In 2016, Twitter turned 10. By the middle of that year it was claiming 313 million monthly active users, 82% of whom were using the platform on mobile devices. It had 3,860 employees, 35+ offices around the world, 79% non-US accounts, 40+ supported languages, and one billion unique visits monthly to sites where tweets are embedded. Although it was founded in the US, Twitter is very international, with large and active populations of users outside the English-speaking world including in Japan, India, Indonesia, and Brazil—and even to an extent in China, where the service is officially blocked.

In August 2018, the word “Twitter” appeared in the title of approximately 61,300 of the academic articles listed by Google Scholar, and it had been the principal subject of at least two scholarly books, with the number of publications still growing strongly. Twitter has been described as a “nervous system for the planet” and a “global newsroom,” hosting large amounts of
real-time data about social behavior and public communication. It has become the go-to site for journalists seeking to follow the flow of news. Its offering of massive amounts of tweets that can be computationally scraped and analyzed has given rise to whole new fields of social science and humanities research. Many journalists, academics, and politicians are virtually dependent on it as a social listening, professional dialogue, and public relations tool, and it is widely considered an essential component of civic infrastructure for emergency communication. The sense that Twitter matters to the world in such significant ways stands in marked contrast to its far more humble, mundane, and intimate beginnings.
Twitter was officially launched in July 2006. In its earliest incarnation, it was a very lightweight service for updating your friends about your whereabouts, thoughts, or everyday activities—as the early concept drawing for a “status” service by Jack Dorsey shows (see fig I.1). Its original intent, in other words, was to be of importance on an interpersonal rather than geopolitical scale. Before it was even called “Twitter,” let alone had its own company, the idea for the service was developed as a side project within Odeo, a startup focused on podcasting products. Its first version could be used through a website initially registered as twttr.com (see fig. I.2), which displayed all updates from all users in one public timeline and (in the US) via SMS on mobile phones—hence its original and once-defining limitation of 140 characters (leaving a buffer of 20 inside the hard limit of 160 characters per SMS).

Twitter had its effective coming-out party at the South by Southwest (SXSW) conference and music festival in March 2007,
where it cemented its place as the social networking site of choice for the influencers of the predominantly white, educated, and urban US technology community. At the conference, Twitter created buzz and encouraged use of their product by displaying live tweets from the event on plasma screens in the hallways between meeting rooms. The fledgling product team eventually took home the Web Award (in the Blog category) for that year. SXSW marks the moment of mass take-up for the tech community and Twitter’s first moment of mass hype. Gawker’s Nick Douglas reported that Twitter had “blown up,” with activity on the service jumping from 20,000 to 60,000 messages per day during the conference.6

The buzz reached us, too. We each created our own accounts in the first quarter of 2007. As people who study social life and the internet and who were already part of the blogging scene, Twitter had reached a level of importance that seemed to mandate our participation, or at least observation. Our own initial tweets reflect the site’s allure, the aesthetic of the quotidian status update, and what was, at the time, a typical uncertainty about what Twitter was for. Jean’s first tweet, posted from her original (and now private) account on 7 March 2007, was a direct and mundane response to the service’s original prompt question, “What are you doing?”:

hunched over my computer as usual. But happy that it’s raining outside!

Nancy’s, posted a week later on 14 March, was even more typical of first tweets in the early years of the platform:

Signing up for twitter even though I don’t think I want it.
Like Jean’s, Nancy’s tweet followed the standard syntax of a personal update, with the addition of reflexive ambivalence about signing up to yet another social media service—a recognition that, back then, there seemed to be a new one launching just about every day. Gradually, alongside our friends, colleagues, and Twitter-only acquaintances, we experimented with different forms, genres, and purposes of tweeting, and took part in on-platform discussions and, sometimes, arguments, about the platform’s emergent and competing norms.

Early on, there were debates about what using Twitter should even be called. In a sure sign that the service represented a new development in digital media, commentators experimented with various categories, with many calling it a “microblogging” service (as in Mark Glaser of Mediashift’s introductory Twitter and microblogging tutorial), some calling it a “social network” site, and others developing hybrid categories by virtue of comparison to existing services, like the then-popular MySpace or Dodgeball. Jason Kottke’s comparison of Blogger’s and Twitter’s early growth in the frequency of posts demonstrates our habit of trying to make sense of new phenomena using existing categories, even when they don’t quite fit. Twitter was not entirely unlike blogging, but it was definitely something distinct, something that didn’t yet have a name, and yet something which seemed to threaten the blog platform business.

With a minimalist interface, guided only by a prompt that encouraged the expression of personal real-time experience in compact form, Twitter’s ambiguity almost demanded that its users develop their own ideas about what to do with
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It. The earliest users, predominantly American technorati and bloggers—in other words, those already used to experimenting with and reflecting on their participation in new media—quickly developed and shared their ideas about how Twitter should be used. A form of public pedagogy emerged. Whether to help others out or gain attention as Twitter experts, bloggers wrote copious “what is Twitter, and how to use it” articles for at least the first few years of Twitter’s existence. Those posts that circulated on well-read blogs got the most attention. This meant that from the beginning, the public conversation about what Twitter was and what it should be used for was shaped significantly by tech influencers—mostly white, a lot of them men, and with technical expertise and professional identities tied up with journalism, software development, and especially blogging. A couple of years later, in the face of what seemed like a very deliberate attempt to shape Twitter’s communicative norms in certain directions, and with the recent release of Jonathan Zittrain’s book *The Future of the Internet—and How to Stop It*, we began joking (on Twitter) about writing a book called *Twitter: You’re Doing It Wrong—and How to Stop It*.

