

CHAPTER 1

Engineering Sociality in a Culture of Connectivity

1.1. INTRODUCTION

Meet the Alvin family. Pete is a 45-year-old biology teacher whose hobby is paragliding. He has a Facebook page, although lately he has been negligent in maintaining his network of “friends.” Through LinkedIn, Pete keeps up his professional profile and occasionally hooks up with other members from the national teachers union. An early adopter of social media, he became an enthusiastic contributor to Wikipedia in 2004, and still adds infrequent entries about his specialty, lizards, to the online encyclopedia. Pete also used to be a member of a paragliding group on YouTube, which, back in 2006, actively communicated via short videos of spectacular glides; the group later dissipated, and he only sporadically checks the site for interesting glides. Pete’s wife Sandra is a former journalist who now makes money as a freelance publicist specializing in food. She has over 8,000 followers on Twitter and keeps an elaborate blog that also serves as her personal public relations site. An active family of “netizens,” the Alvins order books via Amazon and download music via iTunes; Sandra uses Skype to have video chats with her brother in Hong Kong; their 16-year-old daughter Zara is a fanatic Facebook user—456 friends right now—and she also uses Pinterest for “pinning” and sharing photos; and their 12-year-old son Nick is a devoted gamer, who has recently discovered CityVille, a social network game developed by Zynga.

The Alvins represent a middle-class family in an average American town in the year 2012. Over the past decade, their professional and personal lives have gradually become inundated with social media platforms. Platforms

like Facebook, YouTube, Wikipedia, and many others enable people like the Alvins to make connections by sharing expressive and communicative content, building professional careers, and enjoying online social lives. In fact, the widespread presence of platforms drives people to move many of their social, cultural, and professional activities to these online environments. Teenagers like Zara Alvin cannot imagine a life without Facebook, and Sandra has become primarily dependent on Twitter for maintaining customer relations. Pete, however, has become less active on—and more critical of—the sites he used to frequent several years ago.

Now multiply the Alvins. Every single day, millions of individuals interact through social media. In December 2011, 1.2 billion users worldwide—82 percent of the world's Internet population over age 15—logged on to a social media site, up from 6 percent in 2007.¹ Within less than a decade, a new infrastructure for online sociality and creativity has emerged, penetrating every fiber of culture today. Social media, roughly defined as “a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user-generated content” (Kaplan and Haenlein 2010: 60), form a new online layer through which people organize their lives. Today, this layer of platforms influences human interaction on an individual and community level, as well as on a larger societal level, while the worlds of online and offline are increasingly interpenetrating. Originally, the need for *connectedness* is what drove many users to these sites. When Web 2.0 first marshaled the development of so-called social media, in the early years of the new millennium, participatory culture was the buzzword that connoted the Web's potential to nurture connections, build communities, and advance democracy. Many platforms embraced this rekindled spirit when they started to make the Web “more social.”

With the rapid growth of social media platforms came the incorporation of sites by existing and new information companies. Companies often appeared less interested in communities of users than in their data—a by-product of making connections and staying connected online. *Connectivity* quickly evolved into a valuable resource as engineers found ways to code information into algorithms that helped brand a particular form of online sociality and make it profitable in online markets—serving a global market of social networking and user-generated content. Large and influential platforms such as Facebook, Twitter, YouTube, and LinkedIn exploded in terms of users and monetizing potential, alongside countless smaller profit and nonprofit sites. As a result of the interconnection of platforms, a new infrastructure emerged: an ecosystem of connective media with a few large and many small players. The transformation from networked communication to

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“platformed” sociality, and from a participatory culture to a culture of connectivity, took place in a relatively short time span of ten years.

This chapter’s argument focuses not on a descriptive account of how social media affected one family, but on the need for a *critical history* of the rise of social media. Such a history is needed to comprehend current tensions in the ecosystem in which platforms and ever-larger groups of users operate. By exploring technical, social, economic, and cultural perspectives on social media, we can elucidate how recent changes in our global media landscape have profoundly affected—if not driven—our experience of sociality.

1.2. FROM NETWORKED COMMUNICATION TO PLATFORMED SOCIALITY

The invention of the World Wide Web in 1991, when Tim Berners-Lee managed to connect hypertext technology to the Internet, formed the basis of a new type of networked communication. Weblogs, list-servers, and e-mail services helped form online communities or support offline groups. Until the turn of the millennium, networked media were mostly generic services that you could join or actively utilize to build groups, but the service itself would not automatically connect you to others. With the advent of Web 2.0, shortly after the turn of the millennium, online services shifted from offering channels for networked communication to becoming interactive, two-way vehicles for networked sociality (Castells 2007; Manovich 2009). These new services, which opened up a myriad of possibilities for online connections, were initially perceived as a new global infrastructure, like water pipes or electricity cables, analogues to the Web itself.

It is a truism to say that media have historically coevolved with the public that uses them, as well as with the larger economy of inscription. The world’s complex constellations of media, in the view of Lisa Gitelman, should be conceived as the “socially realized structures of communication, where structures include both technological forms and their associated protocols, and where communication is a cultural practice, a ritualized collocation of different people on the same mental map, sharing or engaged with popular ontologies of representation” (2008: 7). Over the past two centuries, media technologies matured as part of everyday social practices. Generic technologies like the telephone and the telegraph developed in conjunction with communicative routines or cultural practices, such as chatting on the phone or sending short messages over the wire. As a medium coevolves with its quotidian users’ tactics, it contributes to shaping people’s

everyday life, while at the same time this mediated sociality becomes part of society's institutional fabric. Media histories and archaeologies provide ample evidence of this complex coevolution, relating technologies to users and organizations to infrastructures (Winston 1998; Kittler 1999; Zielinski 1999; Marvin 1988).

With Web 2.0 maturing into a functional infrastructure, users moved more of their everyday activities to online environments; these activities were not simply channeled by platforms, but *programmed* with a specific objective. This move shifted the emphasis from providing a utility to providing a customized service—a transformation akin to the change from delivering water through pipelines to distributing bottled Evian water or to a water-filtering system. Whereas before, websites were generally operated as *conduits* for social activity, the new platforms increasingly turn these conduits into *applied services*, rendering the Internet easier to use but more difficult to tinker with. Social media platforms, as they are now commonly called, epitomize the larger conversion from all-purpose devices to linear applied services—a development that Jonathan Zittrain (2008: 104–7) has persuasively touted as “appliancization.” When companies started to build their platforms on the generic Web 2.0 infrastructure, they often presented themselves as utilities transmitting communication and information data. But even if many big platforms still want people to think of them as such, this layer of applied platforms is anything but a neutral utility exploiting a generic resource (data): they built on the “ideological and technological” foundations of Web 2.0, as Kaplan and Haenlein suggest in the definition quoted above.

Indeed, most Web 2.0 platforms started out as indeterminate services for the exchange of communicative or creative content among friends. These services often emanated from community-bound initiatives—a group of college students, photo aficionados, video enthusiasts—who adopted a specific niche of online interaction and developed a mediated routine practice. It is a common fallacy, though, to think of platforms as merely *facilitating* networking activities; instead, the construction of platforms and social practices is mutually constitutive. Sociality and creativity happen while people are busy living their lives. Michel de Certeau, in *The Practice of Everyday Life* (1984), proposes that people use *tactics* to negotiate the strategies that are arranged for them by organizations or institutions. That is precisely what happened with the development of social media platforms and the apps built on top of them: users “negotiate” whether and how to appropriate them in their quotidian habits.

Many of the habits that have recently become permeated by social media platforms used to be informal and ephemeral manifestations of social life.

Talking to friends, exchanging gossip, showing holiday pictures, scribbling notes, checking on a friend's well-being, or watching a neighbor's home video used to be casual, evanescent (speech) acts, commonly shared only with selected individuals. A major change is that through social media, these casual speech acts have turned into formalized inscriptions, which, once embedded in the larger economy of wider publics, take on a different value. Utterances previously expressed offhandedly are now released into a public domain where they can have far-reaching and long-lasting effects. Social media platforms have unquestionably altered the nature of private and public communication.

