I want to shoutout my Disabled brothers, sisters, & non-binary folks! W/ #DisabledAndCute
In May 2017, Keah Brown published an essay in the black fashion/beauty/lifestyle magazine *Essence* where she wrote, “There are three things I never thought I’d be: tall, successful, or cute. . . . I assumed they were impossible because I was just a Black girl with a disability who thought she would never be worthy of anything.” Brown has cerebral palsy, which affects her motor skills and coordination. Her disability gives her weakness on the right side of her body, and it bothered Brown that she couldn’t put her hair up into a ponytail by herself the way her identical twin sister or friends could.

But it turned out that 2016 was a pretty good year for Brown professionally, with several major magazines publishing her essays, and Twitter giving her the treasured blue check mark showing she was important enough to be verified. Around the same time, Brown says she looked into the mirror and decided that she liked who she saw, that she felt cute. The feeling stayed with her, and so on February 12, 2017, she created the hashtag #DisabledAndCute. Once Brown tried out the hashtag, lots of other people with both visible and invisible disabilities started posting the tag, often with photos of themselves. While Brown started the hashtag on Twitter, it quickly spread over to photo-sharing service Instagram, where as of this writing it has been used more than twenty-nine thousand times. (Which shows us Secret 3—Everything from the margin moves to the center.)

“The hashtag went viral, and magazines I had never felt beautiful enough to belong in, like *Shape*, *Cosmopolitan*, and *Allure*, to name a few, were suddenly interviewing me,” Brown wrote.

But not everyone in the broader disability community was happy with the tag. Brown writes, “[S]ome members of the community were upset with my use of the word ‘cute’ because the word can be very infantilizing when non-disabled people call us cute when we do anything.” As is almost always the case in social media, some started attacking Brown. She wondered whether she had done the right thing. Could she have chosen a better word? And then she realized she couldn’t make everyone happy. She says she chose cute rather than sexy or fine because that was the word she felt described her.

The photos in the initial wave of posts showed young people with a wide range of disabilities, some visible, some not. Alice Wong, who tweets as @SFdirewolf and is part of the Disability Visibility Project, had a hip-hoppy image of herself wearing a breathing mask in front of a graffiti-painted wall with the caption “Here’s my fierce take on #DisabledAndCute.”

Brown’s hashtag has had a positive effect across the online disability community. Dayna Troisi was born without a left hand. Since blending in was never really an option for her, she never really tried, adopting an all-black “goth chic” look. But throughout her teens and early twenties, she says she was frustrated with people who, in trying to compliment her, ended up insulting her by saying she was “still pretty” with her bionic prosthetic hand. “It was when I saw Keah Brown’s hashtag #disabledandcute that something clicked for me. . . . It wasn’t disabled BUT cute, it wasn’t cute BECAUSE disabled. It showed that we can be both disabled AND desirable. . . . The most important part of the hashtag is that we get to decide to participate. We pick the pictures. We pick the caption. We can decide how the world sees us.”

Another example is Shruti Rajkumar, a Connecticut native whose family is from India. For her senior prom, she dressed in a traditional *lehenga choli*—an embroidered skirt with a midriff-baring blouse—and then decorated her forearm crutches with flowers. When she posted her photos on social media, they were with the #DisabledAndCute tag.
Of course, #DisabledAndCute is not the only body-positive/disability hashtag on social media. YouTuber and disability activist Annie Segarra is a wheelchair user who started the hashtag #hotpersoninawheelchair after she saw an old tweet from seventy-four-time Jeopardy star Ken Jennings that read, “Nothing is sadder than a hot person in a wheelchair.” The hashtag then spread with other Twitter users, including Australian para-athlete Robyn Lambird, sharing their photos. Lambird treated the tag as not just a statement of affirmation but a response to critics. In an Instagram post, she also included the tags #allbodiesaregoodbodies, #cripplepunk, and #babewithmobilityaid. (If you start searching for some of these tags, be forewarned. Some of them will include marginally NSFW posts.)

Brown says her body positivity movement involves a range of issues including size, race, gender, sexual orientation, and age, as well as disability.

She is using the hashtag as “a conversation starter between the disabled community and the mainstream media.” Brown argues that disabled people, and especially disabled people of color, tend to be marginalized by the media with very sparse representation. A study released in 2016 showed that 95 percent of the characters with disabilities in the top ten TV shows are being played by able-bodied performers rather than actors who actually have the disability. One recent notable exception was 2018’s surprise hit horror film A Quiet Place, starring deaf actress Millicent Simmonds as a deaf character living in a postapocalyptic world where you have to remain perfectly quiet or risk being eaten by monsters. Simmonds is from Utah and lost her hearing as a baby.

In December 2017, Brown sold her first collection of essays, The Pretty One. Her publisher, Atria, said the book will “explore what it means to be a black woman with cerebral palsy living in an able-bodied, white-centric society.”

The internet is in the process of establishing itself not just as a new medium of mass communication, but also as one where individuals can easily respond to what they see and hear. On the internet, the lines between the sender and receiver are increasingly blurred. You can play video games online, you can watch other people play video games, and you can even interact with other people as you watch them playing video games. In this chapter, we look at the origins of the internet, how it has changed from its original government roots, how it has evolved from a tool for computer sharing into a major new mass medium, and how it has caused social change everywhere from the corporate boardroom to the Middle East.

The Development of the Internet

SECRET 4 ► The internet is the most recent of the mass media. It is still rapidly evolving and changing, just as radio did in the 1920s and television did in the 1950s. (Remember Secret 4—Nothing’s new: Everything that happened in the past will happen again.) Like radio, the internet was not conceived initially as a mass medium. Instead, the first wide-area computer networks were designed to enable academics and military researchers to share data. But these early users soon found that the most useful benefit of the network was being able to send electronic mail to one another instantly.

Although the earliest components of the internet were in use by 1969, the net was limited largely to interpersonal communication until 1991, when Tim Berners-Lee released the World Wide Web as an easy and uniform way to access material on the internet. Since then, the internet has become a medium unlike any other because it is the only one that incorporates elements of interpersonal, group, and mass communications.

So what is the internet? A national panel on the future of the internet defines it this way: “The Internet is a diverse set of independent networks, interlinked to provide its users with the appearance of a single, uniform network.”

The net starts with the link from your computer to an internet service provider (ISP). For an ISP, you might choose AOL, a cable company, your telephone company, or possibly a small local company that sells internet service in one or two counties. The messages then flow from the
smaller links into bigger and bigger digital pipelines (the internet’s “backbone”) that carry millions of messages across the country. The backbone was initially a set of high-speed data lines controlled by the National Science Foundation as part of a replacement of its original network, but these lines have since been replaced by high-speed fiber-optic lines run by about a dozen major communication companies.

Packet Switching: Letting Computers Talk to Each Other

Today, people use the internet to communicate with other people, but the technology was originally developed to let computers talk to one another. In the early 1960s, researchers on both sides of the Atlantic Ocean were working on the problem of how to transfer information stored on one computer to another.

In 1964, engineer Paul Baran was designing a military communication network that could survive a nuclear strike. He sought to design a network in which every computer was connected to several other computers so that if one computer failed, an alternative route using different computers could be established. Baran’s second insight was that computers could break large messages into a number of smaller message blocks, or packets, which could be sent independently across the network. Packet switching, as Baran’s scheme came to be known, cuts messages into little pieces and sends them along the easiest route to their final destination (see Figure 10.1). The receiving computer starts reassembling the messages and asks for any missing packets to be resent.12

The U.S. Air Force was initially willing to implement Baran’s network, but AT&T, which had a monopoly on long-distance phone service at the time, refused to cooperate, so Baran put his idea on hold.13 Meanwhile, in England, researcher Donald Davies was working on a proposed public communication network. Davies and Baran, working independently, came up with remarkably similar notions for packet switching.14

ARPAnet

Eventually the U.S. military built the first nationwide packet-switching network. However, the network that was built was intended to serve the needs of academic researchers, not to survive nuclear war. The network was built by a farsighted division of the Pentagon called the Advanced Research Projects Agency (ARPA).15 In 1968, the contract to build the network was given to a Boston-based consulting firm on the condition that it be built in under one year. By the fall of 1969, ARPAnet connected four different institutions, and the first component of the
internet was running. As the hand-drawn map of ARPAnet in Figure 10.2 shows, the initial nodes were University of California–Los Angeles, Stanford Research Institute, University of California–Santa Barbara, and University of Utah. ARPAnet came online at about the same time as the first moon landing. Whereas Neil Armstrong’s “one small step” was noted throughout the world as one of the great achievements of humanity, no one outside of ARPA was aware that a new, world-changing medium had just been born.16

Connecting Incompatible Networks
As ARPAnet expanded to more and more universities, other networks were formed. Each of these small networks worked well in its own limited and defined sphere, but they couldn’t communicate with one another. How could they be linked together?

Creating the Internet’s Protocols. The answer came from work done by Bob Kahn and Vint Cerf. The pair envisioned a box, or gateway, that would serve as a translator for all the various incompatible networks. The individual networks would talk to the gateways using a common set of rules, or “protocols.” Their protocol was known as TCP/IP. TCP stands for transmission control protocol, which controls how data are sent out on the internet. IP stands for internet protocol, which provides the address for each computer on the internet. The term internet was coined in 1973 as an abbreviation for “internetworking of networks.”