By mid-2007, the platform was receiving significant mainstream media and technology press attention. Politicians John Edward and Barack Obama were there by May 2007, as were leading international media outlets like the BBC, Al Jazeera, and the *New York Times*. Meanwhile, a wide and diverse range of communities, subcultures, and scenes were finding Twitter and making it their own—comedians, fans of popular culture, academics, and activists. In the US, one of the earliest, most visible, and—because it made non-white cultural practices so
obviously important—most attention gaining of these emergent communities was “Black Twitter,” which André Brock describes as the use of Twitter’s “rigid format to articulate Black discursive styles and cultural iconography [in a way that] subverts mainstream expectations of Twitter demographics, discourses, and utility.” In Australia, Indigenous cultural and intellectual leaders created innovative and culturally appropriate forms of media activism around the rotating @IndigenousX account (from which a different Aboriginal or Torres Strait Islander person tweets each week) and #IndigenousX hashtag, connecting Australia’s Indigenous communities with each other and with First Nations people the world over.

Attention from mainstream celebrities brought new users flooding to the platform. Oprah’s first tweet, posted live on her show, was a major moment, not only for the platform’s mass take-up, but for its presence as part of mainstream media culture. The event was beleaguered by technical difficulties and characterized by a touch-and-go atmosphere, feeding the mythology of the scrappy startup starting to make it big, while simultaneously revealing the company’s less than robust technical systems and processes in these early years. The service was notorious for its unreliable infrastructure. The problems were so pervasive that when the site replaced its jokey “LOLcat” images with Australian artist Yiying Lu’s illustration of a whale being lifted into the air by birds, the image became so familiar to users that the expression “Fail Whale” came into stand in for Twitter’s frequent outages, just as the “blue screen of death” came to stand in for crashes in the Windows computer operating system.
In these early years, Twitter reportedly went through stalled attempts to get acquired, involving talks and negotiations that came close to deals with Yahoo! in 2007 and Facebook in 2008, but with none of them coming to fruition, perhaps in part because of the difficulty the fledgling company had in articulating its purpose and vision. Twitter has an ongoing legacy of difficult relationships with other social media companies—impacting especially on the interoperability of Twitter with Facebook and Instagram. The service engaged in multiple experiments with possible business models (and multiple CEOs), coming to a head with its 2013 initial public offering of shares in the company to investors. Since going public, Twitter has retained a loyal core userbase and has grown steadily, particularly internationally, but it has consistently lacked the stratospheric year-on-year user growth demanded by investors and shareholders.\(^\text{16}\)

The device and app ecosystem for Twitter has also changed very significantly over its lifetime. Like the technical side of @s, hashtags, and retweets, the apps we use to access Twitter have evolved, and their evolution has influenced how we experience, use, and think about the platform. There are two distinctive phases in Twitter’s relationship with the third-party developer community. Initially, Twitter encouraged the development of apps that allowed people to access and use Twitter in different ways and on different devices, often delivering on ideas from the user community.\(^\text{17}\) Around 2009, as Twitter matured and began to get serious about issues like the consistency of its visual branding, it began to exert more control over these third-party developments, through changes made to its application programming interfaces (APIs)—the coded
instructions that tell one software application how to talk to another—and the developer rules associated with them. These changes significantly limited the entrepreneurial opportunities for third-party developers to build new businesses on the platform. A pattern began to emerge whereby Twitter bought up the third-party applications it wanted to incorporate into the platform, and locked the others out by changing the APIs and their rules.

These moves largely shut out third-party mobile app developers at the same time that users were migrating en masse to mobile devices. While user clients were the most visible face of this shutting out of third-party developers, it affected other services and tools originally developed outside the Twitter company itself. Examples include URL shortening services, image-sharing applications, and even search—the Twitter search function you use today was built on a third-party search engine developed by a company called Summize, which Twitter acquired in 2008.¹⁸

Indeed, the events of 2010 and 2011 emphatically mark Twitter’s turn away from the Web 2.0 “open innovation” paradigm (within which value is added by third-party developers, and the return on investment for venture capitalists can be deferred at least for a while), toward a centralized, advertising-driven one, within which the user experience and user metrics need to be contained and controlled. And, as we have written about elsewhere, the restrictions on APIs—the key protocols that enable and constrain uses of Twitter’s affordances and data by third parties—had a serious impact on data access for public researchers, too.¹⁹
Twitter’s Competing Cultures

From the start, Twitter was an enigmatic platform—open to multiple uses, populated by passionate insiders, but mysterious to outsiders. As we will see, some common values have emerged among diverse stakeholders, such as protecting the integrity of the feed, the capacity to organize users and conversations, and giving appropriate credit to the ideas of others. Yet Twitter’s meanings and role have always been ambiguous, and early usage patterns betray subtle but significantly different understandings of its purpose, the source of its potential value, and the kinds of relationships that were meant to be built and sustained between users. Amid all this diversity of uses, there has always been a particular tension between the idea of a simple social technology for updating your friends on the one hand, and an informational public communication platform on the other.