From the late 1990s onward, Blogger (1999), Wikipedia (2001), Myspace (2003), Facebook (2004), Flickr (2004), YouTube (2005), Twitter (2006), and a wide array of ensuing platforms began to offer web tools that sparked old and new online communication tactics. Most organizations operating these platforms aimed at penetrating a particular online activity with their coding technologies, and, ideally, their brand name would become the marker for a specific mediated activity. Brands such as Twitter, YouTube, MSN, and Skype have become synonyms for microblogging, video sharing, chatting, and videoconferencing—novel communicative interactions these platforms either co-developed or helped redesign. The pinnacle of a company's success in permeating a social activity is when a brand turns into a verb. The earliest example of such coding and branding phenomena in the online world is the evolution of "googling," now a synonym for online search. Googling, following Gitelman's definition above, could be called a "ritualized collocation" that developed in a "larger economy of inscription." Online searching—for example, looking up the meaning of a word, checking for the latest movies, or finding a specific scholarly source—has become part of an everyday routine. Simultaneously, this routine nested itself in the heart of a larger online economy of inscription, where search engines form the valves of content distribution. Few platforms have reached the stage where their brand has turned into a verb; at this point in time, "skyping" and "tweeting" perhaps come closest.²

Evidently, social media platforms, rather than being finished products, are dynamic objects that are tweaked in response to their users' needs and their owners' objectives, but also in reaction to competing platforms and the larger technological and economic infrastructure through which they develop (Feenberg 2009). In the year 2000, the Web that would come to sustain online sociality and creativity was still a vast unexplored territory, where boundaries between different mediated activities had yet to be demarcated. It was a new frontier, a bonanza where rules and laws from the "old" territories no longer applied and new ones had not crystallized yet.

The earliest cultivators of this new land were search engines, browsers, and web directories; of the many search engines that sprang up around the turn of the millennium, Google Search—including its many specialized services—has emerged victorious, leaving a few small engines trailing behind.³ Like web browsers, search engines tend not to be presented as applications built to search, navigate, and connect information on the WWW, but they are conspicuously equated to the Web itself.⁴ Over the past decade, there has been an unprecedented proliferation of social media platforms as each one of them tried to occupy the largest possible chunk of this new terrain. Whereas some have succeeded (Facebook, YouTube), others have waxed and waned (Flickr, Myspace), and yet others have quietly disappeared (remember Xanga?). On top of this layer, millions of application program interfaces (APIs) and services have been built that depend on the services of Facebook, Google, Twitter, and so on, for their success, and new ones emerge every day. The entire ecosystem of interconnected platforms and applications has been in flux and will remain volatile for some time to come.

While it would be virtually impossible to inventory all platforms and their individual evolutions, it makes analytical sense to distinguish various types of social media. A major type involves what is called “social network sites” (SNSs). These sites primarily promote interpersonal contact, whether between individuals or groups; they forge personal, professional, or geographical connections and encourage weak ties. Examples are Facebook, Twitter, LinkedIn, Google+, and Foursquare. A second category concerns sites for “user-generated content” (UGC): they support creativity, foreground cultural activity, and promote the exchange of amateur or professional content. Well-known UGC sites are YouTube, Flickr, Myspace, GarageBand, and Wikipedia. On top of these, we can add the category of trading and marketing sites (TMSs): these sites principally aim at exchanging products or selling them. Amazon, eBay, Groupon, and Craigslist come to mind as noteworthy examples. Another distinctive category consists of play and game sites (PGS), a flourishing genre with popular games such as FarmVille, CityVille, The Sims Social, Word Feud, and Angry Birds. This classification of social media platforms is far from exhaustive, and integrating the various types into a single book-length argument would be undoable. For this reason, I will focus primarily on SNS and UGC sites here as the main grounds on which online sociality and creativity have developed.

Important to add here is that there are no sharp boundaries between various platform categories because carving out and appropriating one or more specific niches is part of the continuous battle to dominate a segment of online sociality. Facebook, whose prime target is to promote social networking, also encourages its users to add creative products such as photos

or short videos. YouTube, a site primed to generate creative content by users, can also be considered a social network site because communities share specific postings (e.g., anime videos). Despite Google's keen attempts to turn YouTube into an SNS, it has remained primarily a site for UGC, prompting the search company to start its own social networking service, Google+, in May 2011. Meanwhile, Facebook and Google try to expand their existing platforms with commercial and game services through partnerships and takeovers, making them also major players in the TMS and PGS branches.

Sharply delineating various types of social media platforms is impossible, and yet identifying their objectives is key to understanding how platforms build different niches of sociality and creativity or, for that matter, commerce or entertainment. What we have seen over the past ten years is that many platforms started out in one particular domain (e.g., online search or social networking) and gradually encroached upon each other's territory while trying to contain users inside their own fenced-off turf. Therefore, it is instructive to track how a few rapidly growing platforms began to dominate online sociality, occupying as many niches as possible. Google and Facebook each conquered a sizable chunk of this layer, to such an extent that new developers are increasingly dependent on these platforms for building new applications. We can only gain insight into the mutual shaping of platforms and apps if we view them as part of a larger online structure where every single tweak affects another part of the system. Or, to put it more in general terms, the online ecosystem is embedded in a larger sociocultural and political-economic context where it is inevitably molded by historical circumstances.

1.3. MAKING THE WEB SOCIAL: CODING HUMAN CONNECTIONS

To get a better sense of the ecosystem's emergence, we need to go back a bit further in history. In the early 1970s, computers and information technology had a dubitable reputation as instruments of control, mostly wielded by Orwellian bureaucratic governments or by giant corporations. The counterculture, born in the 1960s and matured in the early 1970s, paired values of community and collectivity with the imperative of personal freedom and empowerment—values that clashed with lingering associations of oppression and compromised individuality still hovering around information technology. It was not until the late 1970s when computers began to be seen as potential instruments of liberation rather than oppression. In a lucid account of the gradual convergence of the counterculture with “geek”

cyberculture, Fred Turner has demonstrated how visions of computer networks gradually became linked to visions of "peer-to-peer adhocracy" and "expressions of the true self" (2006: 3). A famous ad campaign for Apple computers in 1984 showcased the Macintosh as a tool for user empowerment, casting the company as a rebel amid powerful computer industries and, by implication, positioned the Mac customer as a denizen of the counterculture. The ultimate irony of this promoted image, as pointed out by biographer Walter Isaacson, was that the Macintosh was a closed and controlled system, "like something designed by Big Brother rather than by a hacker" (2011: 162). But the rebel-geek image of working in the interest of the public good rather than in the interest of Big Money or Big Government was a significant precursor to the communal spirit later adopted by advocates of web culture.

The invention of the World Wide Web in 1991 gave a new impetus to the liaison between geek culture and counterculture. As the WWW consortium began to build a global standardized infrastructure, communities of enthusiastic users began to churn out applications for the Web. The period when users purportedly helped construct a new public space, outside corporate control, only lasted a few years, however. Commercial developers like Google, AOL, and Amazon, at the turn of the millennium, incorporated the Web 1.0 and, virtually overnight, replaced dot.communism by dot.commercialism. However, the spirit associated with egalitarianism and community cocooning was rekindled in the early 2000s with the advent of Web 2.0. The growth of social media platforms was (and still is) often innocuously conflated with the rise of Web 2.0, and the participatory potential of social media was sometimes erroneously attributed to the Web's technological design. Its built-in capacity for two-way communication supposedly rendered online media infinitely more democratic than the old (one-way) media.⁵ Words like "interactivity" and "participatory" described Web 2.0's potential to "talk back" and send messages instantly, whereas previous media had wielded power over their one-way publishing or broadcasting channels.

When new interactive platforms entered the scene, such as Blogger, Wikipedia, Facebook, and YouTube, they promised to make culture more "participatory," "user centered," and "collaborative." Between 2000 and 2006, quite a few media theorists claimed that Web 2.0 applications exponentially enhanced the natural human need to connect and create, and they declared early victory for the user. Henry Jenkins in 2006 welcomed us to the world of convergence culture, a world "where old and new media collide, where grassroots and corporate media intersect, where the power of media producer and the power of the media consumer interact in unpredictable ways" (2). Media

theorist Axel Bruns (2008) hailed a new class of “producers”—creators who were also users and distributors. Wikipedia was recurrently held up as a model of collaboration of selfless users who collectively developed a unique product—an ever-expanding online encyclopedia—for the common good by exploiting a communal space. The year 2006 turned out to be the apex of user euphoria when *Time* magazine selected “You” as the Person of the Year, trumpeting the world-changing potential of connected users: “It’s a story about community and collaboration . . . about the many wresting power from the few and helping one another for nothing and how that will not only change the world, but also change the way the world changes.”⁶ For many early adopters, belief that Web 2.0 was a communal and collaborative space inspired their endeavors to build platforms, and echoes of this early idealistic spirit resound to this day.

