide, royalty-free, and nonexclusive license to reproduce, adapt, modify, translate, publish, publicly perform, publicly display and distribute any Content which [users] submit, post or display on or through, the Services."

2008

October 7: Apple launches iOS App Store.

October 22: Android OS Google Play store launches.

December 30: Facebook removes a photo of a mother breastfeeding babies, leading to protests.

2009

February 4: Facebook's Terms of Use altered to remove the automatic expiry of Facebook's license to use individuals' names, likenesses, and images if an account was deleted.

February 24: WhatsApp, a mobile messaging app company, is founded, and the app is released in May of 2009.

2010

January 14: Links to Encyclopedia Dramatica's "Aboriginal" article removed from **Google** after complaint; Google defended decision on grounds that the content represented a violation of Australia's Racial Discrimination Act.

March 22: Google announces it will no longer adhere to Chinese censorship policies by redirecting Chinese users to its Hong Kong domain.

October 6: Instagram, a photo-based social network, is released.

October 21: News Corporation axes "Project Alesia," a potential competitor to **Google** News, over concerns about cost and readiness of proposed partners.

2011

September 26: Snapchat released.

October 12: iOS **Apple** Newsstand app to read a variety of publications is released.

November 2: Twitter begins to "curate" results on its timeline.

2012

February 16: Facebook's internal "Abuse Standards" leaked, including policy to filter out content containing images of maps of Kurdistan and of burning Turkish flags.

March 1: Fundamental rewrite of Google's Terms of Service, adding rights for Google to "use, host, [and] store" any content submitted by users.

April 9: Facebook buys Instagram for \$1 billion.

May 31: Google launches a feature that informs Chinese users which keywords are censored. (The feature is removed in early December.)

2013

January 19: After backlash, **Instagram** scales back earlier announcement on changing Terms of Use to allow for selling user data.

June 20: Announcement that video is coming to Instagram.

October 1: Canadian photographer Petra Collins' **Instagram** account deleted because of a selfie which displayed visible public hair beneath her bikini bottom; challenged by Collins as it did not break Instagram's terms.

October 3: Snapchat Stories, a compilation of "snaps" a users friends see, launches.

November 11: Update to **Google**'s Terms of Service, clarifying how profile name and photo might appear in Google products.

November 20: Android OS **Google** Play Newsstand app to read a variety of publications launches.

2014

January 30: Facebook launches Paper, an effort at personalized news, and Trending.

February 19: WhatsApp bought by Facebook for \$19 billion.

April 24: Launch of FB Newswire, powered by Storyful. While it was eventually folded, it allowed publishers to embed "newsworthy" content from FB into own material, use platform for newsgathering and story-telling.

April 1: Algorithm introduced on **Instagram** to tailor the "Explore" tab to user.

April 14: Update to **Google**'s Terms of Service, including provision to automatically analyze content such as emails when content is sent, received, and stored.

May 19: In Russia, Twitter blocks pro-Ukrainian accounts following threats to bar the service if it did not delete tweets violating Russian law.

May 30: Google launches tool that enables Europeans to request "right to be forgotten" in response to ruling by European Court of Justice.

June 13: Google ordered by Canadian court to remove search results that linked to websites of Datalink, which sold technology alleged to have been stolen from a competitor.

June 17: Snapchat Our Story, a public Story aggregating many users activity around an event, launches.

June 23: Facebook News Feed algorithm altered to increase priority of video.

July 15: Geofilters on **Snapchat** are released.

July 25: Twitter blocks an account belonging to @boltai, a hacker collective that leaked internal Kremlin documents.

August 25: Facebook News Feed algorithm altered to reduce priority of clickbait.

October 22: German publishers concede defeat to **Google** in long-running dispute over attempt to charge license fees.

December 18: Google removes links to articles that criticized Australian organization Universal Medicine, an alleged cult.

2015

January 12: Instagram deletes account of Australian photo and fashion agency due to a photograph with pubic hair outside bikini bottoms. (Account reactivated January 21.)

January 20: Facebook News Feed algorithm altered to "show fewer hoaxes."