Commercial Networks. As academics started making personal use of the internet, nonacademics became interested in computer communication and started buying access to network services through companies such as CompuServe, Prodigy, and AOL.17

The Next-Generation Internet. With all the public and commercial traffic flowing on the internet, next-generation networks are now under construction to serve the same purpose as ARPAnet—to provide academics and other researchers with high-speed links to computers around the world, especially the limited number of supercomputers. These new and improved networks have the potential to move data ten to twenty times faster than the conventional internet, given ideal conditions. Their primary advantage is that they make possible video and interactive applications that are of much higher quality. For example, students at medical schools in different parts of the country can view an interactive medical simulation simultaneously using the new network, something that would have been impossible with the older, slower lines. As of 2018, more than 562 member organizations, including universities, corporations, government agencies, and nonprofits, belonged to the Internet2 consortium, one of the leading next-generation networks, which connected to a broader, ninety-four-thousand-institution community spread across more than one hundred countries.18

What Are Online/Mobile Media?
With the coming of networks, and especially the internetworking standards, computers were transformed. Bob Taylor, who helped oversee the creation of ARPAnet, said,
“Computers were first born as arithmetic engines, but my own view . . . is that they’re much more interesting and powerful as communication devices because they mediate human-to-human communication.”¹⁹ The thing that makes computer-based communication so powerful is that it includes virtually every level of communication, from the interpersonal communication of email and instant messaging to the mass communication of the World Wide Web.

**Email**

Although its original purpose was the sharing of resources, the most important factor in the development of the internet was **electronic mail (email)**, defined simply as a message sent from one computer user to another across a network. Primitive email existed prior to the internet, but people could send messages only to other users on the same physical computer. There was no way to send a message from one computer to another.

In 1972, ARPAnet’s Ray Tomlinson wrote a simple file-transfer program that could send a message from one system to another.²⁰ When the software that operated ARPAnet was updated, Tomlinson’s email application was sent out over the net so that everyone would have the same materials. Tomlinson also created the form of address using the @ symbol. It was a way of saying, “This is a message for a person ‘at’ a particular computer.” The other reason was that the @ symbol did not appear in users’ names or locations. It was the one symbol that meant what Tomlinson wanted it to mean and that was not already in use.²¹ Even with all the growth online communication has undergone throughout the decades, email continues to be one of the most important online applications for the largest number of people, even if it isn’t as trendy as newer technologies.

**Texting and Direct Messaging**

Interpersonal communication on the internet has expanded beyond email through a variety of texting and “chat” services accessed through mobile phones or other mobile devices. These originated with text messages that could be sent using Short Message Service, or SMS. The protocol for sending these messages over mobile networks first went online in 1992, and by 2010, it was the most widely used application on mobile phones.²² While SMS is convenient and can be used as a way of connecting to numerous social media networks, there are also alternative ways of sending instant messages, or ways of engaging in instantaneous communication with others over online and mobile networks. The granddaddy of these was AOL’s Instant Messenger (AIM). At one point in the 1990s, it seemed as though AIM was everywhere. But as the former dial-up internet giant gradually lost relevance, it also neglected the development of its **instant messaging (IM)** product. On December 15, 2017, following a twenty-year run, AOL shut down AIM.²³ In the late 2010s, the two most popular apps in this category belong to Facebook—Facebook Messenger and the globally popular WhatsApp.²⁴ (You can read more about the rise and fall of AOL in Chapter 3.)

**The World Wide Web**

Until 1990, using the internet for anything more than email was a challenge. Information was scattered about in various places, with no easy way to access it. All that changed with the invention of the World Wide Web by British physicist Tim Berners-Lee. Berners-Lee, who built on the ideas of several internet pioneers, created the software that allows the internet to work as a medium of mass communication. He developed a system that is easy to use, allows users to access any type of information, and has a simplified single addressing system for accessing any document located on the web anywhere in the world.

**Predecessors of the Web.** The idea of the web dates back to the 1960s. In 1968, Stanford researcher Doug Engelbart staged a demonstration of his vision of an interactive computer. He used a pair of computer terminals in an “online” session that included word-processing
documents, hypertext documents, and live video images (sent over closed-circuit analog lines). Engelbart was ahead of his time and largely ignored, but his work was the first expression of what would come with the Macintosh, Microsoft Windows, and videoconferencing.25

Another early vision of the web, more philosophical than technical, came from Ted Nelson. Nelson described a form of “non-sequential writing” that he called hypertext—material formatted to contain links that allow the reader to move easily from one section to another and from document to document. The most commonly used hypertext documents are web pages.

Tim Berners-Lee and the Birth of the World Wide Web. When Tim Berners-Lee was a child, his parents owned a Victorian-era advice book called Enquire Within Upon Everything. What would it be like, Berners-Lee wondered, if there really was a book that contained everything you might want to know? In 1980, he made his first attempt to create such a resource by writing a program called Enquire to organize documents, lists of people, and projects on his computer. The hypertext program would let him find and connect any of his documents. Although Enquire was limited to Berners-Lee’s computer, the young British physicist thought about the possibilities of the program extending beyond his own computer to every computer in the world:

Suppose all the information stored on computers everywhere were linked . . . Suppose I could program my computer to create a space in which anything could be linked to anything. All the bits of information in every computer . . . on the planet would be available to me and to anyone else. There would be a single, global information space.26

Berners-Lee was never asked to create the web; he simply thought it would be a good idea for researchers to be able to find documents they needed regardless of which computer those documents resided on. In 1989, he returned to his Enquire idea and started writing the software for a system he called the World Wide Web, which allows users to view and link documents located anywhere in the world using standard software.

By 1990, the European Organization for Nuclear Research (CERN), where Berners-Lee was working at the time, had the first web server and a simple browser. (A web server is a program that makes web pages available on the internet. A browser is a program for viewing web pages.)

The World Wide Web has three major components:

1. The uniform resource locator (URL)—the address of content placed on the web. An example is www.mysite.com.

2. The hypertext transfer protocol (http)—the standard set of rules used by web servers and browsers for sending and receiving text, graphics, or anything else on a website. When you type http://, you are telling your web browser to use this protocol, or set of rules.

3. The hypertext markup language (HTML)—the programming language used to create web pages. It consists of all the tags (brief computer commands) that say how text ought to be presented, where graphics should be placed, and what links should be included.

Although the web has grown immensely in complexity since it was invented, these three basic elements remain central to how it operates.

Berners-Lee released the web software in the summer of 1991 on several internet newsgroups. These early users helped him test and debug the program and made suggestions for improvement, and the web started spreading around the world.
Whereas Berners-Lee developed the web on a NeXT computer system, the development of browsers for a wide range of computers was done on a volunteer basis by people around the world. These individuals were willing to share their work, but language barriers sometimes posed a problem. One of the early browsers had documentation only in Finnish. (You can read more about Steve Jobs and the NeXT computers in Chapter 3.)

The most surprising thing about the World Wide Web may be that it was developed almost entirely as a collaborative, nonprofit venture. “What amazed me during the early days was the enormous amount of free energy that went into developing that technology,” says Michael Folk, one of the early web developers. “People from all over the world contributed huge amounts of time and ideas in a surprisingly noncompetitive, collaborative way.”

A Vision for the Web. Although the World Wide Web has grown far beyond what anyone could have imagined and has changed immeasurably, it is still shaped by the basic vision of Tim Berners-Lee. His goal was to create a completely decentralized system for sharing information that would have no central hub. With no central control, the whole system could scale—that is, grow almost indefinitely—yet still work properly. Berners-Lee was looking for a system in which any computer could link to any other computer: “The power of a hypertext link is that it can link to absolutely anything. That’s the fundamental concept.”

The success of the World Wide Web illustrates one of the major strengths of the internet: Although users can buy a web browser or web server, the basic technology is free. According to Dave Walden, who worked on the original ARPAnet software,

[Berners-Lee] brought out something, he gave it to a few of his friends, they tried it, they saw that it was good, and he gave it away. It went all over the world. That’s how the World Wide Web standard came on the world.

The next time you go surfing on the web, look for evidence of the principles—openness and accessibility—on which it is based:

- Information of all kinds should be available through the same window, or information space. This means that you don’t have to use one program to look up phone numbers and another to find the news.
- All documents on the web must be equally accessible.
- There must be a single address that will take users to a document.
- Users should be able to link to any document at any space.
- Users should be able to access any type of material from any type of computer.
- Users should be able to create whatever types of relationships between information that they want to. It should be possible to link a document to any other document.
- The web should be a tool not just for information, but also for collaboration. It is designed for interaction, as well as publication.
- There is no central control of the web.
- The web software should be available free to anyone who wants to use it.
Bringing the Net to the Public. Before 1993, the internet and the World Wide Web belonged primarily to university and military personnel who had used ARPAnet. But in his history of the internet, Nerds 2.0.1, Stephen Segaller notes that three things happened during the early 1990s to turn the internet into a significant social force: The World Wide Web code was posted to the internet, commercial users were allowed onto the net for the first time, and the first easy-to-use graphical web browser was written and posted to the net. With these changes, the internet outgrew its military and research origins and became a public medium.

Mosaic. Although Berners-Lee had created a browser as part of the original World Wide Web, it was limited in terms of the computers it would run on, and it could not display anything other than text. Mosaic, the first easy-to-use graphical web browser, was created by a group of student programmers led by Marc Andreessen at the University of Illinois at Urbana-Champaign. The developers wanted to create a tool that would make it easier to find things on the internet and that would provide an incentive to put information on the web. As with the original web software, Mosaic was posted on the internet, free for users to download. More than one million users downloaded Mosaic in 1993 (the year it was released), and Andreessen, then twenty-one and a graduate, founded Netscape Communications.