To some extent, the triumph of users over conventional mass media proved to be justified, as Web 2.0 offered unprecedented tools for empowerment and online self-communication, but outsized expectations nourished a premature winning mood among the web idealists. Perhaps a symbolic rebalancing of *Time*’s earlier veneration of the user was the designation, four years later, of Mark Zuckerberg as *Time*’s Person of the Year.⁷ When Facebook’s CEO in 2010 took over the badge of honor from “You,” he promised to make the world more open and transparent, echoing the utopian spirit that had previously galvanized users. Platform owners eagerly adopted similar rhetoric in their corporate mantras and promotional slogans, such as “Do no evil” (Google), “Making the Web more social” (Facebook), and “Share your pictures, watch the world” (Flickr-Yahoo). Web companies tirelessly underscored their company’s mission to benefit the common good. Zuckerberg has repeatedly stated that Facebook “wants people to find what they want and connect them to ideas they like online.”⁸ Today social media companies still seem eager to align the benevolent halo of early web technology with their “alternative” corporate ethos.

Rather than simply accepting or rejecting this ethos, I am interested in deconstructing what meanings developers *impute* to their platforms’ goals and functions—meanings that peculiarly reflect rhetorical attempts to absorb utopian Web 2.0 connotations into corporate missions. The very word “social” associated with media implies that platforms are user centered and that they facilitate communal activities, just as the term “participatory” emphasizes human collaboration. Indeed, social media can be seen as online facilitators or enhancers of *human* networks—webs of people that promote connectedness as a social value. Individuals’ ideas, values, and tastes are contagious and spread through human networks, but these networks also affect what individuals do and think (Christakis and Fowler

2009). By the same token, social media are inevitably *automated systems* that engineer and manipulate connections. In order to be able to recognize what people want and like, Facebook and other platforms track desires by coding relationships between people, things, and ideas into algorithms. The meaning of “social” hence seems to encompass both (human) connectedness and (automated) connectivity—a conflation that is cultivated by many CEOs—and its deliberate ambiguity will play a major role in the further elaboration of this book’s argument.

Companies tend to stress the first meaning (human connectedness) and minimize the second meaning (automated connectivity). Zuckerberg deploys a sort of newspeak when claiming that technology merely enables or facilitates social activities; however, “making the Web social” in reality means “making sociality technical.” Sociality coded by technology renders people’s activities formal, manageable, and manipulable, enabling platforms to engineer the sociality in people’s everyday routines.⁹ On the basis of detailed and intimate knowledge of people’s desires and likes, platforms develop tools to create and steer specific needs. A button that shows what your friends watch, hear, read, and buy registers your peers’ tastes while concurrently shaping them. Users, in general, also tend to emphasize human connectedness when explaining a platform’s value in their lives. Facebook helps its members to make and maintain contacts, but for many ordinary users it is difficult to recognize how Facebook actively steers and curates connections. Moreover, it is far from transparent how Facebook and other platforms utilize their data to influence traffic and monetize engineered streams of information. And yet connectedness is often invoked as the pretense for generating connectivity, even now that data generation has become a primary objective rather than a by-product of online sociality.

Besides the term “social,” concepts like “participation” and “collaboration” get imputed a peculiar new meaning in the context of social media. Users of content are supposedly “collaborators” who “co-develop” creative products and thus enrich communities. Notions of community and group-think abound in the rhetoric of platforms, and their echoes resounded particularly during the years 2004 to 2007. Indeed, many platforms, such as YouTube and Flickr, started out as community initiatives; they were carried by a group of video buffs and photo fans, respectively, eager to share their creative products online. After their takeover by Google and, in the latter case, Yahoo, the sites’ corporate owners kept nurturing the image of collectivity and user-centered operation long after their strategies had transmogrified to the commercial realm. Photographic and video content became instrumental to the automated collection of data about meaningful social relationships, propelled by such questions as, Who shares which

images with whom? What images or videos are popular among which groups? Who are the leading tastemakers in these communities?

A similar conflation of human connectedness and automated connectivity happens when social activities are translated into algorithmic concepts. In the offline world, people who are "well connected" are commonly understood to be individuals whose connections are gauged by their quality and status rather than their quantity. In the context of social media, the term "friends" and its adjunct verb "friending" have come to designate strong *and* weak ties, intimate contacts *as well as* total strangers. Their significance is commonly articulated in one indiscriminate number. The term "followers" has undergone a similar transformation: the word connotes everything from neutral "groups" to "devotees" and "believers," but in the context of social media it has come to mean the sheer number of people who follow your twit stream. From the technological inscription of online sociality we derive that connectivity is a quantifiable value, also known as the *popularity principle*: the more contacts you have and make, the more valuable you become, because more people think you are popular and hence want to connect with you.

What goes for people also holds for ideas or things that can be "liked": likability is not a virtue attributed consciously by a person to a thing or idea, but is the result of an algorithmic computation derived from instant clicks on the Like button.¹⁰ However, there is no quality assessment built into these buttons: online quantification indiscriminately accumulates acclamation and applause, and, by implication, deprecation and disapproval. The choice for a "like" button betrays an ideological predilection: it favors instant, gut-fired, emotional, positive evaluations. Popularity as a coded concept thus not only becomes quantifiable but also manipulable: boosting popularity rankings is an important mechanism built into these buttons. People who have many friends or followers are touted as influential, and their social authority or reputation increases as they receive more clicks. Ideas that are "liked" by many people have the potential of becoming trends. Friending, following, and trending are not the same functions, but they derive from the same popularity principle underpinning the online economy of social media.

Key terms used to describe social media's functionality, such as the "social," "collaboration," and "friends," resonate with the communalist jargon of early utopian visions of the Web as a space that inherently enhances social activity. In reality, the meanings of these words have increasingly been informed by automated technologies that direct human sociality. Therefore, the term "connective media" would be preferable over "social media."¹¹ What is claimed to be "social" is in fact the result of human input

shaped by computed output and vice versa—a sociotechnical ensemble whose components can hardly be told apart. The norms and values supporting the “social” image of these media remain hidden in platforms’ technological textures. Not coincidentally, the same assumptions supporting the goal of making the Web more social—or, if you wish, of making sociality more technical—also support the ideology of making online sociality *salable*.

1.4. MAKING SOCIALITY SALABLE: CONNECTIVITY AS RESOURCE

Steps to Surveillance

Mark Zuckerberg’s promise to “make the Web more social” is inextricably intertwined with his professed desire to “make the world more transparent.” Essential to the narrative of the social Web rendering a transparent world was the implied assumption that if users proffer their true identity when sharing personal data, platforms, for their part, would also carry a robust ethic of openness and sharing.¹² The rhetoric of transparency and openness was supposedly rooted in and certainly inspired by the rhetoric of community-based online sociality, which flourished during the first six years of the new millennium. Most of these online groups, though, preferred to conduct their activities in a noncommercial, public space where they could communicate free of government or market constraints. When corporations took over online platforms, they were eager to co-opt the rhetoric and spice their corporate image with values more commonly attributed to the public sector. Indeed, companies liked to present themselves as pioneers of a joint public-private endeavor.

Legal and economic scholars further advanced these hybrid ideological foundations. The networked information environment, as Yochai Benkler asserted in 2006, would give rise to a flourishing nonmarket sector of information and creative production. Web 2.0 strategies challenged both market and state economies as they enabled the development of a cooperative nonmarket, peer-production system that served communicative and creative needs through networks of like-minded individuals. This “networked public sphere” was fundamentally different from the existing public sphere and would “emerge *alongside* the commercial mass-media markets” (Benkler 2006: 10, emphasis added). In line with media theorists’ assessments at that time, we can discern a victorious appraisal of Web 2.0’s potential to promote community over commerce, or, at the very least, afford their peaceful coexistence. Among many examples of cooperative endeavors, Wikipedia stands out as the poster child for the networked public sphere—a model of nonprofit, nonmarket peer production emerging

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alongside commercial encyclopedic products, rather than in competition with them.

Between 2000 and 2005, most platforms thrived on the enthusiasm of users as they ran and operated their new virtual spaces, which were often regarded as experiments in online citizenship and a reinvention of the rules for democratic governance. The peaceful coexistence of market and nonmarket peer-production, as divined by Benkler, gave social media platforms the image of being alternative spaces, free from corporate and government constraints, where individuals could pursue their communicative and creative needs and could regulate their own social traffic. In the early years of YouTube, Wikipedia, and Flickr, user communities invested much time and effort in keeping "their" channels clean from pollution by filtering out pornographic and racist content. The promise of self-regulation and community-supported surveillance worked well as long as the platforms were relatively small and uniform in their user base. v. Fred Turner

As user bases began to explode after 2005, the investment required of users became too big, and the focus of most platforms was diluted. At the same time, many platforms were taken over by big media corporations or were otherwise incorporated; the spirit of "nonmarket peer-production" soon dwindled. During the ensuing years, between 2005 and 2008, corporate owners remained cautious about exposing their profit motives to user communities, and in many instances kept nourishing the image of platforms as peer-production structures that put users before profits. Because user bases were still immersed in a participation spirit, platform management had to walk a tightrope between a growth scenario—luring more customers to sites—and pleasing its original, often assertive, users, who were keenly aware of the value they added to the site's market position (Clemons 2009; Potts 2009). The development of business models, balancing user participation against for-profit strategies, posed a real challenge to the digital media industry (Vukanovic 2009). A corporate management demanding returns on investment faced the risk of being confronted by user protests or boycotts. Platforms had to navigate between Silicon Valley's venture capitalist culture, which pushed for quick turnovers and speedy IPOs, and the original participatory spirit, which had caused the platforms to grow in the first place. The safest strategy for many managers seemed to be expeditious growth while conducting careful experiments with monetizing schemes.