The original prompt for user updates (which could be performed via SMS or the website) focused clearly on real-time reporting of personal activity, asking “What’s your status?,” soon replaced with the more personal “What are you doing?,,” which remained in place for the first few years. The pitch to users was clearly focused on ambient intimacy—the mundane sharing and peripheral awareness of everyday experiences, thoughts, and activities among small groups of close friends or colleagues.

From the beginning, the founders had dreams of the platform going global, but, as related by journalist Nick Bilton in his book *Hatching Twitter*, two of the main drivers of the platform in those first years, Jack Dorsey and Evan “Ev” Williams, had
significantly different visions of the tool’s purpose and value. According to Bilton, it was Ev who pushed for the 2009 change to the tagline from the status update question “What are you doing?” to the more news-oriented question “What’s happening?” in keeping with his insistence that Twitter was an information network rather than a social one. “Twitter is not a social network, it’s an information network,” Williams told a crowd at SXSW in 2009 (as Nancy, who was in attendance, noted that she was doing it wrong). The change was reported in a Twitter blog post (authored by Biz Stone), constructing a narrative of progress from a me-centered, personal, and intimate Twitter, to a world-centered, public, and newsy one:

The fundamentally open model of Twitter created a new kind of information network and it has long outgrown the concept of personal status updates. Twitter helps you share and discover what’s happening now among all the things, people, and events you care about. “What are you doing?” isn’t the right question anymore—starting today, we’ve shortened it by two characters. Twitter now asks, “What’s happening?”

Twitter remains a site of uncertainty and contestation not only over what kind of communication it should be used for, but over the purpose and value of different kinds of human communication in general. Infamously, in the introductory post to marketing company Pear Analytics’ widely reported content analysis of 2,000 tweets from the public timeline, Ryan Kelly wrote:
A while back we embarked on a study that evolved after a having a debate in the office as to how people are using and consuming Twitter. Some felt it was their source of news and articles, others felt it was just a bunch of self-promotion with very few folks actually paying attention. But mostly, many people still perceive Twitter as just mindless babble of people telling you what they are doing minute-by-minute; as if you care they are eating a sandwich at the moment.24

While forming part of ongoing debates about the relative social value of everyday or personal communication, the wide reporting of this story by leading news outlets including the BBC, CBC, and NBC, and the enthusiasm with which they picked up the factoid that 40% of tweets were “pointless babble,” were also symptomatic of Twitter’s media representation at the time.25 In these first few years, Twitter was alternately hyped as the next new thing and dismissed as an oddity with at best marginal potential usefulness. As the media increasingly promoted Twitter’s diffusion and cited its apparent role in events such as the 2009 Miracle on the Hudson and later the 2010–2011 series of popular uprisings in the MENA region known as the Arab Spring, the discourse legitimized Twitter as a global news source with a role to play in serious, newsworthy events. Even then, however, they probably could not have imagined an American president issuing commands to his nation’s military via tweet.

Perhaps unsurprisingly, given that journalists tend to cover what they perceive as “newsworthy,” very few mainstream
media discourses ever offered any serious positive evaluation of Twitter’s function in everyday, interpersonal communication, self-representation, and sociability, despite robust research exploring these aspects of the platform and despite the significance of the convergence between personal and public communication that is social media’s basic founding principle and that constructs its “habitus.” The tensions that had been there since the beginning—between the mundane and the spectacular, the self and the world—that had always helped produce Twitter’s unique culture, where friendly chatter, food updates, and pet portraits mingled with election campaigns and world news events. But the discourses of professionalization and newsworthiness, as well as the turn to metrics of attention and engagement associated with the media business, have tipped the balance, changing Twitter, including the company’s own view of itself, in important ways. Pleasure and fun, once widespread, even defining qualities of the site, can now feel like acts of resistance.

Studying Platforms
In order to understand these changes, and more broadly how the contemporary digital media environment works, we need a systematic framework for framing and analyzing its dominant platforms. It’s tempting to view Twitter as a single “technology”—a static object that can be cast as a causal agent of societal change. A closer look reveals a more emergent, dynamic truth, one in which platform companies, their technologies, and their cultures of use co-evolve over time. To fully understand how these platforms change, we need
a strategy that lets us observe these complex relationships and processes. Yet despite their ever-present accessibility, platforms and the companies that provide them are closed to public oversight, making it difficult for outsiders to study and report on them, and even harder to preserve their histories—an increasingly pressing problem for researchers and archivists.30

In this book, we introduce an original approach to this challenge: the platform biography. While we apply it to Twitter, the model can be used to study other platforms and apps as well. In an era of tightening access to platforms’ data, the platform biography approach can be used and understood by researchers, students, and everyday users, without the need for privileged insider access to social media companies. Twitter’s story is part of a bigger one: the story of how our media environment has changed over the past ten years—sometimes dramatically, sometimes gradually, but rarely undetectably.31 In this book, we show how a multilayered approach centered on the changes in specific platform features can help us understand both changes in Twitter’s culture and changes in how the internet is organized, and in whose interests, over time.