January 21: WhatsApp Web launches.

January 27: Snapchat Discover launches with an advertising revenue split arrangement where publishers can sell for 70 percent of revenue, or let Snapchat sell for 50 percent.

March 3: Instagram carousel ads launch.

March 9: Twitter acquires live streaming app Periscope.

March 31: Twitter rolls out Curator, which allows publishers to search and display tweets based on hashtags, keywords, location, and other specific details.

April 13: Snapchat gets rid of brand stories, also known as sponsored stories, after six months.

April 21: Facebook tweaks News Feed to emphasize family and friends because people are worried about "missing important updates."

April 27: Snapchat hires Peter Hamby from CNN and announces plans to hire more journalists for the election.

April 27: Google announces Digital News Initiative with eight European publishers.

May 7: Facebook releases internal research on filter bubbles that finds "most people have friends who claim an opposing political ideology, and that the content in peoples News Feeds reflect those diverse views."

May 7: Snapchat will charge advertisers 2 cents per view for ten second ads in between Discover slides (up to four slots) and during videos. This plan is called Two Pennies. It was previously 15 cents.

May 12: Facebook announces Instant Articles, faster loading articles on Facebook for iPhone, and original launch partners. Ads are embedded in article, and there is a 70/30 revenue share with publishers if Facebook sells the ad.

June 8: Apple News app announced to replace the Newsstand app. Like Facebook Instant Articles, a 70/30 revenue share with publishers if Apple sells ads against their content.

June 15: Facebook's News Feed algorithm updated to prioritize time spent on a story above engagement.

June 22: Google News Lab announced to support technological collaborations with journalists.

June 23: Instagram changes Explore to allow users to follow real-time news more easily by sorting by location and recency.

July 1: Automatic bans imposed on Facebook accounts using an offensive slang term for Russians. Similar Russian insults towards Ukrainians (such as "hohol") were not deleted.

July 27: Snapchat axes Yahoo! and Warner Music from Discover, replaces them with BuzzFeed and iHeartRadio.

Late July: Snapchat's ad team starts selling against Discover.

August 5: Facebook Live video launches for public figures.

August 27: Snapchat Discover expands from 12 to 15 partners. In the past, they cut old partners to add new so all 12 fit on one screen.

September 9: Using the **Facebook** ad platform technology, **Instagram**'s advertising platform expands globally, allows for more targeting and format flexibility.

September 22: Facebook allows publishers to create Instant Articles in their own content management system.

September 23: Facebook releases 360 video. Users can move their phones for a spherical view within a video.

October 6: Twitter Moments, curated tweets around top stories, launches.

October 7: Google announces Accelerated Mobile Pages (AMP) project, which will allow publishers stories to load more quickly from search results.

October 21: Twitter announces partnerships with firms such as Spredfast, Wayin, Dataminr, ScribbleLive, and Flowics at its developer conference.

October 22: Google announces it has signed up over 120 news organizations for its Digital News Initiative, including the BBC, *The Economist*, and *Der Spiegel*.

October 27: Twitter announces it will discontinue video-sharing app Vine.

October 28: Snapchat Terms of Service updated: requests right to reproduce, modify, republish, and save users' photos, specifically in relation to Live Stories.

October 29: Instagram allows businesses to use **Facebook**'s Ads Manager and to run campaigns across Facebook and Instagram.

October 31: Instagram conducts its first video curation for Halloween.

November 10: Instagram partner program launches; a group of 40

Tow Center for Digital Journalism

adtech, content marketing, and community management companies that work to help businesses on Instagram.

November 11: Facebook Notify app, a real-time notification news app, is launched.

November 13: Snapchat launches Official Stories, Stories from verified brands or influencers.

November 23: Snapchat launches Story Explorer, which allows users to focus on a specific moment from a story, but from additional users, angles, or perspectives.

November 30: Snapchat allows publishers to deep link back to Snapchat content from elsewhere, like other social platforms.

December 2: Snapchat makes a Story for breaking news during San Bernardino.

December 3: Facebook releases Live video to the public.