Tapping into academics' celebratory rhetoric of a new public sphere of nonmarket collaboration, business managers and marketers glorified the potential of mixed public-private entrepreneurship by absorbing Wikipedian-style peer-production into their for-profit business models. More precisely, they borrowed one particular element of Wikipedia's

innovative model—user participation—squeezing it into a for-profit business and corporate governance structure. “Wikinomics,” an Internet business concept launched by economists Don Tapscott and Anthony Williams (2006), fostered the immanent merger of the market and nonprofit sector in a networked information environment.¹³ They applauded Google and Yahoo for creating “new public squares, vibrant meeting places where your customers come back for the rich and engaging experiences”; echoing the slogans of credit card companies, the authors significantly add: “Relationships, after all, are the one thing you cannot commoditize” (Tapscott and Williams 2006: 44).

Benkler's
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Perhaps ironically, commoditizing relationships—turning connectedness into connectivity by means of coding technologies—is exactly what corporate platforms, particularly Google and Facebook, discovered as the golden egg their geese produced. Besides generating content, peer production yields a valuable by-product that users often do not intentionally deliver: behavioral and profiling data. Under the guise of connectedness they produce a precious resource: connectivity. Even though the term “connectivity” originated in technology, where it denotes computer transmissions, in the context of social media it quickly assumed the connotation of users accumulating *social* capital, while in fact this term increasingly referred to owners amassing *economic* capital. Ten years after its start, Wikipedia is perhaps an uncomfortable reminder of what the Web could have been, as it is currently one of the few main sites that have not been co-opted by big business. A quick look at today's palette of the 100 biggest social media platforms reveals that the overwhelming majority (almost 98 percent) are run by corporations who think of the Internet as a marketplace first and a public forum second—Wikipedia being the most notable exception.¹⁴ And yet the rhetoric of a new public sphere was (and still is to some extent) gratefully appropriated by businesses to salvage the virtues of the corporate sphere. An endorsed fusion of nonmarket and for-profit principles breathes the spirit of public collectivism, a spirit espoused by those who regard the Web's technical infrastructure as an opportunity for opening up unimpeded social space.

Not surprisingly, the rapid rise of social media has also triggered a standoff between social media adepts and staunch critics in academic circles. On the one hand, we find early enthusiasts who, in Benkler's and Jenkins's footsteps, rejoice at the potential of Web 2.0 to empower users to wield their new digital tools to connect and create, while developing a new public sphere or a fused public-corporate sphere in the process. Social scientists and journalists have argued that social media open up a new private sphere or are at least an exciting experiment in mixing private and public.

For instance, communications scholar Zizi Papacharissi (2010) argues that social media platforms have introduced a space where boundaries between private and public space have become fuzzy, claiming that this imprecision opens up new possibilities for identity formation. Jeff Jarvis (2011) also cheers the ambiguity; he attributes its redeeming potential to Facebook's and other sites' ideal of openness and connectedness.¹⁵

On the other end of the spectrum, we find two types of detractors. Political economists assailed the incorporation of social media, labeling them as failed experiments in democratic participation or dismissing them as dependent on a naive belief in the possibility of developing a new or alternative public sphere alongside the existing public, private, and corporate spheres (Milberry and Anderson 2009; de Peuter and Dyer-Witheford 2005; Skageby 2009). The incorporation of platforms, some critics contend, hampered the development of Web 2.0's full potential as an instrument for participatory culture, self-regulation, and democracy. Instead, commercial platforms introduced new modes of surveillance, bartering privacy for the accumulation of social capital (Cohen 2008; Haythornthwaite and Kendall 2010). Other critics of platforms object to users' being doubly exploited, both as workers—deliverers of data to UGC and SNS platforms—and as consumers forced to buy back their own processed data by relinquishing privacy (Terranova 2004; Petersen 2008). More profoundly, some observe that the selling of privacy may be mistakenly viewed as the natural consequence of users' eagerness to connect and promote the self, rather than being understood as the corollary of a political economy deeply rooted in audience commoditization (Fuchs 2011a).

In addition to adepts in political economy, a number of legal experts and consumer groups have censured Facebook and other platforms for violation of privacy laws as they cultivated their newfound digital territory. Offsetting the benign rhetoric of fading or fuzzy boundaries, courts and lawyers often recognize a sharp dichotomy between private and public in their affidavits when taking on cases against new media corporations. Legal scholars have called for a recalibration of traditional juridical concepts in response to social media platforms deliberately exploiting the fissures of virtual space (Solove 2008; Nissenbaum 2010; Grimmelmann 2009). Privacy experts consistently defend the boundaries between private, corporate, and public space to protect the rights of citizens against platform owners' calls for more "transparency"—a term that often appears to apply to users only. Although my argument takes a nonjuridical perspective, I share legal experts' concerns about privacy in social media.

As often happens with debates on contentious and multifaceted phenomena, the issue gets mired in a myriad of polarized debates. Over the past decade, connective media have often been framed as a confrontation

between users and owners. *Time* magazine's triumphant dictum about the "many wresting power from the few" had it backward; according to some, the new media were about the "few (platform owners) wresting control from the many." Even though I sympathize with the criticism of political economists that a forfeiture of privacy is a direct result of social media's commoditization, I often find the users-versus-owners standoff to be unproductive as an explanation. The resulting picture is mostly one of victims versus perpetrators, of the powerless versus the powerful. Obviously, social media services can be both intensely empowering and disturbingly exploitative; sociality is enjoyed and exercised through precisely the commercial platforms that also exploit online social activities for monetary gains.

Going back to the Alvin family, introduced at the beginning of this chapter, we can see these two profoundly different views on user agency mirrored in Pete and Sandra. Sandra represents the many users for whom social media platforms provide a means not only of pleasure but of profitable business: Blogger has been instrumental to her blog-publishing activities, and without Twitter and Facebook, she would not have had an extensive network of followers and friends through whom she acquires paid assignments. Like many (mostly young) entrepreneurs, she is taking advantage of those platforms that monetize connectivity, while taking their sometimes-obscure commercial strategies for granted. Pete Alvin exemplifies those users who are disappointed with mainstream platforms taking over the community spirit they initially cherished and nurtured. He feels uncomfortable giving away so much personal information while gaining little transparency in return. The perspectives Sandra and Pete represent are driven by different ideologies or worldviews; however, they are not mutually exclusive or incommensurate. Users can enjoy connective media and still be critical of their functioning, for instance by taking a vocal stance on privacy issues or data control. Users are citizens as well as consumers, professionals as well as assertive voters. Platform owners and app developers are producing agents and social forces; they can exercise economic and political power to change or sustain existing hierarchies and deploy their technologies to do so. In sum, the heterogeneity of actors warrants a treatment of sociality more complex than that of simply confirming the standoff.

1.5. THE ECOSYSTEM OF CONNECTIVE MEDIA IN A CULTURE OF CONNECTIVITY

Academic discussions on social media generally mirror public debates, often zooming in on breach of privacy laws, the assessment of viable business models, and an analysis of users' pleasures or of their exploitation.

Although these debates are all valid and highly relevant, the aim of this book is to focus not on privacy or commoditization as such, but on the *historical and cultural* convolutions underpinning these tensions. In exploring the short but rich history of social media platforms and the online sociality that came along with their evolution, I want to expose the changing cultural norms and values on which these legal and economic challenges are staked, as well as the technological, ideological, and socioeconomic structures through which they are waged. Privacy and commercialization concerns are emblematic of the larger battle for control over personal and collective information. Who can own someone's profiling and behavioral data? Who is allowed to interpret, aggregate, and sell information derived from personal data? How do various platforms infiltrate everyday communicative and creative habits, and what power do users and owners have to shape online sociality?¹⁶

Social media constitute an arena of public communication where norms are shaped and rules get contested. Norms, as Michel Foucault (1980) has theorized, constitute the social and cultural cement for grounding laws and legal regulations. The power of norms, in the area of sociality, is much more influential than the power of law and order. Contemporary methods of power are methods whose "operation is not ensured by right but by *technique*, not by law but by *normalization*, not by punishment but by *control*" (Foucault 1980: 89, emphases added). In less than a decade, the norms for online sociality have dramatically changed, and they are still in flux. Patterns of behavior that traditionally existed in offline (physical) sociality are increasingly mixed with social and sociotechnical norms created in an online environment, taking on a new dimensionality.¹⁷ For instance, the norms for "sharing" private information and for accepting personalized advertisements in someone's social space were very different in 2004, in the early stages of Web 2.0 space, than in 2012. Changes were implemented *gradually*, and while users got habituated to new features, the norms for *privacy* and accepting monetization were stretched accordingly. It is precisely these changes I am interested in: how they occur through specific platforms and how they affect online sociality as such.