When we call Twitter a “platform” in this book, we mean far more than either the back-end technical architecture that supports social media services, or the companies that provide those services. Rather, we understand platforms like Twitter to be made by the relations among a number of elements:

- “Frontstage” user interface and features (the box that invites you to post an update, the layout you see and actions you
can take when you use the Facebook website, a Google map, or the Instagram app)

• “Backstage” software, algorithms, and APIs (the combination of data and algorithms that power Twitter’s trending topics, the contents and ordering of an individual Facebook newsfeed, or suggestions of related YouTube videos to watch)

• The ecosystem of devices and services in which a platform is situated and connected (advertising networks, mobile phones and their operating systems and app stores, and the connections between your Spotify, Tinder, and Facebook accounts)

• Communicative or expressive content (Twitter jokes, YouTube videoblogs, or Instagram self-portraits, and the platform-specific ways these are shared)

• The practices and understandings of individuals and cohorts of users (including competing social norms about behavior or styles of communication, e.g., whether Twitter bots are a negative or benign presence on the platform; whether or not you should share your child’s baby pictures on Facebook)

• The aims, interests, and business model of the organization that provides the platform (the operations, strategies, and financial aspects of Twitter, Inc., as distinct from Twitter as a user experience or a social space; the growth and profit-motivated decisions of Facebook as distinct from the interpersonal and group relationships maintained there)

• Public discourse about and media representations of the platform (e.g., news stories about the importance of Twitter in the Arab Spring, or the dangers of selfie culture on Instagram).
Previous studies of digital media platforms provide powerful approaches for getting at each of these aspects, but it is very hard to get them all together in one place.

In this book, we use interviews, tweets, media reports, and historical artifacts like blog posts and screenshots to paint a picture of the constant and ongoing struggles among a range of internal and external stakeholders over the purposes, meanings, and value of Twitter. In particular, we map struggles between competing cultures of use in which informal, interpersonal sociality butts up against a focus on information, newsiness, and professionalism. We highlight how features invented by users to address their problems are ultimately appropriated by the platform to generate metrics that favor commercial logics and open doors to antisocial uses and manipulative practices. Although we focus on Twitter, the content, practices, data, and business arrangements we describe in what follows flow across platforms and are shaped in relation to the broader digital media ecology.

In doing so, we are contributing to a growing subfield of scholarship. Since the mid-2010s, digital media scholars have begun to engage in earnest with the sociotechnical aspects of platforms, combining software studies (which attends to the material and code layer of communication technologies) with political and cultural economy to explicate platform features. For example, Hallinan and Striphas\textsuperscript{32} undertook a detailed analysis of the Netflix content recommendation algorithms and their role in curating screen culture; Crawford and Gillespie\textsuperscript{33} explored the material and ideological aspects of content flags—the mechanisms for making complaints to a platform...
provider about bad behavior—highlighting how despite engaging users more in content moderation, these mechanisms also constrain user agency significantly; Postigo described how “technological features designed into YouTube” in service of the company’s business interests—for example, metrics of audience engagement—also come to influence the kinds of uses that are valued and focused on by creators; while Bucher analyzed how Facebook’s EdgeRank algorithm works to argue it creates a “regime of visibility,” which in turn results in a sensed “threat of invisibility” on our behalf as Facebook users, or “participatory subjects.” This work has helped to advance the field, enabling us to understand more about how platforms do what they do and the influence they have on society and culture, by getting in close to the complexity of particular digital objects and devices.

In their study of YouTube, Burgess and Green made an early attempt at the holistic study of a new digital media platform. They paid attention both to YouTube’s structural affordances and its cultures of use, using the methods of the medium itself to examine the ways it was remediating popular culture and communication (by undertaking a content analysis of the most popular content as measured by the platform). But the book’s first edition was a snapshot that didn’t provide an account of change over time, and beyond these metrics of popularity, it didn’t look in much detail at YouTube’s technical affordances or underlying architectures in relation to its emerging and evolving business model. The second edition goes some way toward engaging these topics, but the snapshot remains just that: the empirical work on how the platform constructs and reflects popular culture cannot be repeated because YouTube’s architec-
ture and affordances have changed fundamentally, so that the necessary data for comparison simply does not exist.

José van Dijck’s treatise on the emergence of a “culture of connectivity” across some of the major web platforms, including YouTube, Twitter, Flickr, and Wikipedia, is among the more magisterial attempts to bring together the sociotechnical, cultural, and economic aspects of social media. In her book, each platform is deployed discretely rather than comprehensively to discuss a particular aspect of the “culture of connectivity,” an umbrella term for what van Dijck elsewhere describes as “social media logics.” Social media logics apply across a range of platforms and structure our contemporary media and communications environment more broadly. The idea is that the ways that social media are coming to influence our society, economy, and culture have antecedents in Altheide and Snow’s concept of “media logic,” inspired in large part by the work of Raymond Williams on television. Media logic is understood by van Dijck and Poell as “a set of principles or common sense rationality cultivated in and by media institutions that penetrates every public domain and dominates its organizing structures.”