Search as a Medium

The question of whether the internet’s search capability is a news medium is significant because various governments around the world want to put limits on internet searching. And companies such as Google, Microsoft, and Yahoo all seem willing to build limits into their portals as part of the price of doing business in countries that have more restrictions on free speech than the United States. Sometimes the censorship of searches is relatively noncontroversial, such as France’s attempts to make Yahoo filter out all references to Nazi paraphernalia.

But despite the fact that major tech companies would love to have access to the massive Chinese market, they are largely blocked from doing business there. Google was blocked starting in 2010 when it allowed Chinese users access to its uncensored search engine. Facebook and Twitter have been blocked since 2009, though apparently President Donald Trump was able to tweet during his visit to China in 2017.

Blogs

When Tim Berners-Lee created the World Wide Web, he viewed it not just as a convenient and inexpensive place to access published materials, but also as a forum where people could interact and create their own materials. “We ought to be able not only to find any kind of document on the Web, but also to create any kind of document, easily,” he wrote in his history of the web. “We should be able not only to follow links, but to create them—between all sorts of media. We should be able not only to interact with other people, but to create with other people.”

Blogs are in many ways a throwback to the early days of magazine publishing, when authors wrote without expecting to be paid. While there are subsidized blogs, the vast majority are run simply to give the writers a forum.

SECRET 2. I made the case earlier in this book that blogs can be almost as mainstream as what we consider to be the mainstream media. (Remember Secret 2—There are no mainstream media). One test of the importance of a news source is whether it is included in the LexisNexis online news database. LexisNexis is part of a giant subscription service that gives clients access to the full text of major newspapers, magazines, financial reports, and court documents. As of 2006, LexisNexis started including text from selected blogs, including NPR’s Planet Money economics blog and Goats and Soda, a global health and development blog.
Back in 2010, Brandon Stanton was a young bond trader working in Chicago. He had a semiprofessional camera and spent some of his free time taking photos around Chicago. Then he lost his job and suddenly had a lot more free time, so he started taking a lot more photos. “Instead of updating my resume and looking for a similar job, I decided to forget about money and have a go at something I really enjoyed.”

After traveling around taking photos in a number of U.S. cities, he moved to New York City with the goal of taking ten thousand portraits of ordinary people. Anyone who has tried going up to random people on the street and asking them if he or she can take their picture knows how hard that can be. The project came to be known as *Humans of New York*, and Stanton posted his best photos, along with a short caption/story, on Facebook and Tumblr. It took about a year, but finally he started getting followers, and talk. His blog got some positive comments from Tumblr founder David Karp, but the *Washington Post* says that most of the credit for *Humans of New York*’s fifteen million followers goes to Stanton himself.

In a 2014 speech in Ireland, Stanton said it’s all about being willing to just go up and talk to people:

The way I figured this out was just by doing it 10,000 times and getting beaten down, beaten down, beaten down. There was no way I’m the best photographer in the world, no way that I’m the best journalist in the world, but I have approached over 10,000 people on the streets of what is stereotypically . . . one of the colder cities in the world and have asked them for their photograph. So I’m thinking by about this time I might be just about the best in the world at stopping random people on the street and getting them to let me take their photograph.

Stanton’s blog posts take a standard format—they have a photo of one or two people along with a quote that tells a very short story about the person(s).

While *Humans of New York* clearly exists and is shared on social media, it also illustrates the importance of social interaction outside of the online component. As Stanton says, the thing that makes *Humans* such a success is not the brilliant quality of the photos or writing, but the fact that he is socially interacting with all these people. Karp says, “It’s become this community effort where people actually send in stories about the dude that makes them a bagel every morning who just always has a great story to tell or the dude with an epic mustache that I see walking down the street every day. They send in these stories about these people and Brandon goes, finds them [and] takes these gorgeous portraits of them, and uploads them with that story that led him to that person.”

Since his start in 2010, Stanton has traveled around the world taking *Humans* photos in a range of countries including Iran and Pakistan.

You can see the entire blog on Facebook or at www.humansofnewyork.com.
Berners-Lee’s original idea was that every web browser would also be an editor that ordinary people could use to create content as well as to view it—a vision that the early web browsers did not support. But the late 1990s brought a new development called the **weblog** (or **blog** for short), which is a collection of links and commentary in hypertext that can be created and posted on the internet with relatively little effort. Blogs can be public diaries, collections of photos, or commentaries on the news. They often also allow readers to comment on and annotate what the owner has posted.

A prominent example of the influence of bloggers came when Dan Rather, on the CBS newsmagazine *60 Minutes II*, reported on a set of memos that seemed to show that President George W. Bush’s superior officer had been critical of his service in the Air National Guard. The story ran a couple of months before the 2004 election, and it drew immediate criticism from the conservative blogs *Power Line* and *Little Green Footballs*. The bloggers pointed out inconsistencies in the typefaces used in the memos, suggesting that they looked more like the product of a modern word processor than that of a 1970s vintage typewriter. They also raised questions about the motives and honesty of the source of the documents. Criticisms coming from these and other blogs led to Rather stepping down as the anchor of the *CBS Evening News*.

Blogs have also given readers different perspectives on stories than they might receive otherwise from independent voices. Obsessed Apple blogger John Gruber runs *Daring Fireball*, which Recode.net calls “the world’s most powerful one-man media company.” Gruber publishes tech and business news about Apple, comments on related issues, and discusses whatever else he wants to. Gruber makes his decisions about what to write about based on the idea that his audience is himself. “It’s somebody out there who’s exactly like me and isn’t writing *Daring Fireball*,” he said. Everest and Himalayan climbing blogger Alan Arnette is one of the world’s leading sources on news about Himalayan mountaineering, and he posts daily updates during the peak climbing season. Aside from delivering information you would have a hard time finding anywhere else, Arnette uses his blog to raise money and awareness about Alzheimer’s disease. If you do a search on Arnette while people are summiting in the Himalayas, you will find him being quoted in newspapers from Minneapolis to Nepal to Borneo to London. (He’s also personally summited Everest and K2.)

### Podcasts and Streaming Media

The internet, through blogs, podcasts, and user-video sites such as YouTube, has opened up the options for long-tail news that doesn’t get out through legacy (or mainstream) channels. Take the concept of **citizen journalism**. Often when we talk about citizen journalism, we’re talking about a newspaper-like blog that posts reports about hyperlocal issues, such as neighborhood events or elementary school sports. These provide valuable alternatives to stories carried in traditional newspapers or on local television news. But they have more in common with the old-time community newspapers that ran stories about who had dinner with whom than with cutting-edge journalism.

But news video posted through sites such as YouTube can lead to amateur cell phone video having international implications. Following the disputed elections in Iran during the summer of 2009, a large number of protesters took to the streets. These protests were suppressed by police, who did not allow journalists to cover the events taking place. But that didn’t stop people from shooting cell phone video and then posting it to the internet.

One of the most dramatic examples of this was the news about the murder of Neda Agha-Soltan, a twenty-six-year-old Iranian woman who was studying philosophy and vocal music. Though accurate details about Agha-Soltan are scarce, the *New York Times* reported that she was engaged, valued freedom, and was killed while stopping to get some fresh air after driving home from a singing lesson. When she got out of the car near where protesters were marching, she was
shot by a sniper. Her death was captured on cell phone video. The person who captured the video emailed it to a friend, who then forwarded it to the Voice of America, the British newspaper the *Guardian*, and several other friends. One of those friends, who lives in the Netherlands, posted the video to Facebook. From there, it moved on to a report on CNN. All of this allowed the person who shot the video to bypass official Iranian censorship efforts to block internet, cell phone, and text message traffic.

The first use of the internet by the movie industry was to promote films through brochure-like web pages. Then came *The Blair Witch Project*, which showed how interaction on the web could draw in viewers (see Chapter 8). But this has evolved into the internet being used as the screening venue for short films. But now film sites on the web have become the minor leagues of the movie and television industry. Aspiring filmmakers first establish themselves with a short, low-cost internet film in the hope that someone in the industry will notice them. Of course, on user-generated content sites, such as YouTube, the short films can be beyond low budget.

Another thing the internet can do is air films that may be too avant-garde for conventional media. The streaming service Fandor serves up an eclectic mix of art house film, vintage B movies, and offbeat documentaries. But *New York Times* film critic Glenn Kenny says what really makes the streaming site stand out is its interesting menu structure. Look for action/romance, and you’ll see subchoices of “Martial Arts,” “Sword and Sandal,” “Wilderness,” and “Treasure Hunting.” The viewer can also search by running time of the movie or year of release. The choices here are clearly different from what pops up on Netflix or Amazon Prime. On the front page as this is being written is a promo for the 2007 New Zealand comedy *Eagle vs Shark* by Taika Waititi, who burst onto the world stage in 2017 with *Thor: Ragnarok*.

But, of course, as we discussed in Chapter 9, online is definitely the place for watching mainstream television and movie programming from services such as Netflix, Hulu, and Amazon Prime. Programs can be had through streaming video podcasts and digital downloads of movies and television shows through online services such as iTunes or Amazon.com. From there, users can view their video on computers, smartphones, tablets, or smart televisions. Back in 2000, Martin French, who worked for the internet film site MeTV, put it this way: “Let’s be honest, nobody wants to sit in front of the PC and [watch movies]. It’s not a comfortable position.” Obviously, people are willing to view video on their computers, tablets, and even smartphones. It is true that alternative devices have gotten better, but there is an ongoing cultural change on how people view video.