Normalization occurs detectably, through various levels of adjustments, including technology features and terms of use. But it mostly happens imperceptibly, through gradual transformations of user habits and changing levels of acceptance. In addition, norms are diffuse, as they have strikingly different effects on individual users, particularly users from different generations. Pete and Sandra showed dissimilar levels of appropriation; their children's experience of online sociality, for their part, is also very different from their parents'. For Nick and Zara, the use of social media is

fully “normalized” in their everyday lives; not having gone through the early evolutionary stages, they accept these platforms as *conditions* for social interaction and are less likely to challenge their underpinnings. Once new technologies and their use have gained a naturalized presence, it is much harder to identify underlying principles and thus question their *raison d’être*.

Hence, new norms for sociality and values of connectivity are not the outcome but the very *stakes* in the battle to conquer the vast new territory of connective media and cultivate its fertile grounds. Instead of identifying how Facebook violates privacy laws or how Google’s legal transgressions correlate with its monetizing schemes, my aim is to trace disputed definitions of what counts as private or public, formal or informal, collaborative or exploitative, mainstream or alternative—arguments that are part of an ongoing clash between user tactics and platform strategies (van Dijck 2011). The battle described and analyzed has implications for society and culture at large. Norms are part and parcel of a larger culture that is infused with historical circumstances and political conditions. Legal scholar Julie Cohen suggests that culture “is not a fixed collection of texts and practices, but rather an emergent, historically and materially contingent process through which understandings of self and society are formed and re-formed.” To underscore the relevance of the ideological forces at work in this dynamic and the theoretical thrust of its essential openness, she adds:

The process of culture is shaped by the self-interested actions of powerful institutional actors, by the everyday practices of individuals and communities, and by ways of understanding and describing the world that have complex histories of their own. The lack of fixity at the core of this conception of culture does not undermine its explanatory utility; to the contrary, it is the origin of culture’s power. (Cohen 2012, 17)

The “explanatory utility” of the culture of connectivity is to help us understand social media’s historical expansion, the disputes arising in the process, and the normative changes in which they result, even if the outcome is transitory.

Several aspects of this culture will be highlighted in this book. First and foremost, it is a culture inundated by coding technologies whose implications go well beyond the digital architectures of platforms themselves. Sociality is not simply “rendered technological” by moving to an online space; rather, coded structures are profoundly altering the nature of our connections, creations, and interactions. Buttons that impose “sharing” and “following” as social values have effects in cultural practices and legal

disputes, far beyond platforms proper. Second, it is a culture where the organization of social exchange is staked on neoliberal economic principles. Connectivity derives from a continuous pressure—both from peers and from technologies—to expand through competition and gain power through strategic alliances. Platform tactics such as the popularity principle and ranking mechanisms hardly involve contingent technological structures; instead, they are firmly rooted in an ideology that values hierarchy, competition, and a winner-takes-all mind-set. And third, the culture of connectivity evolves as part of a longer historical transformation characterized by a resetting of boundaries between private, corporate, and public domains. The steady weakening in recent decades of the public sector and its gradual takeover by corporations forms a necessary backdrop for understanding the momentum for fast-growing connective media. Historically, neoliberal clashes with social-democratic ideologies often revolved around questions of the freedom of individuals and corporations vis-à-vis the responsibilities of communities and states. Platform owners' calls for more transparency and openness, for maximum sharing and frictionless online traffic, are entrenched in a neoliberal political agenda often advocating a downsizing of the public sector.

The struggle to define networked sociality and to impute new norms and meanings to this space began roughly in 2001 and still "lacks fixity," to reprise Julie Cohen's words. For practical reasons, May 2012 serves as the provisional endpoint of this study. If the aim is to understand how, in the intervening period, online sociality evolved, it is not enough to study individual platforms; rather, we need to apprehend how they coevolved in a larger context of interpenetrating platforms and to dissect the cultural logic undergirding this process. Therefore, I propose to look at distinct platforms as if they were *microsystems*. All platforms combined constitute what I call the *ecosystem of connective media*—a system that nourishes and, in turn, is nourished by social and cultural norms that simultaneously evolve in our everyday world. Each microsystem is sensitive to changes in other parts of the ecosystem: if Facebook changes its interface settings, Google reacts by tweaking its artillery of platforms; if participation in Wikipedia should wane, Google's algorithmic remedies could work wonders. It is important to map convolutions in this first formative stage of connective media's growth because it may teach us about current and future distribution of powers.

Over the past ten years, several (groups of) academics have taken on the study of singular platforms and reviewed their varied manifestations. Needless to say, Google, Twitter, Facebook, and others have been the subject of numerous laudatory "inside" stories—mostly attempts to translate

a platform's commercial power to interested users or small businesses, or to satisfy people's curiosity about how things work inside "the plex."¹⁸ Some platforms have received ample academic attention from scholars analyzing their technological and operational complexities.¹⁹ Furthermore, there have also been a number of general critical studies that examine the Web's technological specificities (Galloway 2004) or look at media ecologies as emergent technical, sociopolitical, or historical systems (Fuller 2005; Lovink 2012; Gitelman 2008). Last but not least, there are a few excellent studies mapping the political and economic significance of social media and focusing on how they leverage power at the levels of grassroots activists, governments, and corporations (Morozov 2011; Castells 2009; Fuchs 2011b). All these studies, as well as a score of others, provide valuable input for the argument developed in this book.

The particular approach adopted in *The Culture of Connectivity* is aimed at providing a critical history of roughly the first decade of connective media, relating the analyses of five specific platforms to the larger ecosystem and the culture in which it evolved. Rather than recounting or discounting the success of these platforms, I try to articulate their specificities as well as their differences by tracking their evolution. Dissecting these platforms to find the principles of their anatomy, I will be looking for differences and similarities in the way they function and operate. How did individual platforms code and brand specific niches of everyday life? What specific user functions did they develop, and how did users respond to a platform's changing technologies? How are the tactics and mechanisms of individual platforms interrelated? On what ideological or political assumptions do they operate? What social and cultural norms underpin the ecosystem of connective media, how have they changed, and what role did (and still do) users and owners play in this transformation? Such questions require not just a comparative analysis of single platforms but also a connective approach. Designing such an approach partly forms the challenge of this study.

The ecosystem of connective media, as it has progressed since the turn of the millennium, has comprised hundreds of players, engaged millions of users, and affected both local and global normative and legal schemes. To this day, the larger technological infrastructure on which social media platforms are built is still volatile, and few, if any, platforms have yet attained a stabilized meaning or standardized use in the context of this unstable ecosystem (Feenberg 2009). I do not pretend in any way to cover the territory in its entirety, but by tracing the fortunes of five prominent platforms—Facebook, Twitter, Flickr, YouTube, and Wikipedia—I hope to offer a systematic framework for understanding their interdependent

development.²⁰ The last chapter will particularly address the connections between microsystems and ecosystem: how do all platforms interconnect in an infrastructure that is increasingly compartmentalized? And how do they live up to promises of making the Web more social and the world more transparent? As we look into the future, the trend of engineered platforms permeating our everyday lives will only gain significance with the dazzling expansion of mobile apps and devices. The ecosystem, too, adds importance in the wake of technological developments such as “Big Data” processing. The year 2012 configures a momentary link between the first decade of maturing platformed sociality and the next decade of a projected Semantic Web with automated connectivity at its core.²¹

Notwithstanding the Alvins, this book does *not* depict the microbehaviors of users or the quotidian activities of families at one moment in history. It is rather about the ways in which social media have permeated manifestations of sociality and creativity in the (Western) world over the past decade. Teenagers and young adults can no longer imagine organizing their social lives without Facebook at its center; news organizations have accepted Twitter as one of their principal sources of breaking news; a pop band that ignores the potency of YouTube’s viral videos might as well denounce its fan base; Flickr and Facebook have become global distribution centers of digital snapshots; and few students would still be able to write a term paper without access to Wikipedia—or Google Scholar or Search, for that matter. *The Culture of Connectivity* aims to offer an analytical model to elucidate how platforms have become central forces in the construction of sociality, how owners and users have helped shape and are shaped by this construction; in other words, it wants to enhance a historical understanding of social media’s impact on the everyday lives of families like the Alvins.