Building on this model, van Dijck and Poell argue that social media has started to escape the bounds of its original institutional and everyday contexts and affect many other areas of life. Van Dijck and Poell propose that social media logic is spreading throughout society as social media become more ubiquitous and embedded in our lives beyond social networking and everyday status updates—impacting the mainstream media through news and journalism practices, and beyond them to politics and activism. They identify four grounding principles
of social media logic: programmability, popularity, connectivity, and datafication. In Twitter’s biography, we see how the platform has embedded and institutionalized these principles.

But while van Dijck and Poell do note the two-way character of programmability, where users have significant agency and input into content generation, curation, and popularity, this theoretical model is still missing a sense of platforms’ rich cultures of use—how they are given form and meaning through everyday life, and through the practices of diverse individuals, communities, and publics. Indeed, as our telling of Twitter’s story argues, these principles became code in large part through haphazard, emergent, iterative processes in which the users were crucial actors.

The approach we take to how Twitter changed from an intimate messaging service to whatever it is now builds on this model: the platform (as a business and a technology) and its cultures of use shape each other over time. But actually observing this mutual shaping, either as it’s happening, or afterward, is challenging. As LaFrance and Meyer write:

> Everything we know from experience about social publishing platforms—about any publishing platforms—is that they change. And it can be hard to track the interplay between design changes and behavioral ones. In other words, did Twitter change Twitter, or did we?

As social media platforms like Facebook, YouTube, and Twitter have survived the decades, they have become attached to coming of age narratives. They have grown up, as the story often
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goes, from rough-and-ready beginnings to become mature companies, transforming themselves from silly or trivial internet technologies to serious and important media platforms. Facebook’s mantra of “move fast and break things” worked for its childhood, but when it turns out that democracy might be among the things it breaks, the mantra doesn’t seem so great anymore.

In another example of this “growing up” narrative, Richard Rogers has described the process of Twitter’s “debanalization” as an object of research, by which he means it has transformed from an apparently trivial website to a more mature news sharing platform, thus becoming a source of meaningful research data. This framing of an early, everyday Twitter as “banal” (a pejorative term for the ordinary and everyday), later growing into a more newsy, and hence more significant, platform, is no accident. Society’s most powerful institutions—like media organizations, academia, and technology companies—tend to value media and communication forms and practices that reinforce their own legitimacy. This means that they tend to frame political activism, science, and newsgathering as important and worthy uses of social media, while engagement with popular culture, everyday life, and personal relationships are framed as “banal” and even unhealthy.

Over time, the overvaluing of these kinds of public communication and the devaluing of everyday, personal ones have had a serious impact on Twitter’s design and cultures of use. Our take on Twitter’s “debanalization” is that the shift to an emphasis on news, information, and media over the emphasis on supporting the ambient intimacy of interpersonal connection
opened the doors to the problems of Twitter’s later years, including the bots, disinformation campaigns, and other appropriations of its affordances to influence nations and politics on scales it could never have comprehended in its infancy.

José van Dijck tells a different story, but it is an equally familiar one. In her account, Twitter’s story is that of a fall from grace. Van Dijck describes Twitter’s “interpretative flexibility” in its early years—a state where (almost) anything seemed possible, in which the potential uses, purposes, and configurations of Twitter were relatively open to experimentation and contestation. But more broadly, she situates Twitter as a key player in a story of the corporate takeover and enclosure of the relatively open and participatory culture of the web. Many of the prototypical social media services built on the technical and ideological foundations of Web 2.0 in the early 2000s began as small-scale “indeterminate services for the exchange of communicative or creative content among friends,” often without a clear market orientation. With an explosion in scale over the next decade came the development of various competing business models and either acquisition by bigger players (like Google in YouTube’s case; Yahoo! in Flickr’s) or the conversion from start-up to major corporation (in the case of Facebook and Twitter), which absorbed the ideals of participatory culture into the logics of capitalism, commodifying our personal relationships in the process. This narrative is one of technical enclosure as much as it is one of market capture—social media platforms “epitomize the larger conversion from all-purpose devices to linear applied services,” representing themselves as neutral “utilities” when they have actually “unquestionably
altered the nature of private and public communication.”

For van Dijck, only the resolutely not-for-profit Wikipedia stands outside this historical trajectory.

The disheartening story of a journey that begins with discovery, exploration, and innovation and ends in enclosure and stagnation is common in critical discussions of the internet. It looks increasingly like the end of an earlier, more innocent era that was animated by ideas of participatory culture and user-led innovation, and a pivot toward the increased concentration of ownership and control typified by the turn to closed apps and mysterious algorithms. More than a decade ago, Jonathan Zittrain wrote with urgency about the corporate and technical enclosure of the internet, alarmed by the iPhone and its status as an unhackable, noncustomizable, “tethered appliance.”

But, in a turn of events that might—or might not—offer a glimmer of hope, Zittrain could not have anticipated the explosion of third-party innovation that Apple’s app store and later the Google Play store for Android afforded.