December 9: Facebook tweaks News Feed so it works with poor connections, like 2G. **Facebook** also allows publishers to sell Instant Article ad campaigns instead of having to make those ads part of site package, to have one ad for every 350 words of an Instant Article (up from one ad per 500 words), and to control link outs at bottom of Instant Articles.

December 9: Google announces AMP rollout timeline; pages will go live in February.

December 15: German government strikes deal with **Google**, **Facebook**, and **Twitter**, who agree to delete hate speech from their sites within 24 hours, in response to increasing racism online.

2016

January 5: Digiday reports that Snapchat, up to 23 Discover partners, is rumored to be building their own ad interface API, like Facebook, to target ads to users instead of publications.

January 11: Instagram publishes its first live video curation for the Golden Globes.

January 19: Nielsen expands Twitter TV Ratings to include Facebook conversations around TV shows, called Social Content Ratings.

January 21: Facebook's opens Audience Optimization to publishers to target specific readers.

January 26: The **Facebook** Audience Network can be used by publishers to sell ads on their mobile sites.

January 26: Reuters reports that **Apple** plans to make subscription-only content available in the News app.

January 27: Facebook reveals forthcoming "reactions" in the US, which had already been tested elsewhere in the world.

January 28: Facebook Live expands to all iPhone users.

January 28: Snapchat launches a show called "Good Luck America" with Peter Hamby.

February 4: WhatsApp increases group chat user limit to 256 people, aiming to increase enterprise appeal, including to publishers.

February 9: Google AMP announces solutions for subscription-supported publications, and Adobe Analytics integration.

February 10: Twitter changes algorithm to make sure users see tweets they are likely to care about.

February 10: On **Instagram**, publishers can now see video views and can do account switching. Instagram hits 200,000 advertisers, and 75 percent are outside of the US.

February 12: Reports that **Snapchat** will let users subscribe to Discover channels and that it will go from logo button to magazine cover look by May.

February 24: Google AMP articles go live.

February 25: Snapchat partners with Nielsen Digital Ad Ratings to measure, transparently, the effectiveness of ad campaigns.

February 26: Facebook Live rolled out to all Android users.

February 28: Snapchat Live Stories, beginning with the Oscars, will be viewable on the web for special occasions.

March 1: Facebook changes algorithm to prioritize Live Video, especially Live video that is broadcasting.

March 15: Instagram announces that starting in May feed will be algorithmically driven, instead of real-time.

March 15: Apple News app opens to all publishers.

March 24: On Facebook, publishers can see daily activity around a video.

March 29: Snapchat Terms of Service updated to add potential to incorporate third-party links and search results in Snapchat services.

March 31: Facebook creates option for publishers to autoplay and nonautoplay video ads in Instant; can have pre-roll video ads in any editorial video; and can have one more ad unit at the base of articles.

April 5: Twitter announces live video deal to stream NFL games, and begins pushing for live video deals with publishers.

April 7: Facebook allows Live Video within groups and events, live reactions from viewers, live filters, the ability to watch live with friends, a live map, and also live video in trending and search.

April 8: Facebook allowed sponsored or branded content to appear as Instant Articles with the sponsor or brand tagged.

April 12: Facebook makes several announcements at F8 that are relevant to publishers: the Live Video API will be open for publishers who want to experiment/innovate; Instant Articles is open to all publishers; publishers will be able to use messenger bots to distribute stories.

April 21: Facebook tweaks the algorithm to focus on articles people are likely to spend time viewing.

April 28: Twitter moves to the News category in the Apple app store.

May 9: Gizmodo reveals details that **Facebook**'s Trending Topics is actively curated by people who "suppressed" conservative news.

May 12: Facebook releases a 28-page internal document outlining guidelines for staff curating Trending Topics, in response to media reporting suggesting potential bias.

May 19: Instagram adds video to carousel ads.

May 23: Facebook's general counsel responds to Congress Republicans concerned about bias with a letter; the previous week, Facebook's legal team met with Chairman of the US Senate Commerce Committee John Thune.

May 24: Instagram adds media buying as fourth advertising partner category.