When critically examining the history of platforms and the ecosystem through which they evolve, we need to create a functional anatomical instrument, a multilayered analytical prism that allows us to see more than just a technological platform deployed by users and run by owners. Since there is neither a ready-made analytical model nor a clear-cut theory to tackle this phenomenon consistently and systematically, the next chapter sketches the outlines of a multilayered approach to social media.

NOTES

CHAPTER 1

1. It is very difficult to find unambiguous facts about overall social media use. The numbers mentioned are cited from the CommScore report 2011. Available at http://www.comscore.com/Press_Events/Presentations_Whitepapers/2011/it_is_a_social_world_top_10_need-to-knows_about_social_networking. Last checked May 24, 2012. These numbers serve as a general trend indicator.
2. The verb “twittering” is used in a number of European languages, such as Dutch and German, whereas the verb “tweeting” is preferred in English.
3. Google Search and the company’s specialized services (Maps, Scholar, Earth, Streetview, etc.) have conquered by far the largest share of the search engine market (82 percent); Yahoo (6 percent), the Chinese engine Baidu (5 percent), and Microsoft’s Bing (4 percent) are Google’s main competitors. Source: Wikipedia overview of search engine markets. Available at http://en.wikipedia.org/wiki/Search_engines#Market_share. Last checked May 27, 2012. The market for web browsers, intended to access the WWW, is divided much more equally: in June 2012, Internet Explorer (MS) has 26 percent of the market, Google Chrome 25 percent, Firefox 22 percent, and Safari 14 percent. Web directories specialize in linking to websites and categorizing those links; two examples are Yahoo! Directory and the Open Directory Project, in partnership with AOL search. Available at <http://www.dmoz.org/>. Last checked May 31, 2012.
4. Search engines and web browsers have arguably become an invisible layer of applied services, as they are often overlooked in terms of their technological and ideological steering of users. For instance, Eric Schmidt, one of Google’s cofounders, in a lecture delivered to a symposium at the Royal Dam Palace in Amsterdam on May 24, 2012, talked about all Google platforms as “utilities,” a term he used interchangeably with the Web itself. As I will argue later on (chapters 6 and 7), search engines and web browsers are central applications on which many social media platforms depend for their distribution.
5. The term “Web 2.0” was coined in 1999 and made popular by Tim O’Reilly in 2004. The term suggests a technical overhaul or changed specification of the WWW, but according to Tim Berners-Lee, there was no such reorientation, as its founder always intended the Web to become a two-way medium (“the Read/Write Web”); what gradually changed after 2003 is the way software engineers and users developed applications for the Web.

6. See *Time* magazine, December 16, 2006. Available at <http://www.time.com/time/covers/0,16641,20061225,00.html>. Last checked May 27, 2012.
7. See *Time* magazine, December 27, 2010. Available at <http://www.time.com/time/covers/0,16641,20101227,00.html>. Last checked May 27, 2012.
8. Mark Zuckerberg has stated Facebook's mission in numerous interviews, both in newspapers and on television. See for instance an interview with Zuckerberg and Sheryl Sandberg (Facebook's COO) with Charlie Rose on KQED, broadcast November 11, 2011. Zuckerberg explained the company as "completely open, transparent; everyone is connected to each other. You grow more when you're connected."
9. Please note the distinction between "engineering sociality" and "social engineering." The latter term is rooted in political science, where it refers to efforts of governments or private groups to massively influence social behaviors and popular attitudes. The engineering of sociality (my term) refers to social media platforms trying to exert influence on or directing user behavior.
10. The popularity principle was first established with regard to search engines: queries tend to reward sources already cited over sources that are less well connected; this "rich get richer" or "winner takes all" effect—much-cited sources gain prominence at the expense of less connected sources—is a well-researched yet disputed phenomenon in search engine research. See also van Dijck (2010).
11. I find the term "connective media" more suitable than the generic label "social media." In the remainder of the book, I will still deploy the term "social media" to alternate with "connective media." The term "social media" has become so ingrained in everyday language that it is hard to avoid.
12. Marc Zuckerberg, in David Kirkpatrick's book *The Facebook Effect* (2010: 199), is quoted as saying: "You have one identity. The days of you having a different image for your work friends or co-workers and for the other people you know are probably coming to an end pretty quickly. . . . Having two identities for yourself is an example of a lack of integrity."
13. For a detailed analysis of Web 2.0 business manifestos transferring the meaning of nonmarket peer production into for-profit enterprises, see van Dijck and Nieborg (2009).
14. The top 100 Web 2.0 platforms, ranked on the basis of number of average page views over the past three months and the number of average visitors, shows only two sites that are nonprofit: Wikipedia (no. 6) and Pirate Bay (no. 75). Source: Alexa Rankings. Available at <http://www.alexa.com/topsites/global;0>. Last checked May 27, 2012. For an analysis of profit versus nonprofit web 2.0 platforms, see Fuchs (2009b).
15. Evgeny Morozov sharply attacked Jeff Jarvis's assumptions on social media platforms as the saviors of humankind in a review in the *New Republic*. See E. Morozov, "The Internet Intellectual," *New Republic*, October 12, 2011. Available at <http://www.tnr.com>. Last checked May 27, 2012.
16. Information experts such as Poritz (2007) are rightly concerned about the accumulation not only of personal data but also of aggregated information—all valuable intelligence prone to being manipulated and sold. Jakobsson and Stiernstedt (2010), more profoundly, are concerned about sociability as such.
17. Hetcher (2004) provides a very thorough and early theoretical work on the importance of norms in the world of Internet and online sociality. Drawing on social science as well as moral and political philosophy, Hetcher explores how norms, understood as patterns of rationally governed behavior maintained in groups by acts of conformity, fill the gap between the law on the one hand and

- informal social practices on the other. He applies these insights to tort law and Internet privacy laws.
18. See, for instance, Levy (2011), Auletta (2009), and Jarvis (2009) on Google; Comm and Burge (2009) on Twitter; and Jarvis (2011) and Kirkpatrick (2010) on Facebook.
 19. YouTube was the subject of several multidisciplinary efforts (Burgess and Green 2009; Lovink and Niederer 2008), and so was Wikipedia (Lovink and Tkacz 2011). American media theorist Siva Vaidhyanathan (2011) published an incisive analysis of how Google, by operating a multitude of platforms, has become a dominant player in the connective media ecosystem.
 20. These particular five platforms were selected for various reasons besides the fact that all are dominant platforms ranked (or previously ranked) in the top ten. First, two platforms are predominantly SNS (Facebook and Twitter), while the other three are in essence UGC sites. Second, they do not all represent successful, triumphant enterprises: Flickr is an example of a struggling, failing platform (I could have chosen Myspace instead). Third, I wanted to include at least one platform with a nonprofit ownership structure (Wikipedia) to highlight its difference from for-profit sites.
 21. Futurists and information specialists consider Web 3.0 to be the Semantic Web, which will involve, among other developments, the rise of statistical, machine-constructed semantic tags and complex algorithms to enhance the personalization of information, driven by conversational interfaces. Some also imagine the simultaneous integrated development of TV-quality open video, 3D simulations, and augmented reality, in addition to pervasive broadband, wireless, and sensor-directed online activity. See, for instance, Hendler and Berners-Lee (2010) and Siegel (2009) for Web 3.0 explanations and prophecies.

CHAPTER 2

1. The story of the iPod, iTunes, and the integrated development of software, hardware, content, and the music industry is insightfully described in Walter Isaacson's biography of Steve Jobs (2011), more specifically in chapters 30, 31, and 32.
2. Actor-network theory has drawn criticism particularly in terms of its usefulness for analyzing *digital* networks. For one thing, ANT is said to overemphasize the relation between human and nonhuman forms of agency, while the complexity of Web 2.0 platforms forces its analysts to move beyond this binary configuration (Rossiter and Lovink 2010). Although I agree that there might be too much weight put on the human versus nonhuman actor in ANT, this criticism ignores the fact that ANT is explicitly leveled at the fluid relationships between humans, technologies, and ideas. About the fluidity of the (human/nonhuman) actor, Latour (1998, n.p.) explains: "There is no model of (human) actor in ANT nor any basic list of competences that have to be set at the beginning because the human, the self and the social actor of traditional social theory is not on its agenda. So what is on its agenda? The attribution of human, unhuman, non-human, inhuman, characteristics; the distribution of properties among these entities; the connections established between them; the circulation entailed by these attributions, distributions and connections; the transformation of those attributions, distributions and connections, of the many elements that circulates [*sic*] and of the few ways through which they are sent." It is exactly this notion of fluidity between various actors that I am looking for when trying to define connectivity.