The idea—implicit in popular and academic commentary alike—that profound changes in the media environment are inevitable and linear, leading only to the centralization of power and wealth in the hands of large platform companies, can leave us—as users, as citizens, as scholars—feeling powerless. Yet, as van Dijck notes, material changes to the technical and regulatory mechanisms of platforms, while they might not be noticed at the time, are detectable, even after the fact. It should therefore be possible to diagnose such changes, observe the patterns in them across different platforms, and perhaps even identify opportunities for future intervention.
It is especially important here to notice the continuous updating of the core underlying technologies and affordances that constitute social media platforms, and that partly define their uses and meanings. These technologies are continuously being made and remade—and the modern software industry famously celebrates the idea that their artefacts never get finished at all. In fact, the idea of a continuously shipping product in “permanent beta” whose improvements were fed by user contributions was a constitutive Web 2.0 ideology, one that has become embedded in the practices of app developers and publishers. The principles of permanent beta and continuous updating are hardwired into the operating systems of our smartphones, which, left to their default settings, will update themselves frequently, seemingly at random, and without requiring a specific decision on our part, but sometimes causing consternation, disruption, or frustration.

This continual making and remaking of apps, including social media platforms, is characterized by a process that Acker and Beaton refer to as “social churning.” While in certain circumscribed ways, social media platforms are actually co-created by users, they are also constantly and gradually changing at the hands of their designers, developers, and owners. Incremental changes have become so normalized for smartphone users that apps update themselves in the background without us noticing most of the time. But it is still the case that more visible, transformative updates create moments of acute discussion and contestation—forms of user dissatisfaction that Acker and Beaton refer to as “software update unrest.” In telling the stories of platforms, we might explore moments where such ritualistic modes of resistance might translate into opportunities for
meaningful activism, diverting or arresting platform changes that are perceived to be detrimental to the cultural and social values users project onto and invest in them.

**Writing the Platform Biography**

Having discussed the “platform” part of the platform biography approach extensively, it is also worth saying a few words about our choice of the term “biography” to describe our process of studying and telling the story of how social media technologies, business models, and cultures of use co-evolve. After all, while it can certainly be scholarly, the biography is traditionally a literary form of life writing, rather than a scientific genre.

Translated literally from the Greek, the biography is a life record; it is also a literary genre. Though this book isn’t very literary, “biography” is useful for us *because* of its literary genealogy. Even in cases where the subject’s life is already a matter of public record (as in the case of media celebrities or famous politicians), any biography is inevitably partial, based on fragments of ephemera and interviews with unreliable bit players in the person’s life, especially given that biographies are sometimes posthumous. Where they are written about living people, of course, they may be left behind by current events and therefore may need to be frequently revised and updated—and that is also very relevant here. Finally, just as no biographer, however intimately acquainted with their subject, can really offer unfettered access to the inner workings of the person whose life is being written about, neither can we usually get inside the companies that provide the platforms—at least not without a very privileged kind of access, one that is unavailable to most
researchers and students. So, at a conceptual level, the platform biography approach provides the foundation for a dynamic empirical approach that generates a narrative of change by weaving together the stories of material objects, social relations, and events, and that therefore brings onto the stage the human lives that have intersected with and shaped the platform in question. After all, the life stories of social media platforms are our stories, too.

Thanks to past work in cultural studies and anthropology, the idea of the biography is already available for use in the study of material objects or technologies. As a form of life writing, the biography is inevitably and profoundly social, involving the subject’s family origins, friendships, and relationships in specific historical contexts—and so it is with things as well, including technologies. In museology and cultural anthropology, scholars have written the social biographies of objects—here, the biography is concerned not just with what the form and function of a clay pot or a Bronze Age mirror can tell us about society at the time, but also the social history of the object itself—the hands it passed through, and the way it was designed, produced, and shaped by social relations. In contemporary culture, scholars have demonstrated how to approach everyday objects as if they have social lives. Appadurai’s rich edited collection on the social life of commodities and consumer objects, in fact, contained an article on “the cultural biography of things,” in which Kopytoff discussed the social process by which things become commodities. The approach taken by Paul Du Gay and co-authors in their foundational work on cultural studies methods, which exemplified
the “circuit of culture” approach through the story of the Sony Walkman, was a powerful way of revealing how a consumer device can both carry with it and transform social relationships, and how these relationships have a life cycle. We believe that in the study of digital media technologies, which literally mediate social relations and which are constantly changing under the hands of so many different social actors, the “biography of things” approach works particularly well.

Writing a platform biography depends on collecting the appropriate materials. First, to map out the outlines of the platform’s history, we gathered existing scholarly research on early Twitter’s features and users. We have made extensive use of tech-industry materials, third-party developers’ blogs, and published company histories, drawing particularly on Nick Bilton’s book Hatching Twitter, online sources like TechCrunch’s company database Crunchbase, and hundreds of articles from business magazines and relevant sections of major newspapers. A crucial tool has been the Internet Archive’s Wayback Machine (especially for observing changes to the Twitter landing page, taglines, and user homepage, as well as user guides and terms of service). Some versions of the Twitter homepage and Twitter account pages at various points in the history of the platform have been archived, showing changes in the interface design, how different features were implemented and worked, as well as the syntax and style of tweeting during different periods of Twitter’s history. We also draw on mainstream media coverage at key points, especially noting the adoption of Twitter as part of journalistic practice, discourses around its value as a platform for news and public communication, and the grow-
ing pressure on Twitter to grow exponentially once it became a public company.