May 24: Facebook says it will revise the way it curates its trending topics section, including no longer using external websites to validate a story's importance.

May 24: Twitter announces changes to simplify Tweets including what counts toward your 140 characters, @names in replies and media attachments (like photos, GIFs, videos, and polls) will no longer "use up" valuable characters.

May 26: Facebook allows for their Audience Network to be used for ads to be seen off-Facebook, a move seen as competitive with Google.

June 2: Facebook Notify is shut down.

June 2: Google AMP launches in France, Germany, Italy, UK, Russia, and Mexico.

June 7: Google announces preliminary results from AMP showing that 80 percent of publishers are seeing higher viewability and 90 percent are seeing higher engagement.

Between June 6 and 12: Intel becomes the first brand to publish content directly to Facebook's Instant Articles.

June 9: Facebook launches 360 photo. Users can move their phones for a spherical view within a photo.

June 16: Snapchat announces an online magazine called Real Life.

June 21: Twitter Engage launches, allowing for better insights and data. Also, the length of user video is increased from 30 to 140 seconds.

June 22: The Wall Street Journal reports that Facebook has made deals worth more than \$50 million with 140 video creators, including publishers, to use Live, since those partnerships were first announced in March.

June 29: Facebook's algorithm changes to place further emphasis on family and friends and on creating a feed that will "inform" and "entertain."

July 6: Snapchat introduces Memories.

July 14: Facebook Instant Articles can be posted to Messenger.

July 19: Google announces AMP for ads, to bring ads to the same load time as AMP articles.

July 11–12: Twitter announces multiple live video deals, including with CBS, Wimbledon, and Bloomberg.

August 2: Instagram Stories launches. A compilation of updates a users friends see; a Snapchat Stories clone.

August 4: Facebook tweaks the News Feed to reduce clickbait.

August 9: Facebook blocks ad blockers.

August 11: Facebook's News Feed is modified to place emphasis on "personally informative" items.

August 26: Facebook Trending becomes fully algorithmically driven.

August 27: Apple changes its Spotlight feature so that articles open in-app, hurting publishers.

September 7: Snapchat axes Local Stories.

September 8: Google releases a study of more than 10,000 mobile domains showing that speed matters for engagement and revenue.

September 12: Twitter announces a live streaming partnership with Cheddar.

September 15: Publishers can sell subscriptions within the Apple News app; Apple keeps 30 percent of subscriptions made through the app, and 15 percent of renewals.

September 15: Improvements are made to call to action button on Instagram ads to make them more visible; with video, though, the destination URL opens first within Instagram with the video continuing to play at the top.

September 20: All **Google** search results now show AMP pages, not just the carousel.

September 23: Snapchat announces Spectacles and becomes Snap, Inc.

September 29: Twitter opens Moments to everyone.

September 30: Updates to **Google** AMP so it better supports a variety of ad sizes.

October 12: Facebook also allows for additional ad formats for publishers in Instant Articles.

October 17: Signal, for news gathering on **Facebook**, will include a Live Video column.

October 18: Snapchat switches from a revenue sharing arrangement with publishers on Discover to an up-front licensing arrangement.

October 20: Facebook allows 360 photo and video within Instant Articles.

October 28: Facebook rolls out a voting planner for users where they can view and save the initiatives and candidates they will select.

November 10: Instagram introduces ability to add "see more" links to Instagram Stories.

November 11: After controversy, Facebook will curb ethnic affinity marketing by advertisers focused on, for example, credit or housing, who target users based on whether Facebook has determined they are likely Latino or Asian American, for example.

November 11: Facebook buys CrowdTangle, which is used by publishers for analytics.

November 11: Vertical ads are allowed on Instagram.

November 16: Facebook will work with more third parties to ensure the integrity of their metrics after they miscounted publisher performance.

November 19: In response to post-election pressure, Mark Zuckerberg addresses **Facebook**'s role in fake news.

November 21: Instagram Stories introduces Live Stories for live video streaming.

November 22: To be allowed into China, **Facebook** built a censorship tool into its platform.