CHAPTER 8

The Ecosystem of Connective Media: Lock In, Fence Off, Opt Out?

8.1. INTRODUCTION

Remember the Alvins, introduced in the first chapter? Sandra Alvin, a freelance publicist who depends for her income on platforms like Facebook and Twitter, made a disturbing discovery. When she checked her popularity index on Klout—part of her regular routine to gauge her online reputation—she found that a Klout page had been created for her 12-year-old son Nick, a minor who is not yet allowed on Facebook. Nick had no confessions to make, so Sandra concluded that his addiction to CityVille must have automatically assigned him a place in the ranked universe of social media. Adding to both parents' annoyance was 16-year-old Zara's announcement that a major clothing and apparel firm had sent personalized promoted stories to all her Facebook friends' Walls, stating how much she "liked" a particular pair of jeans. As much as Sandra rejoiced in the professional benefits and personal pleasures of social media, she loathed the targeting of minors for marketing purposes.

All these events made Pete Alvin rethink the quality of his online experience; an early adopter of social media, he had become increasingly averse to the commercialization of content and what he felt to be an invasion of privacy. He decided to quit Facebook, a move already impelled by the announcement of the site's latest interface changes: a Timeline feature he did not want, and which he disliked even more when he received uncalled-for personalized ads. It took him several weeks to find out how to really quit Facebook—pushing the "quit" button apparently was not enough to disconnect him from the site. What troubled him most, though, were the negative reactions from his friends, relatives, and club members who complained

they now had to send him separate e-mails to garner his attention. Contrary to his wife, Pete felt locked in by omnipresent connective media, both technically and socially; paradoxically, he felt caught in the trap of a normative online sociality he had himself helped create over the years.

The micro-behaviors of a family like the Alvins reveal the complex tensions that underpin the normalization of connective media in everyday life—a process of gleeful appropriation as well as critical resistance. These tensions play out on the various abstract levels introduced in this book: not just at the techno-cultural and socioeconomic levels of separate microsystems, but also at the level of the ecosystem and the culture that sustains it. The process described in the previous chapters is one of transformation, whereby all actors are constantly exposed to new options and challenges that also redefine them as they unfold. Juxtaposing the histories of microsystems prompts reflection on the changing nature of the ecosystem and online sociality, including, among other things, the role of algorithms in the steering of desires, the power of users to control their data, the apparent tension between community-based connectedness and commercialized connectivity, and the meaning of “public” and “nonprofit” in an ecology that is dominated by corporate forces.

For Pete, the spirit of community formation and democratic empowerment, which motivated him to be an early adopter, has become co-opted by the logic of connectivity imbued in the commercial drives and coercive formats of many platforms. Pete’s position with regard to social media not only differs from his wife’s but also from his children’s; while he personally experienced the transition from a participatory culture to a culture of connectivity, the younger Alvins accept the ecosystem as a condition upon which their social lives unfold. It just is. The normalization of social media means they take them for granted as an infrastructure. But what are the implications of a platformed sociality that is conditioned by a corporate sector, wherein partnerships and competition define the coded ground layer upon which a myriad of apps is built? And what are the cultural and ideological underpinnings of this ecosystem that make it seamlessly connected? It is time to reassemble the histories of microsystems and explore how the interlinked ecosystem sustains online sociality.

8.2. LOCK IN: THE ALGORITHMIC BASIS OF SOCIALITY

Technology

When Google introduced its networking service Google+ in June 2011, the company trusted its interface’s accent on distinctive “circles” of friends to lure away a substantial number of Facebook members. In response to

Google+, Facebook promptly offered Katango, an iPhone app that automatically organizes your Facebook friends into groups: algorithms compute who is a family member, who went to college or high school with you, or who is on your basketball team. Katango is incompatible with Google+. Plug-ins and apps are continuously invented to interconnect platforms and align their operability, even if they are incompatible. For instance, an app called Yoono helps you sync input from all your social networks—Facebook, Twitter, Flickr, YouTube, and instant messaging services—so you won't have to keep up with them individually, warranting the highest possible presence on multiple platforms.¹ Maximum presence is important if you want to rank high on the Klout scores or if a company wants high visibility. Thousands of apps connect major platforms and fill the gaps between them, securing interoperability and making online life “manageable” for users.

Major players in the ecosystem like to present themselves as conduits for data traffic. However, as I have argued in chapter 4, the world of connective media is anything but a neutral infrastructure. The fast-moving world of apps and social plug-ins discloses an intriguing fusion of competition and collaboration: whereas some platforms try to “lock in” apps and users by making their features and services incompatible with their competitors', others opt for ubiquitous presence of all features on all platforms, while complementary apps try to bridge the gaps. In the course of the past decade, the strengths and weaknesses of the ecosystem as a whole have played out particularly in the interstices between platforms. Microsystems have developed in conjunction, reacting constantly to each other's strategic interface modifications. Because of the ubiquitous presence of Like and Share buttons, Facebook has overwhelmingly won in the department of social networking, forcing others to penetrate a different niche, or, as in the case of Google+, to compete head-on. Twitter's algorithmic functions of “following” and “trending” secured its top position as a microblogging platform, and its omnipresence in all kinds of media guarantees its dominance in this sector. Meanwhile, YouTube's inimical connection to Google's search and advertising algorithms procures a chain of interlocking platforms, while each of their functions (search, video sharing, browsing, etc.) is absorbed by other platforms. Any platform dominating a particular niche of social activity is eager to have its buttons ubiquitously implemented on other platforms—a mutually beneficial arrangement because it boosts traffic for all parties involved—while the platform's owners also want to lure and lock users into their chain of platforms.

Algorithms undergirding all kinds of online social acts are becoming increasingly compatible and thus interchangeable. Twitter's microsyntax of

the lure of pronouncing
judgements

and @ fits Facebook's grammar of likes and pokes, and matches YouTube's vocabulary of favoriting and ranking. Code could be considered the new Esperanto of online sociality—a universal currency that makes social, cultural, political, and economic discourses interchangeable. Or, as philosopher David Berry eloquently explains:

Code becomes the unavoidable boundary around which no detour exists in order to participate fully in modern life. It is ubiquitous. Formatted by code, harmonised with the language of machines, our life history, tastes, preferences and personal details become profiles, mailing lists, data and ultimately markets. (Berry and Pawlik 2008: 58)

code

Channeling users from social networking to commercial activity is increasingly shaped as a fluent movement of buttons: from Google+ to YouTube to the Google Music Store to Google Wallet takes four clicks, leading you from a friend's recommendation to watching the clip to purchasing the download. A user is thus lured and "locked" into the algorithmic flow programmed by Google. But even if that user chooses to escape the convenience of the Google flow and clicks to iTunes instead, Google still has an interest in interlinking because in a connective system all platforms profit from boosted user traffic. Algorithms that promote interlinking are not just securing a "frictionless online experience," but also making that experience manipulable and salable.

FB

In barely ten years, algorithms have come to punctuate everyday social acts. EdgeRank, PageRank, GraphRank, and their many equivalents computationally convert past behaviors into future performance. Contacting a friend you have not seen since high school may be a thoroughly human act, but if performed online, a People You May Know algorithm typically prompts this deed. A teenager who never considered following her favorite singer may be pushed by cross-linked microsystems connecting viral videos via YouTube, Twitter, and Facebook. Technological pressure from multiple platforms to select the most popular and most connected person or idea, is, in turn, reinforced by peer pressure in real life. Peer pressure has become a hybrid social and technological force; connections between people inform automated connections and vice versa. Some hail this development as "augmented humanity"—technologies enhancing human social action—while people critical of the "technological unconscious" regard this coded layer as a black-boxed influencer of sociality.² Obviously, these evaluations of the same phenomenon derive from different ideological views.

Although each algorithm is a slightly different inscription of sociality and each interface shows distinct variances—a Like is not a Retweet—the

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technologies structuring platforms all operate from similar social norms and cultural logics. The algorithm underpinning the Like button, for instance, measures people's desire for things or affinity to ideas. Not coincidentally, Facebook chose a "like" feature rather than a "difficult but interesting" button or an "important" button. "Likes" are not just thermometers of desire but also generators of potential consumer trends. When people see what others like, they want it more—another consequence of peer pressure—and knowing what people want is the basis of constructing needs, as most marketers learn their first week on the job. A similar logic underpins Twitter's following function: the more people follow someone, the trendier he or she becomes; the more people Retweet a quote, the more impact it has in the twitterverse. YouTube's video-ranking mechanism, too, derives from the same driving principle; videos that are "favorited" gain a better ranking position and thus more visibility. Most platforms are compatible because they are staked in the same values or principles: popularity, hierarchical ranking, neutrality, quick growth, large traffic volumes, and fast turnovers. Moreover, social activities are inextricably bound up with economic pursuits in a culture of automated "personal" recommendations.