**Social Media: Sharing Our Lives Online**

**SECRET 1** Like so much of the media, social networks (also known as social media) are a central part of how we live (remember Secret 1—The media are essential components of our lives). While time and distance used to be barriers to communication, these can now be crossed with relative ease if you have access to some basic online technology, whether through desktop computers or mobile devices. We think of mobile phones as a transformational technology, but the social networks we can access through these phones can transform things even further.
What Makes Media Social?

What is a social network? According to researchers M. Chethan and Mohan Ramanathan, “Social networks connect individuals or groups over a common platform. Once connected, the human tendency to share information or chat (talk?) trivia becomes the driving force, creating a mind-boggling amount of information and traffic.”

What do social media have that makes them social? Chethan and Ramanathan write that there are five basic characteristics that make social media social:

- **User-created generated content**—Social networks aren’t websites where you go just to consume content; you go there to create it. This content can include written words, photos, podcasts, and streaming audio and video.

- **Comments**—The communication doesn’t just flow from one creator to other consumers. Everyone who is active on the social network is commenting on what others are posting. This interaction can range from extensive online debates to things as simple as “liking” a photo on Facebook.

- **Tagging**—People tag, or mark, photos and text in which they are featured. They can also tag ideas or keywords within their posts, such as the hashtags in Twitter. Although the hashtag is now seen as an essential part of Twitter culture, it was more than a year after the service started that the hashtag was first created as an organizing principle on social media.

- **Social networking**—People are able to share what they post online with groups of friends or like-minded people. These can be groups of friends on Facebook, stories on Snapchat, or followers on the simple blogging service Tumblr.

- **Customization**—People can make their social network pages unique. For example, on your Facebook page, you get to choose a small profile photo and a larger “cover” photo. On your Twitter page, you get a small “avatar” image, and you can set the colors and background.

Among the most popular social networks are Facebook, the giant of the field; microblogging site Twitter; the professionally oriented LinkedIn; and pinboard site Pinterest. A 2018 study of teen and twentysomething social media use found that Snapchat was the most popular social network at 28 percent, followed closely by photo-sharing service Instagram at 27 percent. Unsurprisingly, the study found that teens are more interested in sharing photos and video than text.

While we often think about social media as being primarily for recreational or social purposes, they can also be used by businesses and organizations for collaboration, public relations, and crowdsourcing—a fancy term for getting other people to do your homework.

Who Are Our Social Media?

**YouTube.** YouTube was founded by three friends who were early employees at Elon Musk’s internet payment company PayPal. When eBay bought out PayPal in 2002, Chad Hurley, Steven Chen, and Jawed Karim had their chance to try something new. The three got the idea for YouTube after a dinner party at Chen’s house where many of the guests, who were shooting video using video cameras or cell phones, wanted to share their videos.

“We found it very easy to share the photos with one another,” Chen says. “But when we tried to share the movies, and we tried to e-mail the movies, they kept getting rejected, bounced back . . . This was going to be more and more of a problem for different people.”
“We saw an opportunity to help people with video,” Hurley said. “People have access to devices that have video capability from digital cameras to cell phones and don’t have an easy way to share those clips with one another. So we went about simplifying this process to empower everyone with the ability to use video online.”

The following year, Google bought out the founders, and YouTube has grown into the biggest video-sharing site online. And while much of the content now is entertainment programming put up to make money with advertising, the roots of the social video-sharing site that it started as are still there. YouTube is considered to be the most popular social media network, used by 94 percent of people ages 18–24. (See Table 10.1.)

Facebook. As anyone who has seen the movie The Social Network knows, Mark Zuckerberg created Facebook while he was a student at Harvard back in 2004. As a child, Zuckerberg created a simple messaging program that solved the problem of how his father’s front office could announce that a dental patient had arrived. Instead of playing computer games, he created them, according to a profile of him that ran in the New Yorker.

While there is controversy as to who developed the idea of Facebook, there can be little doubt that Zuckerberg turned the concept into an incredibly popular tool for communicating with friends. He told journalist Jose Antonio Vargas (whom we will talk about further in Chapter 14) that when he was in college, he and his friends would speculate about how people would use the internet. “We’d say, ‘Isn’t it obvious that everyone was going to be on the Internet?’” he said. “Isn’t it, like, inevitable that there would be a giant social network of people? It was something that we expected to happen.” As of 2018, more than 68 percent of the American adults who were online were on Facebook, and more than 2.2 billion people were active on Facebook worldwide, making it far and away the biggest social network. Facebook differs from much of the web and has more in common with the old AOL than with the web in general. It is a “walled garden” where people can play games, share articles, and post cute videos of cats. Central to Facebook is the idea that advertisers will be able to reach exactly the consumers that they want to based on information people have shared on Facebook. I can’t be certain, but I’m pretty suspicious that the ad offering a good deal on the Blu-ray set of the Alien movies was targeted at people like me who are tagged as fans of director Ridley Scott. In any event, the ad worked. I ordered the set. (You can read more about Facebook and concerns over its privacy policies at the beginning of Chapter 3.)

Instagram. Instagram was born on July 16, 2010, and for all the photo-sharing site’s evolution and growth into a social media powerhouse, in some ways, it hasn’t changed that much. The very first post was by cofounder Mike Krieger with a filtered image of a marina shot through a window. The second was a workplace photo of cofounder Kevin Systrom. Later in the evening, there was a photo of beer and dinner, puppies, and people having fun for the evening. Everything except the selfie!

Instagram changed a lot over the following years, adding video, full frame as an option to the original square photo, and more and more and more filters. One important change has been the addition of tools to make it clearer when social media stars are putting up sponsored posts, where

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<table>
<thead>
<tr>
<th>Channel</th>
<th>Ages 18–24</th>
<th>All Adults</th>
</tr>
</thead>
<tbody>
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<td>YouTube</td>
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<td>73%</td>
</tr>
<tr>
<td>Facebook</td>
<td>80%</td>
<td>68%</td>
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<tr>
<td>WhatsApp</td>
<td>25%</td>
<td>22%</td>
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</tbody>
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Table 10.1

In 2018, Facebook announced that 1.3 billion people are using Messenger each month. The app that everyone hated when it was announced in 2014 is now one of the most used messaging platforms.
they are being paid to feature a product in their photo.\textsuperscript{57} The other big change happened in 2012 when Facebook paid $1 billion for Instagram. At the time, Instagram only had thirty million users and no revenue. Five years later, however, it had more than six hundred million users, and it is making significant income for its owners. It also paved the way for Facebook to buy the global messaging app WhatsApp and the virtual reality company Oculus.\textsuperscript{58}

Like Snapchat, Instagram is much more heavily used by young people than adults (see Table 10.1). Instagram users also are likely to visit the site frequently.\textsuperscript{59}

**Snapchat.** Snapchat is among the most popular social media channels among young people, but once you get out of that demographic, its usage falls away off. Among Americans ages 18–24, the instant message and photo-sharing service is used by 78 percent, but only 27 percent of the overall adult population uses Snapchat. To those who use it, however, it is incredibly popular, with 71 percent of its young users visiting it multiple times a day.\textsuperscript{59}

While Snapchat is wildly popular among young social media users, it’s had trouble making money. Part of the reason is that its stripped-down design makes it harder to use for those who aren’t on it several times a day. The app recently underwent a major, and somewhat controversial, redesign that simplified using the service. The design has been accused of making it look more like Facebook. Although Snapchat has a significant audience with 178 million global users, it’s still an order of magnitude smaller than the 2-billion-subscriber Facebook.\textsuperscript{60} New York Times reporter Kevin Roose writes that it was Snapchat’s differences from Facebook that always made it stand out, with its auto-disappearing photos and messages. It was, as Roose writes, “temporary instead of permanent, private instead of public, candid instead of rehearsed.”\textsuperscript{61}

Although Snapchat is seen heavily as a youth-oriented social media service, thirty-five-year-old California congressman Eric Swalwell, who live streamed a Democratic anti-gun sit-in on the House floor using Periscope, uses the app to connect with constituents. Unlike most politicians, Swalwell does his snapping himself rather than relying on his staff. Swalwell started sharing short videos, photos, and details about his daily life in a format where the material would be gone in a day as a way to connect with younger voters. “I realized that so many of our constituents were on Snapchat,” he told the Hill. “It wasn’t just young people, but their parents had figured out that’s where their kids are.”\textsuperscript{62}

**Twitter.** In 2006, three college dropouts developed Twitter, a medium that combines elements of mobile text messaging, online instant messaging, and a good dose of blogging. By 2017, it had more than 330 million people answering the question, “What are you doing?”\textsuperscript{63} Evan Williams, Jack Dorsey, and Biz Stone started the microblogging Twitter service as a project while they were working for the podcasting company Odeo.\textsuperscript{64} Twitter is designed to let people communicate with their friends, family, and coworkers using messages no longer than 140 characters. The little messages, known as tweets, can be delivered to your friends, your acquaintances, or anyone in the world who can be bothered to read them. You can send and receive tweets as emails, on Facebook, through a widget on a web page, or on your cell phone as text messages.