Second, we drew on a wide range of background materials to tap most of the aspects of a platform we have identified in this introduction. An important set of sources was marketing blogs and tech blogs’ how-to articles and reports on platform changes. Especially in the earlier years of Twitter, when social media existed alongside an active blogging culture, early adopters and lead users regularly wrote articles about feature and platform changes, providing detailed descriptions, critiques, and discussions of the implications of such changes for the future of the platform. But it is important to note here that the propensity to publish opinion pieces on the technical and social aspects of platforms has been unlikely to be widely shared across the demographics and cultures that constitute Twitter’s userbase, even in those first few years. The coverage and discussion that we are drawing on is therefore skewed toward existing networks of mostly male tech bloggers, based in the US and other countries with high levels of English competence. At the same time, this skew reflects the outsized influence these voices have had. Twitter was founded in the US in English, and wasn’t widely available in any other languages until 2010. Most of the extant material is tied to white elitist tech culture because they had an online presence, tech skills, and interest and ability to preserve the blogs that articulated their perspectives. But as other tech histories and analyses of other communities of Twitter users remind us, this is a very partial view, and creative, minority, and marginalized communities were doing plenty of innovative things with Twitter from the very beginning as well.
Third, the everyday practices and understandings of users are very significant in the generation, negotiation, and redefinition of the norms and conventions or “platform vernaculars” that make Twitter what it is. This user perspective is embedded implicitly throughout our book. We have drawn on our own experiences and tweets and included examples of them here and there. We have mined our own tweet archives to help build the retrospective timeline of different features and how they were used. We bring in examples of tweets and posts in which users are reflexive and critical about platform affordances, cultures of use, and changes in their own public blog entries from the time.

To engage even more deeply with user perspectives, we interviewed a small number of regular users of the platform. These interviews were conducted in the United States in the spring of 2013. We recruited these participants through posts to Twitter and through the Social Media Collective blog at Microsoft Research. Since we were in the higher education-suffused locale of Cambridge, Massachusetts, at the time, the call attracted participants who were not only well educated but also unusually technologically literate. This was in some sense helpful, as they were able to articulate qualities of the platform and its norms that may have been harder for less savvy users to speak, and because even they, it turned out, saw their own practices as guided by so much more than the platform’s changing interfaces and affordances. Other users we spoke with had very different levels of technical experience, and while some had been very early users with long, continuous careers on the platform, others had joined more recently.
We asked the interviewees to download their archives before the interview, to read through their tweets, and to identify points at which they felt that their tweeting practices had changed. During the interview, we projected their archives on a screen and let them walk us through their personal tweeting histories, beginning with their first tweet and going through the point where they felt their practices represented their current state. Explicitly engaging users (including ourselves!) in reflecting on their Twitter careers—effectively engaging them as oral history informants on the history of the platform—has helped us generate particular insights. The interviewees, too, expressed surprise at seeing their practices through this lens, rediscovering earlier practices and identifying changes in Twitter’s cultures that had been forgotten or that had not been salient at the time.

In drawing on these found materials and reconstructed narratives, we make no claim to global population representativeness; indeed, quite the opposite. The blog entries and tech journalism pieces are remnants of the very particular public pedagogies and vernacular debates about Twitter’s cultures of use that have contributed to shaping it all along the timeline. These public debates, as we discuss elsewhere, are undoubtedly weighted toward the interests and concerns of those who are most likely to have a public presence on tech interests in the first place. We offer the interviewees’ stories not as generalizable to the whole of Twitter users, nor as exhaustive of the possibilities of Twitter use in the years they recount, but as indicative of the range of experiences users could have had.

Thankfully, Twitter has also been unusually transparent in preserving traces of its past. It appears that the official company
blog was preserved in its entirety on the Twitter website, providing a rich source of information on changes to the platform's affordances and company discourse from its first days of existence on, as were various older versions of its official developer forums, FAQ, and user tutorial materials, which can be accessed via time-limited Google searches.

Finally, Twitter likes to tell its own life story. Media of all kinds love to memorialize themselves—anniversary specials have been a regular feature of television networks since their black-and-white days—and social media companies are no exception. Twitter has authored its own hagiographies with great enthusiasm—examples include the country-specific series of blog posts and ancillary media around Twitter’s 10th birthday. The good thing for researchers is that they do this at regular intervals, so that the memorializations themselves become historical markers, despite the countervailing desire on behalf of the companies to focus on the present and the future. Each of these sources has value in isolation. Yet when we look at them together, we can see not just the changes in interfaces or business models, not just the changes in media coverage, not just the lives and social relationships of users, but the dynamic interplay of all of them, working together to incrementally shape Twitter’s culture, and to recast its possible futures.