December 5: Facebook, Microsoft, **Twitter**, and YouTube partner to address terrorism content online.

December 5: In an effort to combat misinformation, **Facebook** prompts users to report "misleading language."

December 5: Google updates its search bar so that there is no longer an autocomplete that reads "are Jews evil."

December 12: Facebook launches Live 360 video. Users can have a spherical view of live video.

December 14: Facebook begins talks with video producers and TV studios for original content.

December 20: Facebook launches Live Audio. Allows for formats like news radio.

December 22: Business Insider reports that **Twitter** inadvertently inflated video ad metrics.

2017

January 9: Recode reports that **Facebook** will allow mid-roll video ads, with 55 percent of revenue going to publishers.

January 11: Facebook announces the Facebook Journalism Project, to work with publishers on product rollouts, storytelling formats, promotion of local news, subscription models, training journalists, and, on the fake news front, collaborating with the News Literacy Project and fact-checking organizations. On the same day, TechCrunch reports Facebook agrees to censor content in Thailand at government's request.

January 11: Instagram Stories will now have ads, and insights are increased, as the platform hits 150 million users.

January 12: Snapchat releases a universal search bar.

January 17: Recode reports that **Facebook** will end Live video deals with publishers in favor of longer more premium video.

January 19: Snapchat will allow ad targeting using third-party data.

January 23: Snapchat updates publisher guidelines: content must be fact-checked and cannot be risqué, and will offer some an "age gate" and will require graphic content warnings.

January 24: Instagram makes Live Stories available globally.

January 25: News that Facebook begins testing Stories, like those on Instagram and Snapchat, at the top of the mobile app in Ireland. Facebook also updates Trending to show publisher names, identify trends by number of publishers and not engagement on a single post, and show everyone in a region the same content. In Thailand and Australia, Facebook will have ads like the ones that are in News Feed inside of Messenger.

January 25: Recode reports that more than 200 publishers have been banned from **Google**'s AdSense network to combat fake news.

January 26: Facebook's News Feed algorithm will reward publishers/videos that keep people watching and mid-roll ads won't play until 90 seconds.

January 26: Twitter's Explore tab will allow users to see trends, Moments, Live, and search.

January 30: Twitter's VP of engineering announces an effort to combat harassment.

January 30: Snapchat announces IPO.

January 31: Facebook updates the algorithm to prioritize "authentic" content and will surface posts around real-time/breaking news. Facebook also announces new and expanded partnerships with Nielsen, ComScore, DoubleVerify (for a total of 24 third-party entities) to give better insights into performance of ads.

February 1: Instagram introduces Albums feature in limited release. Widespread release later in the month.

February 2: Snapchat IPO documents show that media partners were paid \$58 million, and that Snap-sold ad revenue was 91 percent.

February 6: Google allows for AMP articles URL to indicate publisher and not just Google.

February 6: News surfaces that a Syrian refugee identified as a terrorist pursues legal action against **Facebook** on grounds of "fake news."

February 7: Twitter continues efforts to combat harassment and improve quality, by "stopping the creation of new abusive accounts, bringing forward safer search results, and collapsing potentially abusive or low-quality Tweets."

February 10: Facebook further pushes for transparency around ads and says it will allow for a third-party audit.

February 13: *The Washington Post* joins **Snapchat** Discover as Discover shifts to allow for breaking news.

February 13: TechCrunch reports that **Twitter** will reduce its support for ad products that are not drawing advertisers.

February 14: Facebook announces an app for Apple TV and Amazon

Fire that will allow people to watch Facebook videos on their TVs. Also, autoplay videos on **Facebook** will play with sound.

February 14: Google pulls two anti-Semitic sites off its ad platform.

February 16: Mark Zuckerberg writes a nearly 6,000 word manifesto, "Building Global Community," on the future of **Facebook** and global civil society.

February 17: Facebook invites media companies to its offices to talk about products to come throughout the year.

February 20: Facebook allows users to send photos and videos from the in-app camera.

February 20: WhatsApp launches Snapchat clone, Status.

February 23: Mid-roll video ads begin on Facebook, following an announcement in January.



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