Technology consultant Charlene Li told the Sunday Times of London that Twitter can be valuable to businesses because they can use it to set up a two-way relationship with their customers, creating a sense of interaction. At a time when many consumers decide not to watch television commercials
A year following his election to the White House, real estate developer and former reality television host Donald Trump credited his use of social media, and Twitter in particular, for getting him elected. The president told Maria Bartiromo at Fox Business Network, “I doubt I would be here if it weren’t for social media, to be honest with you.” Trump said he liked using Twitter because he could respond immediately and directly to his critics: “So when somebody says something about me, I am able to go bing, bing, bing, and I take care of it. The other way I would never get the word out.”

Communications professor David Gerzof Richard says President Trump has made a major transformation, going to social media rather than news media to get his messages out. “President Trump uses the platform to tell his story, his way,” he said. “There is no editorial board, no fact checkers, no advisers, no filters—just a direct conduit to tens of millions of followers.”

Trump’s effective use of Twitter harkens back to the work of Canadian economist and media theorist Harold Innis who wrote back in the 1950s that new media that are biased toward rapid distribution of information rather than lasting a long time will tend to upset the social order. (You can read more about Innis and his ideas back in Chapter 2.)

President Trump’s most popular tweet of 2017 was of a video from 2007 that had Trump body slamming someone at WWE’s WrestleMania. The video had been altered so that the man Trump slammed had his head replaced with a CNN logo. The tweet was discussed on the Sunday morning talk show, and so it got amplification from the legacy media. President Trump wrote: “Why would Kim Jong-un insult me by calling me ‘old,’ when I would NEVER call him ‘short and fat?’ Oh well, I try so hard to be his friend—and maybe someday that will happen!”

The president’s use of a social media channel to handle much of his public communication has been controversial at a number of levels. In addition to his reputation for saying anything he wants to on social media, President Trump has had a history of blocking people who are critical of him. That means that not only does he not see what his critics post, but his critics can’t see or comment on his posts.

In May 2018, federal district court judge Naomi Reice Buchwald ruled that President Trump’s Twitter feed is a public forum, and so therefore he cannot block people from seeing or interacting with it. Judge Buchwald had previously suggested that if the president or other politicians did not want to see what critics were saying, they could “mute” them. Muting controls what the president would see but not what his followers would see. This has First Amendment implications because presidential tweets are likely official government communication that must be freely available to everyone.

In November 2017, for eleven minutes, a rogue Twitter contract employee disabled President Trump’s Twitter account on his last day on the job. While the president’s account was quickly restored, the company faced extensive criticism for allowing it to happen in the first place.

There have been suggestions that Twitter should block President Trump because some of his messages (such as the one apparently threatening nuclear war against North Korea) violate the company’s terms of service. But the company says it does not intend to block any world

(Continued)
leaders. In an unsigned blog post, Twitter said, “Blocking a world leader from Twitter or removing their controversial Tweets, would hide important information people should be able to see and debate. It would also not silence that leader, but it would certainly hamper necessary discussion around their words and actions.”

**WHO is the source?**

Who is Donald Trump? How does he differ from other people on Twitter?

**WHAT is he saying?**

What is President Trump saying on Twitter and social media? Why is what he is saying controversial?

**WHAT evidence is there?**

Should the president be able to block people on Twitter? Why or why not? Why is it different from you blocking someone you don’t like? Why does Twitter not control what the president and other world leaders post?

**WHAT do you and your friends think about this?**

Do you think that the president of the United States should be on Twitter? Why or why not? Is that an appropriate place for him to comment on world affairs or to criticize people he doesn’t like?

by fast-forwarding through them using their DVRs, they are still willing to receive messages such as electronic coupons. “Twitter is a great platform to push out those messages,” Li said. “I don’t mind Starbucks making an announcement on my Twitter page but I don’t want them in my inbox.”

In November 2017, Twitter made its biggest change to its microblogging service by doubling the maximum character count from 140 to 280. Twitter reports that the increased length did not cause most people to write longer tweets, but it did increase levels of traffic and engagement.

**Going Mobile**

The World Wide Web, which even in the age of mobile apps is still a major part of how we go online, is now nearly thirty years old. And over that time, our access to computers and computer-based media has changed dramatically. If we go back to 1983 in the years before the World Wide Web, a Harris poll found that 10 percent of adults had a home computer and that 14 percent of that small number had a modem to go online using a slow landline phone connection. (If you solve out that story problem, you find that 1.4 percent of American adults were online that year.) Tim Berners-Lee launched the earliest version of the web in 1989, and by 1995, 14 percent of American adults had internet access, primarily using dial-up. But perhaps more significantly, 42 percent of Americans had not even heard of the internet.

By the year 2000, 37 percent of us were online, but only 3 percent had the fast, always-on broadband connection. Broadband service, such as a cable modem from a cable television provider or a digital subscriber line (DSL) from a phone company, offers connections that are many times faster than dial-up service. But broadband offers more than just increased connection speed. With a broadband connection, subscribers are connected to the net whenever their computer is turned on. This means that they don’t have to download their email; it’s always there. It means that things such as online radio, instant messaging, and streaming video are easily accessible.

By 2018, 89 percent of American adults were using the internet in one way or another. But it’s that “another” that is transformative. More than two-thirds of Americans (68 percent) go online with mobile devices like smartphones or tablets. Beyond that, one-third of all cell phone owners say their mobile device is their primary way of going online. And in its own way, the move to mobile connectivity is just as revolutionary as the move from dial-up to broadband. For while broadband gave us “always on” connections, mobile internet gives us “anytime-anywhere” access to information.
Mobile Apps

Back in 2010, *Wired* magazine ran a bright red cover with large black type proclaiming “The Web Is Dead.” Chris Anderson, the same man who is responsible for the book *The Long Tail*, was arguing that the age of open-standard web pages was on the decline, leading the way to going online with specialized mobile apps. He wrote:

You wake up and check your email on your bedside iPad—that’s one app. During breakfast you browse Facebook, Twitter, and *The New York Times*—three more apps. On the way to the office, you listen to a podcast on your smartphone. Another app . . . At the end of the day, you come home, make dinner while listening to Pandora, play some games on Xbox Live, and watch a movie on Netflix’s streaming service.

You’ve spent the day on the Internet—but not on the Web.77

Now, in the second half of the decade, some of what Anderson predicted has come true. Apps are a big part of how we interact online. Especially a few apps like Facebook, Twitter, and Snapchat—our social media. On the other hand, much of our interaction online is done through the mobile web—scaled-back versions of websites designed to work on everything from a nine-inch iPad screen, to a giant seven-inch Samsung phone, down to the smallest four-inch smartphone.

Apps are clearly important, but they aren’t necessarily an either/or proposition with the web. The Pew Research Center’s 2018 “Digital News Fact Sheet” notes that all forty of the top digital news sites have a presence on Facebook, Twitter, YouTube, and Instagram.78

What there can be no doubt about is that mobile devices are becoming the dominant way of going online. Just look at where the money is coming from online. In 2015, of the top fifty newspapers, forty-four had more mobile traffic than desktop computers; of the top national TV news outlets, all eight of eight had more mobile than desktop traffic, and for the top forty digital native publishers (those that don’t have a legacy media component), thirty-eight had more mobile traffic.79

Video Games as Mass Communication

In my own media literacy class, I used to raise the question as to whether video games and video game consoles count as mass communication and whether they are a new mass medium. I think the answer is a definite yes, for a number of reasons80:

Video game consoles are media content delivery devices. The PlayStation 2 was a DVD player as well as a game console, and the PlayStation 3 was among the early Blu-ray players. Microsoft’s Xbox One is now pitching itself as a general-purpose media entertainment hub that can be used to stream television programs and movies, play video games, and stream video game play back onto the internet.81 Video games, like television shows or movies, have stars. They have mascots. The most prominent of these is Super Mario, who has been a force in the gaming world for Nintendo since 1981, but the list also includes characters such as Sonic the Hedgehog for Sega, *Pokémon*’s Pikachu, and *Halo*’s Master Chief for the Microsoft Xbox.

Video games are a new venue for advertising. Just like newspapers, magazines, and websites are funded by ad revenue, many game publishers are turning to the advertising world to help manage costs. Companies such as IGA Worldwide are devoted entirely to securing deals for companies to advertise in games, which have a near-perfect saturation in the eighteen- to thirty-four age market. When Barack Obama was making his first run for the presidency back in 2008, he advertised in video games—the first presidential candidate ever to do so.82 Video games, now more than ever, are the site of entire communities. One needs only to look to online-specific games, such as *World of Warcraft*, or to online versions of console games, such as
VIDEO GAMES AS A SPECTATOR SPORT

Video games are no longer just something you play. They are now a legitimate spectator sport. Back in the summer of 2014, a fish named Grayson captured the attention of gaming fans nationwide by playing the video games Pokémon Red and Blue on a Game Boy emulator using a motion sensor aimed at his fish tank. That a pair of technically oriented college students in New York would rig some equipment to allow their fish to randomly play a video game is not surprising. The fact that as many as twenty-two thousand people at a time would watch the fish play Pokémon using the video game streaming service Twitch is kind of amazing.

After some initial uncertainty, video game manufacturers have gotten on board with their games being streamed and viewed. In fact, the latest consoles from Sony and Xbox (Microsoft) are designed to stream on Twitch. In May 2014, stories originating in the entertainment press came out saying that Google was preparing to buy video game streaming service Twitch, but in the end, online retail giant Amazon bought the company for $970 million.