**A Focus on Features**

Many of Twitter’s key features originated from emergent practices and shared conventions developed by the early user community. These usage conventions were unanticipated by or even ran counter to the expectations of the platform’s founders,
as they have at times readily and openly acknowledged. Some of these add-ons were later picked up by Twitter and turned into functioning features of the platform. Even the noun “tweet” to describe a post to the site and the verb “to tweet” to describe the act of posting such a contribution were user inventions. Both were initially resisted by the company, which preferred the more technical language of the “status update.” Despite the term appearing in the names of numerous third-party applications like Tweetie and TweetDeck, Twitter did not apply to trademark “tweet” until 2009, and had to battle one such third-party service before eventually securing it in 2011.56

In the course of our interviews and archival research, it became evident that there was something especially important about three of the features for which Twitter is best known—the @, the hashtag, and the retweet, and the ways the practices and norms surrounding them had changed over time. Each was proposed by users in 2006 and 2007, when Twitter was still finding its feet. Initially user driven, they were incorporated by the platform in ways that ultimately came to drive the datafied, metricized, newsy, promotional platform we have now. These three features have become part of the grammar for understanding different uses of Twitter, including in academic research that employs the computational analysis of data gathered using the Twitter APIs to study the patterns of public communication enacted on the platform. Furthermore, their iconography—and, to an extent, their functionality—has become ingrained in social media logics across platforms.

In hindsight, this shouldn’t have surprised us. The distinctive cultures of social media platforms owe much to the particulari-
ties of their user interfaces. Facebook’s “like” button, newsfeed, and status update box; Tumblr’s “reblog” button; and so on—each of these gives their host platforms some of their unique cultural flavor. But some platform features are actually the keys to participation on that platform as well, and so—as user-experience designers know—their form, format, and symbolic character matter enormously. Take, for example, the “new tweet” button in Twitter clients and the status update box with its empty space and its (once 140-, now 280-) character limit waiting to be filled with your answer to the question “What’s happening?” Different ways of designing and framing this feature—like asking the question “What are you doing? [in your everyday life]” instead of “What’s happening? [in the world]”—change the character of the uses to which we are invited to put them, subtly but fundamentally shifting the communicative purposes of the platform, at least in terms of how they are expressed to us.

Behind the scenes, such features (including both how they appear to users and how they work on the “back end”) are also protocological objects—through the exchange, ordering, and management of data, they mediate and set the terms of connections between users, content, and the company. They are agents of van Dijck and Poell’s “social media logics,” making cultural participation, human communication, and social connection calculable through processes of datafication. In short, key features provide the chief affordances of any particular platform; the flipside of this is that they are among the primary mechanisms of control as well.

As Taina Bucher, drawing on Michael Serres, notes, such features—understood as sociomaterial objects—are key media-
tors among the competing interests that produce Twitter as a platform and a cultural phenomenon, and they have an “enactive power” over the relationships between these actors (between users and the company; among the company, advertisers, and developers; and among users) and over the forms and formats of Twitter’s content. Features are not passive objects through which human activities flow, but “active participants” and “protocols that structure and exercise control over the specific social situations on which they are brought to bear.” At the same time, within the limits of technical possibility, users often resist, subvert, or creatively work around the intended uses of such features—they are rich sites of controversy that can reveal much about the politics of the relationships between users, technologies, and cultures of use. Studying the protocols—or features—of a particular platform is more manageable than trying to study the platform as a whole, but can be just as revealing of how it has changed over time.

In the following three chapters, we tell the stories of each of Twitter’s three primary features. In order of historical incorporation by Twitter into its interface and algorithms, they are: the @ (created as a way to address and connect to other users); the # (a way to coordinate groups and topics); and the retweet (a way to share other users’ contributions accurately and with attribution). The stories of these three features follow similar pathways, together showing how Twitter ended up where it was by the time we wrote this book, and hopefully offering clues to how it got to be whatever it is by the time you read it. We break this feature pathway into four stages—appropriation, incorporation, contestation, and iteration—and explore each feature using this scheme.
First, new conventions and practices are appropriated from other contexts and suggested by users in order to meet one or more needs that weren’t served by Twitter’s existing architecture or interface. These conventions and practices are taken up by other users, and also sometimes by third-party developers, who create new tools built on the Twitter platform to make these conventions available to more users—turning conventions into emergent features. Through this process, different models of how to use the features emerge and struggles over the “right” way to use them become common. Second, Twitter incorporates the feature into the platform’s interface and algorithms. In doing so, they acknowledge the needs the users sought to fulfill with the feature while serving their emerging business model, seeking to make Twitter more seamless for new users, in pursuit of growth, and more datafied, in pursuit of opportunities to monetize that growth. The Twitter platform’s incorporation of these new features solves some problems, but creates others. In the third phase, contestation continues. As our research shows, there was much more variety in how people used the @ or the retweet convention before official “support” hardwired these practices as features and in doing so stabilized their uses and meanings. But even after this apparent “hardwiring,” users continue to reshape the meanings of Twitter’s features. In the fourth stage, Twitter iterates their now officially adopted and embedded features, modifying how they look and work in the interface or the algorithmic back end. These further changes prove to be controversial among users, helping us to understand the ongoing, evolving struggles over Twitter’s culture and social purpose.