Twitch was founded in 2011 as an outgrowth of the live-streaming video site Justin.tv, and it now has more than 15 million daily viewers watching an average of 106 minutes of live gaming, and more than 2.2 million gamers streaming their play monthly. Amazon’s purchase of the video game streaming service is part of its larger commitment to gaming. It has an in-house gaming studio, and is one of the largest video game vendors in the world. (Note that while Amazon paid close to $1 billion for Twitch, legacy news provider the Washington Post sold for only $250 million to Amazon founder Jeff Bezos.)

Among the most popular games to watch streaming are the so-called battle royale games. What’s a battle royale? Video game streamer Aaron Blackman, whom you met back in Chapter 1, compares them to the competition in The Hunger Games, where one hundred players enter a digital arena to fight to the death until only one player or team is left standing. In the spring of 2018, the most popular of these was the free-to-play game Fortnite found on the PC, PlayStation 4, and Xbox One.

At the time, Blackman writes, the most popular Fortnite streamer was Tyler Blevins, also known as “Ninja.” A former pro gamer, Ninja had been streaming since 2011. His stellar play was noticed by Canadian rapper and fellow gamer Drake, and the two began to plan to play Fortnite one night. On March 14, 2018, the two began streaming Fortnite together without any fanfare or lead-up promotion. Word spread quickly about the matchup over Twitter, and the pair set a new record for concurrent viewing with 628,000 people watching the stream live. As the evening progressed, rapper Travis Scott and Pittsburgh Steelers wide receiver JuJu Smith-Schuster joined in.

Then in April, Ninja hosted a live night of Fortnite at the new eSports Arena at the Luxor Hotel in Las Vegas. Fans paid $75 to enter, and were promised a spot in two of the evening’s ten games. Ninja played in each of the ten games and paid $2,500 to the last player standing in each game. He also paid a $2,500 bounty to whoever killed his character in each game. The live stream on Twitch broke his old record with more than 667,000 viewers at its peak. As of late April 2018, Ninja had more than 202,000 Twitch subscribers, each paying $5 a month that gets split between Ninja and Twitch. That means that Ninja is making more than $500,000 a month to stream video games.

SECRET 3 ➤ Broadcast of live video game play isn't limited to long-tail channels like Twitch, however. In 2016, for the second year in a row, cable giant ESPN skipped showing traditional physical sports during prime time on an April Sunday night. Instead of showing an NBA game, viewers instead watched ten college students competing in the Grand Final round of the Heroes of the Dorm tournament, playing for a chance at free college tuition. The tournament began with more than four hundred teams from universities across the country, and ended with students from Arizona State winning up to $75,000 each in tuition for the rest of their college careers. Hulu is also streaming four eSports shows including commentary, tournament highlights, and competitions. Both Hulu and ESPN are interested in getting some of the attention Twitch is getting with the broadcast of eSports (that is, organized team competition in video games for spectators), thus illustrating Secret 3—Everything from the margin moves to the center.
Before you read this chapter, would you have considered video games to be a form of mass communication? Why or why not? In your mind, what does or does not make video games a mass medium?

WHAT are eSports?

WHO plays them?

WHO are the spectators, and how do they watch these games?

HOW big are the audiences for eSports?

HAVE you watched video game streamers? Who are your favorites? What games do you like to watch?

activate your interactive ebook to watch the Media Transformation video that accompanies this story!

the Halo or Call of Duty series. The concept of online communities has become commonplace today. Now, instead of gathering around the water cooler to discuss the latest news or entertainment item, people are using Bluetooth headsets to talk to friends and family while playing capture the flag or fighting bosses to help their character rise to the next level.83

Video games can be more profitable than the movies. In 2013, the controversial video game Grand Theft Auto V was released. It has sold at least ninety million copies at an estimated price of $60 a copy. That means over the last five years the game has earned more than $6 billion.84 Compare that with the movie global box office champ Avatar from 2009 that’s grossed nearly $2.8 billion. In fact, if you combine that with the global box office of the number-two movie, Titanic, which brought in $2.2 billion, Grand Theft Auto V still brought in more money.85 In 2015, the movie industry had a record year when it came to total box office dollars, hitting more than $11 billion for the North American market. This was a year with really big movies being released, including Jurassic World, Avengers: Age of Ultron, and Star Wars Episode VII: The Force Awakens. But video game software sales were $16.5 billion for the U.S. market. And that’s not including system sales—just the games themselves. Total video game revenue topped $23 billion. (As Fortune magazine notes, while sales of games systems are important, software sales are considered the best measure of success in the gaming industry.)86

Video games are protected by the First Amendment. A U.S. Supreme Court ruling in 2011 determined that states cannot pass laws that restrict the sale of video games to minors. (This does not, however, limit the right of the industry to set standards for who can buy which games.) The case Brown v. Entertainment Merchants Association struck down a California law that prohibited the sale of video games to minors that depict “killing, maiming, dismembering or sexually assaulting an image of a human being.”87 The opinion from conservative justice Antonin Scalia states that while these games may be disgusting, “disgust is not a valid basis for restricting expression.”

Given all this, it’s hard not to see video games as a mass medium or a form of mass communication. According to the Pew Research Center, 97 percent of teens aged twelve to seventeen play video games in one form or another, with fully 50 percent reporting having played “yesterday.” Of those who play video games, 86 percent play on consoles, 73 percent play on computers, and 60 percent play on portable game systems.88 Among adults aged eighteen and older, 53 percent play video games, and
21 percent play daily. Computers are the most popular place for older users to play video games; consoles are more common among younger players.89

Diversity and Representation in Video Games

Video games have traditionally not been a hot spot for representational diversity. The characters in games are typically portrayed as white, male heterosexuals (to the degree that sexuality enters into gaming characters). A 2015 study by media research company Nielsen (the folks who do the television ratings) found that lesbian/gay/bisexual/transgender (LGBT) and Asian American gamers feel that they have limited opportunities to create game characters who represent them in real life (IRL).95

Among LGBT gamers, 65 percent do not feel that all sexual orientations are given adequate opportunity for representation, while only 28 percent of heterosexual gamers feel that opportunity is lacking. Asian American gamers are much more likely to feel video game characters are not inclusive than are Hispanic, African American, and non-Hispanic whites.

Interestingly enough, LGBT consumers are slightly more likely to play video games than are heterosexual consumers, and Asian American consumers are more likely to game than all other ethnicities. For the percentages of various populations who play video games, see Table 10.2.

There are, of course, games that are exceptions. The Xbox series 
Saints Row
 has in some editions of the game allowed for a wide range of body diversity, including extensive variation in body weight and level of masculinity and femininity. Comic artist Kiva Bay, an obese woman who has a nonbinary approach to gender identity, writes that having the opportunity to truly create a character in an open-world game who really represented her was liberating and life affirming. She writes, “In Saints Row 2, I am not a hero. But I am me... And that’s a powerful feeling that I should get to have more often.”96

One game that has engendered a high level of controversy is the survival game 
Rust
. The game has always randomized character features such as skin color, limb length, and other characteristics we won’t get into here. All of the characters in the game, however, were male. That is, they were up until the spring of 2016 when the game designers gave many players a female avatar to play with, whether they wanted the gender swap or not.

Developers Garry Newman and Taylor Reynolds addressed the sometimes ugly complaints about the gender swap on their blog:

We understand that this is a sore subject for a lot of people. We understand that you may now be a gender that you don’t identify with in real-life. We understand that this causes you distress and makes you not want to play the game anymore. Technically nothing has changed, since half the population was already living with those feelings. The only difference is that whether you feel like this now is decided by your [game ID] instead of your real life gender.97

(We’ll talk more about gender and online conflict in Chapter 14.)

The Internet and Society

Despite having its roots in the world of military research, the internet works primarily to permit the independent use of computers. The earliest users of time-sharing computer systems, in

TABLE 10.2
Percentage of Consumers Who Play Video Games

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Users</th>
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<tbody>
<tr>
<td>LGBT</td>
<td>65 percent</td>
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<tr>
<td>Heterosexual</td>
<td>63 percent</td>
</tr>
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<td>Asian American</td>
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<tr>
<td>Non-Hispanic whites</td>
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<td>55 percent</td>
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<tr>
<td>Men</td>
<td>68 percent</td>
</tr>
<tr>
<td>Women</td>
<td>56 percent</td>
</tr>
</tbody>
</table>

which several people on separate terminals could share a single computer, started seeing these
large institutional computers as “theirs.” Stewart Brand, author of the Whole Earth Catalog,
said that users soon began to understand how they could use computers for their own purposes:

Kennedy had said, “Ask not what your country can do for you. Ask rather what you can do
for your country.” . . . Basically we were saying, “Ask not what your country can do for you.
Do it yourself.” You just tried stuff and you did it yourself. You didn’t ask permission.⁹⁸

This would become the rallying cry of the internet: Take control of it for yourself. This
attitude sent shock waves throughout the media industry because it transformed the model of
mass communication from one in which a minimal number of producers delivered news, enter-
tainment, and culture to a public whose choices were limited. Instead, it became one in which
consumers can choose for themselves what news they want to learn about, what movies they
want to see, what music they will listen to, and when they will do so.

This environment of uncontrolled information is not all bliss, however. Some critics point out
that the same giant media companies that dominated the older forms of media produce much of
the content available on the internet. Others complain that information on the internet is uncon-
trolled, unreliable, and often unsuitable for young people to view.

The Hacker Ethic

As a young man, Steve Jobs saw programming computers
as a way of rebelling against and controlling an increasingly
technological world. Jobs and Steve Wozniak, the cofound-
ers of Apple, built electronic “blue boxes” that let them place
long-distance phone calls for free by bypassing AT&T’s con-
trol system. Beyond allowing the two to steal phone service
and play an occasional prank, the boxes taught Jobs that tech-
nology could empower individuals:

What we learned was that we could build something
ourselves that could control billions of dollars’ worth
of infrastructure in the world . . . . We could build a lit-
tle thing that could control a giant thing. That was an
incredible lesson.⁹⁹

Jobs’s attitude embodied what is known as the hacker
ethic. The ethic is summed up in Steven Levy’s book
Hackers, originally published in 1984, before the internet was
a public medium and before many of the major internet tools,
most notably the World Wide Web, had been developed.
(Levy uses the term hackers to refer to people who like pro-
gramming computers and using them to their fullest poten-
tial. He prefers using digital trespassers to refer to people who
break into institutional computers. It appears, however, that
many of the “true” hackers are often also digital trespassers.)

SECRET 3 ► Understanding the hacker ethic is critical to understanding the development of the
internet because its values shaped so many of the new medium’s developers. Levy lists four key
principles of the hacker ethic:¹⁰⁰
1. “Access to computers—and anything which might teach you something about the way the world works—should be unlimited and total.” Hackers want to obtain programs, data, and computers, and they do not respect rules that keep them from these tools. They believe that they should be able to directly control any computer system they can find; what’s more, they believe that they can probably do a better job of running the system than the people who own it.

2. “All information wants to be free.” This translates into a disregard for copyright law. Hackers believe that all information should be available to anyone who wants to make use of it. This was at the heart of file-sharing pioneer Napster and user-video site YouTube. If you have music, photographs, artwork, writings, or programs on your hard drive, why shouldn’t you be able to share them? And if those same things exist on other computers, why shouldn’t you be able to access them? This idea of universally shared information is at the heart of Berners-Lee’s design of the World Wide Web.

3. “Mistrust authority—promote decentralization.” The hacker culture distrusts centralized bureaucratic authority. Bureaucracies hide information and make rules controlling who can have access to it. So the best way to keep information free is to keep it out in the open.

4. You should be judged by your skills and not by “bogus criteria such as degrees, age, race, or position.” On the internet, traditional measures of individuals, such as age, education, sex, or income, matter less than they do under most other conditions because people are able to create identities for themselves that may or may not correspond with their actual identities. In essence, this is an extension of the multiple roles and identities people have always had. You can simultaneously be a teacher, a parent, a spouse, and a child. On the internet, users can further extend their identities, changing their sex, race, and background.

The application of the values of the hacker ethic to the internet in general provides an example of Secret 3—Everything from the margin moves to the center.

Hacking the 2016 Presidential Election

One of the most enduring controversies over the 2016 presidential election is the role that Russian hacking played in the results of the election. As you may recall, Hillary Clinton won the popular vote by nearly three million votes, but Donald Trump won the all-important electoral vote 306–232. He did so because of the votes of eighty thousand in three states—Michigan, Pennsylvania, and Wisconsin. So the question of what may have affected that small number of votes looms large.

While the story of what happened during the 2016 election is still emerging, several things are relatively well understood:

- The Russian digital propaganda company the Internet Research Agency set up fake Facebook and Twitter accounts that attempted to promote messages of dissention on issues such as LGBT issues, race, immigration, and gun rights. Some of these accounts had actual people behind them while others were automated bots that republished and amplified news that matched their programming.
- Russian news organizations Russia Today (RT) and Sputnik spread false stories on social media both through regular messages and paid ads. Both organizations have now been banned from advertising on Twitter.
• Russian hackers broke into Democratic National Committee computer networks and stole thousands of emails and other documents. They then released this through websites they controlled and Julian Assange’s WikiLeaks. While these documents did not have any radical secrets, they did show the ugly infighting that occurs in every political operation.

• Russian hackers also broke into voter registration systems in thirty-nine states. While they attempted to modify some of the records, there is no evidence that they changed any actual votes.103

Figuring out what the Russians did is substantially easier than deciding what sort of effect the digital meddling had. *New Yorker* journalist Adrian Chen, often held up as an expert on the Russian hacking, writes that we should not overstate the effectiveness of the campaign by a group of Russians who barely spoke English. “[It] ignores people’s tendency to share information they already agree with; and it sees evidence, in the spread of that information among self-interested groups, of some grand design by a mastermind propagandist.”104

Election (and baseball) statistical journalist Nate Silver, at his *FiveThirtyEight* blog, cautions giving too much credit to the Russian hacking/interference in the election, writing that former FBI director James Comey’s letter to Congress coming out the week before the election about Hillary Clinton’s email investigation likely swayed more voters. (Does that number, 538, sound familiar? That’s the number of electoral votes there are in our presidential election system.) Silver argues that Russian interference is hard to track in terms of importance because it wasn’t just one thing. But mostly he argues that the Russian efforts were relatively small compared to the campaign as a whole. The Russian effort spent about $1.25 million a month, while the Trump campaign and associated organizations spent $617 million overall, and the Clinton campaign and her supporters spent $1.2 billion. Nevertheless, Silver notes that the themes of the Russian efforts matched those of the reasons that Clinton lost. The belief that Clinton was dishonest and untrustworthy were boosted by Russian-supported hashtags like #Hillary4Prison. The hacking of the Democratic National Committee’s computer network and the subsequent release of emails were also important.105

The Notion of Cyberspace

The word cyberspace is used extensively to describe the internet and the interactions that take place there. But the word predates common use of the internet and the shared culture it has created. The word cybernetics (from the Greek kybernetes, meaning “pilot” or “governor”) has been in use since 1948 to refer to a science of communication and control theory. Science-fiction writer William Gibson is generally credited with coupling the prefix cyber to the word space in his 1984 novel *Neuromancer*, although the authoritative *Oxford English Dictionary* (see Chapter 4) notes that Gibson originally used the word in a magazine story in 1982. Gibson defines cyberspace in this way: “Cyberspace is where the bank keeps your money. It’s where a long-distance telephone call happens. It’s this ubiquitous, non-physical place where increasingly a lot of what we think of as our civilization takes place.”106 Gibson sees cyberspace and the culture of the internet as an expression of the hippie ideals of freedom and self-expression: “Tired as I am with all the hype about the Internet and the info highway, I suspect that from a future perspective it will be on a par with the invention of the city as a force in human culture.”107

Broadening Our Online World

Before the 1900s, it was relatively easy to define community: The community was made up of the people you interacted with every day. But the growth of the mass media led to changes in our understanding of community. People no longer need to be face-to-face with each other to
Larry Tesler, who helped develop the idea of computer communities at the Xerox PARC research center and at Apple Computer, has said that when we were human beings in small tribes hunting and gathering, everybody you had to deal with was somebody you saw every day. We’re a species that’s based on communication with our entire tribe. As the population grew and people had to split up into smaller tribes and separate, they got to the point where they would never see each other for their whole lives. The Internet is the first technology that lets us have many-to-many communication with anybody on the planet. In a sense, it’s brought us back to something we lost thousands of years ago. So one reason I think the Internet’s taken off so fast is that we always needed it. And we finally have it.\footnote{108}

Is It Really a World Wide Web? When Tesler claims that the internet allows people to interact with others anywhere on the planet, he overstates the case. Worldwide, approximately 46 percent of the population has internet access.\footnote{109} In developing countries, that number can average 35 percent, compared to 82 percent of the population in developed nations.\footnote{110} But the spread of mobile technology is helping bring change. Sub-Saharan Africa has the lowest percentage of people online, with only 20 percent having access, but that represents a 111 percent increase since 2010. This growth is coming because people are now getting access via phones using mobile broadband. And that technology is allowing for the 40 percent growth rate in Africa. Companies like Facebook and Google are putting substantial effort into bringing inexpensive over-the-air internet services to poorer areas.

The Digital Divide. Even in the United States, access to a high-quality internet connection is not universal. Although there are not large systemic differences in access based on race and ethnicity, research by Pew shows that access to high-speed broadband connections go up as people’s education levels and income increase. Urban people are also more likely to have broadband than people in rural settings.\footnote{111}

Conflicts Over Digital Media

For all the benefits associated with the web, the new medium has been criticized on a number of fronts. For one thing, a great deal of material on the web is inappropriate for children. Another criticism is that web surfers give up their privacy when they visit certain sites. Finally, it is argued that people spend so much time with their virtual communities and friends that they forget about their real lives.

Controlling Content on the Web. The World Wide Web differs from all other media in that it is essentially an open forum where anyone can publish anything. More importantly, anyone can access anything he or she wants to. Because of this lack of control, unsupervised web surfing is not particularly suitable for children. As computers and the internet came to classrooms in the 1990s, parents and teachers became concerned about the possibility of students viewing pornography, hate speech, or even instructions on how to build a homemade bomb.

One solution to this problem is the use of filtering software, which can block access to certain kinds of material. This approach has been successful to a degree, but no filtering scheme can
block all offensive material and still allow access to a full range of sites. For example, in 1998, the Loudoun County, Virginia, public libraries installed filtering software. The software successfully blocked pornographic material, but it also blocked sites with information on sex education, breast cancer, and gay rights. The fundamental problem with trying to control information on the net is that the network of networks was designed specifically to overcome blocks and breakdowns. Once information is on the net, it is virtually impossible to stop it from spreading. Net pioneer John Gilmore summed up the issue neatly: “The Net interprets censorship as damage and routes around it.”

Privacy and the Web. A consumer walking into a conventional bookstore can wander from aisle to aisle, picking up titles of interest. After leaving the store, no one knows what books the consumer looked at. But when that same consumer shops at the online bookstore Amazon.com, the store keeps track of everything looked at. The Amazon software will then make recommendations to the shopper according to previous searches and purchases. Is this a great convenience or a serious loss of privacy?

Web users give up their privacy every time they go online. Each time they fill out a form, join a group, or buy something, information (name, address, interests, etc.) is stored so that the owner of the site will know more about its visitors. Websites create tiny files called cookies to identify website visitors and potentially track their actions on the web. Cookies may identify users so that they don’t have to reenter their names and passwords. Or, as Amazon’s cookies do, they might keep track of which types of items a visitor likes to look at. Cookies are generally designed to assist users as they visit one particular website, but they can also be used to track users’ web-surfing habits or to provide evidence of what sites they have visited.

Website developers can use cookies to tailor sites to a particular visitor. For example, a news site could use information from a cookie to provide the scores of your favorite teams, quotes for the stocks in your portfolio, or reviews of the style of music you like. This tailoring to individual tastes could take a more sinister cast, however. Web creator Tim Berners-Lee speculates that cookies could even be used to tailor propaganda to match the biases of the viewer:

Imagine an individual visiting the webpage of a political candidate, or a controversial company. With a quick check of that person’s record, the politician or company can serve up just the right mix of propaganda that will warm that particular person’s heart—and tactfully suppress points he or she might object to.

Convergence of Old and New Media

There is lots of talk these days about convergence and new media, such as why the web will replace the old dead-tree media (newspapers and magazines), broadcast media, and other formats as the main source for news. New media synergy, we are told, will bring together the depth of text with an abundance of photos, audio, and video. You get all of the advantages of the old media in one package.

There are signs that this is happening. NPR (formerly National Public Radio) launched its new NPR.org website in July 2009 with the goal of enabling journalists to present photos, video, audio, and written stories to go with streaming copies and transcripts of all the stories that have aired on NPR since May 2005. The site also makes these resources available on mobile media such as the iPhone and Android.

Convergence is also delivering media that wouldn’t be available otherwise. As will be discussed in Chapter 15, the Arab news channel Al Jazeera started its English-language service in November 2006, but it had trouble finding any U.S. cable or satellite services willing to carry it. For the time being, Americans who are interested in watching Al Jazeera must do so primarily over the internet or using a mobile device app, though a few cable services started carrying it following the Arab Spring movement in 2011.
SECRET 7 ▶ Sometimes you get reverse synergy—the worst of the old and new media in one new package. A prime example of reverse synergy happened in 2008 when Bloomberg’s online financial news service posted a six-year-old news story about United Airlines (UAL) filing for bankruptcy. The story was true—it was just six years out of date. What happened was this: An undated story about UAL’s 2002 bankruptcy filing showed up on a Google search on “bankruptcy 2008” done by a reporter working for Income Securities Advisor. The story from the South Florida Sun-Sentinel dated back to December 10, 2002, when UAL did file for bankruptcy. The reporter who performed the search posted the story to Bloomberg News. In response to the story, investors started dumping their shares in UAL, dropping the stock from $12.17 a share to approximately $3 a share. Not realizing what had happened, UAL was baffled by the tanking of its stock, but it quickly posted an online denial of the story. By the time the market closed, UAL stock was back up to $10.92.

What can we learn from this? Think about Secret 7—There is no “they.” The story that sent the stock price crashing was a single story from a single website. Wouldn’t you think that if a major corporation had filed for bankruptcy twice in six years the story would be playing on every major news site, not just a single Florida paper that had no local connection to the story? At the risk of oversimplifying things, the story was posted because someone—a “they”—said it was so. This resulted in a huge destruction of wealth, albeit a temporary one, because of a story that had no truth value and apparently was posted completely by accident.

Everything Is Data

We are moving into an age where more and more media are delivered digitally. And that means we will be moving away from old channels like cable television, paper, or cellular phone service and moving into the use of data services.

Think about it—how often do you come close to using up your allocation of cell phone minutes? Maybe you don’t even have a limit on minutes anymore. The same is likely true of text messages (i.e., SMS).

But what about when it comes to data? Ah, that’s a different story. How long do you get into the month before you start getting warning notes from your provider that you’ve used 50 percent, 75 percent, or 90 percent of your data allocation? Of course, your mobile provider is always quite happy to sell you another bucket of data . . .

Think about all the things you use data for on your mobile device: streaming audio and video, social media, games, maybe even a little old-school email. You might also be sending photos and video back upstream through Snapchat, Instagram, or Periscope.

If you’re on an iPhone, you likely burn through a lot of data using FaceTime to make your audio and video calls (though if you’re smart about it, you’re using Wi-Fi whenever possible). And everyone is burning through data one way or another with Skype.

Over in the world of the television, we are seeing this transformation as well. Right now, at least if you are old, you think of TV as something that comes in through cable or down from the skies via satellite. If you’re really old (or poor), you think of it as something that comes in over the air through an antenna.

But as we discussed in Chapter 9, increasingly we are getting our video programming from streaming services. When I ask my students about the most recent programming they watched on television, the most common answer (with the possible exception of the World Series broadcast) was Netflix. Now Netflix is a streaming service that you get over the internet using data. Netflix is just one of many sources of streaming video: Hulu, CBS’s All Access, Amazon Prime, and the list goes on.

Apple has offered a streaming box for several years called the Apple TV that the late Steve Jobs used to refer to as a hobby. But with the release of the newest version of it, Apple seems to be taking it much more seriously—with the idea that the new Apple TV could serve as a substitute to your cable or satellite service—assuming you have a big bucket of data to support it.
CHAPTER REVIEW

CHAPTER SUMMARY

The internet arose in the late 1960s out of efforts to share expensive computer resources provided by the military to universities across the United States. The initial network, called ARPAnet, went online for the first time in the fall of 1969. The network operated using packet switching, a method of transferring information that breaks down messages into small packets that are transmitted separately across the network and reassembled once they are received. Through email and file sharing, ARPAnet soon became a tool used by academics to collaborate and communicate across the country.

As the number of incompatible networks grew in the 1970s, Bob Kahn and Vint Cerf developed the TCP/IP protocols that allowed the networks to communicate with each other. In 1983, ARPAnet started using the TCP/IP protocols. This is commonly seen as the true beginning of the internet.

The internet is unique among the mass media in allowing interpersonal communication through email and instant messaging and group communication through email, instant messaging, SMS, the World Wide Web, search, mobile apps, blogs, podcasts, and streaming media.

The World Wide Web was developed in 1989 by British physicist Tim Berners-Lee while he was working at the European Organization for Nuclear Research in Switzerland. His goal was to produce a decentralized system for creating and sharing documents anywhere in the world. The web has three major components: the uniform resource locator (URL), the hypertext transfer protocol (http), and the hypertext markup language (HTML). Berners-Lee published the code for the World Wide Web on the internet in 1991 for anyone in the world to use at no cost.

A growing part of online interaction is through social media, which is defined as media that allows for user-created content, comments, tagging, and social networking.

Video games are an emerging part of modern mass media that have been recognized by the U.S. Supreme Court as deserving full First Amendment protection. In addition to being a popular activity, video games, in the form of eSports, are also a spectator event now.

The internet in general and the web in particular were based on a set of values known as the hacker ethic. This ethic holds that information should be freely distributed and that individuals should have as much control over computers as possible.

The World Wide Web has turned the internet into a major mass medium that provides news, entertainment, and community interaction. The web offers a mix of content providers, including traditional media companies, new media companies offering publications available only on the web, aggregator sites that offer help in navigating the web, and individuals who have something they want to say.

The web has been criticized for elevating rumors to the level of news, making inappropriate material available to children, collecting private information about users, and creating a false sense of intimacy and interaction among users. This can be seen with the Russian hacking of the 2016 U.S. presidential elections.

Over the past several years, the transmission of media content has been moving from channels of legacy media into those of online digital media, allowing people to access content when and where they want to.

KEY TERMS

internet 258
packet switching 259
ARPAnet 260
TCP/IP 260
electronic mail (email) 261
instant messaging (IM) 261
hypertext 262
World Wide Web 262
uniform resource locator (URL) 262
hypertext transfer protocol (http) 262
hypertext markup language (HTML) 262
Mosaic 264
weblog (blog) 266
citizen journalism 266
social media 267
broadband service 272
digital native 273
eSports 274
hacker ethic 277
cookies 281
aggregator sites 283
REVIEW QUESTIONS

1. What was journalist Keah Brown trying to accomplish with her hashtag #DisabledAndCute?
2. How was our first nationwide interactive computing network built?
3. How does interacting online differ when you do it through an app rather than through the World Wide Web?
4. How are social media and mobile media connected to each other? How are social media changed when we use them with mobile devices?
5. If you were asked to defend video games as a medium of mass communication, how would you do that?
6. What does your author mean when he writes “Everything is data”? What kind of transformation is taking place in the legacy media industry as more media are transmitted digitally?

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