Users and Usage

In the short history of social media, individual microsystems evolved along with their user dynamics. In the early part of this century's first decade, the Web 2.0 promise of connecting and activating users abundantly resonated through social platforms. Most early adopters welcomed these platforms' contribution to sharing online creativity, community-based social activities, and egalitarian interaction—ideals rooted in liberal democratic paradigms. Over time, users' motives for participation changed as platforms became bigger and were increasingly run by large corporations. But the division of users into monolithic groups either holding up a community ideal or favoring a commercial objective turns out to be deceptive. For one thing, platform owners surreptitiously preempted the rhetoric of collaboration and gradually endowed concepts like sharing and friending with a different meaning. More importantly, active users well aware of the profit-driven motives of platforms still decided to use them; in the case of Flickr, for instance, many users who were persistently critical of the site's modifications remained faithful members.

Users obviously gained a range of benefits from mainstream platforms as they developed into a global system. Facebook's potential for global networking and Twitter's ability to create a large following arguably expanded the

effectiveness of grassroots communication. YouTube's and Flickr's capabilities of sharing one's creative products with a group of like-minded enthusiasts are unprecedented in scale and scope. And an online encyclopedia with large numbers of people contributing entries and edits would have been unmanageable and unimaginable without the connective infrastructure that evolved. Users helped build platforms and thus co-developed the conditions for online socialization. At the same time, these platforms brought along privacy transgressions and monetization tactics users did not like. As much as users feel empowered by social media, many also feel they have less control over their once informal sociality. What is more, these ambiguous reactions might even come from the same person, which is why they deserve closer inspection.

The early expectation that Web 2.0 technology was going to usher in a platformed sociality conditioned by user equality and equal access turned out to be utopian. As we have noticed in the previous chapters, all platforms treat some users as more equal than others owing to the hierarchical system inscribed in their interface designs. Facebook, Twitter, Flickr, YouTube, and Wikipedia all reward users who have proven to be successful or reliable contributors of content. Gradually, the stratified star system of old media was complemented by an equally stratified ecosystem of connective media, where some users got pushed to the top. YouTube's professionalized contributors or skilled and drilled Wikipedians wield more influence in their respective microsystems than amateurs and onetime contributors. Online sociality needs influencers as much as followers, personalities as much as admirers, creators as much as consumers, professionals as much as amateurs, editors as much as readers. That is why twitterers with large followings are singled out to distribute promoted tweets and why teenagers with many friends on Facebook receive special offers from companies to endorse their products. Popularity rankings filter out people who are less "valuable" than others. A far cry from the egalitarian principle once ascribed to social media, platforms discipline their users into particular roles and modes of behavior.

The potential empowerment through social media thus presented itself as a double-edged sword. For some, user participation in social media has become a thoroughly commercial or consumptive act (Terranova 2004; Fuchs 2011b). Others have pointed to the fact that users may enjoy their roles as follower, consumer, and viewer, even if they are aware of the commercial mechanisms involved. Moreover, manipulating data streams is not the sole privilege of managers; users, too, can play the system to "crowd-source" opinions and rally support. Platforms endow their users with instruments to influence data streams through clicking, tagging, liking, trending, or pushing some topics to go viral. Indeed, users massively peruse the dashboard of buttons to cajole public opinion and steer trends. Although

both owners and users can manipulate social media's filtering apparatus, it is important to distinguish their difference in power.

One way to clarify nuances in user empowerment is through implicit and explicit users. While implicit users may be "locked in" by microsystems and their programmed flow, actual users may actively try to modify or resist the roles inscribed in coding technologies. As we have seen in the previous chapters, individual users and user groups staged vocal protests when they were confronted with changes in a site's interface or ToS. Angry and wary members of Facebook, YouTube, and Flickr responded by writing critical blogs, circulating petitions, and posting protest videos. Concerned Wikipedia users openly criticized the disciplinary procedures of "their" site. Indeed, these protests and criticisms are typically directed toward single platforms and are commonly triggered by a site owner's specific actions, such as Facebook slipping new clauses into its ToS or YouTube changing its interface. But a growing number of users are critical of connective media's underlying mechanisms and start to look for fitting responses; they may ultimately switch to platforms that allow more user control over data or to sites that are more transparent in terms of their business models or privacy policies, even though of switching costs can be high.³

Over the course of ten years, users have negotiated their relationship vis-à-vis platforms through appropriation and protest, a process that has left no actor unaffected. If we think of Facebook's Beacon debacle or Flickr's move to insert a Commons space, these were not simply examples of clashes or compromises between owners and users; platforms altered their strategies as a result of these maneuvers, and the very notion of online sociality and community changed accordingly. The process of negotiation also involved a redefinition of norms and values, such as connectedness and community. This subtle cat-and-mouse game certainly yields winners and losers; but, as argued in chapter 5, the meaning of success or failure is not etched in stone either. The current dominance of some platforms in the ecosystem is precarious: after all, just as users have massively left Myspace or Flickr, they may get tired of Facebook or YouTube. Gullible followers may become critical dissenters who raise their voices through individual blogs and watchdog NGOs, or they may choose other forms of engagement.

Content

If we look back upon the past decade of the evolving ecosystem, it is instructive to recall the early promise that Web 2.0 platforms would liberate content. The production of music, films, videos, art, and texts would

no longer be limited to professionals, as the tools for creative production would be yielded to amateurs and citizens. Content would be released of cultural constraints—restrictive cultural forms and formats—and economic restrictions, as it was to be distributed free of charge. “Making content social” was supposed to mean that users generate and circulate digital content so as to enhance informational diversity. However, over the past decade, users and platform owners have appreciated the value of online content differently. Whereas the first regarded it as something to be created and shared, the latter increasingly defined it as something to be managed and exploited. Whereas users cared mostly about the *quality* and form of content, platform owners were preoccupied by data *quantities* and traffic volume. Let me explain each of these contrasting views more precisely.

Connective media have indisputably given rise to a number of new (and arguably liberating) cultural forms: the tweet, the video snippet, the blog entry, the webisode, and the mash-up, to name just a few. Online platforms spawned a lot of creativity, allowing users to invent new forms that suited their expressive and communicative needs. They also encouraged the creation of page designs and an impressive number of tools and apps. In recent years, though, we have noticed the tendency on the side of major platforms like Facebook and YouTube to revert to strict formats: preformatted entries and home page layouts that force users to submit uniform content. YouTube’s interface design features categories that predigest content, and Facebook regiments a narrative structure on each user page—a presentation mode it also imposes on brands and advertisers. Users who felt their creativity was seriously hampered by these coercive formats turned to specialized or alternative sites (such as Indymedia, SoundCloud, or EngageMedia), only to resort to mainstream SNS or UGC sites for their essential connective function.⁴

As stated above, the majority of large, mainstream platforms gauge content in terms of quantity, often measured by its potential to draw massive numbers of users. Content serves as bait to lure users who are eager to discuss and share pieces of music, videos, pictures, ideas, and texts with others. Viewers are prompted to actively rate and rank content, but are also passively tracked for what content they like by means of cookies. Tweets, snippets, and small talk coalesce into an infinite stream of data where they converge with metadata into a big flow of traffic filling the freeways of connective media. Big Data flowing through the arteries are the ecosystem’s lifeblood, determining its vitality. Some theorists have argued that social media’s data streams tend to clog in “filter bubbles.” Users are “locked in” by the content streams filtered through few large platforms, so they end up

seeing the same information, buying the same products, and watching the same clips.⁵ Content has no value in and of itself: it is the combination of content, metadata, and behavioral and profiling data that makes the resource of connectivity interesting for data analysts and marketers.

Data culled from social media sites—including “affective traffic” coming from “like” and “favorite” buttons—provide the rudimentary resource for data mining. As explained in chapter 4, two specific methods—predictive analytics and real-time analytics—are utilized to process these resources into valuable assets. Predictive analytics allows statisticians to extract information from all data to capture relationships between variables from past occurrences and the likeliness of users will exhibit such behavior in the future. Facebook and Google are particularly interested in predictive algorithms to improve the effectiveness of ads and in advancing the exploitation of their enormous quantities of data. Google Analytics, an integral part of the Google dynasty, has now teamed up with Twitter to explore the potential of real-time sentiments and trends. Catching real-time trends in geographical areas, such as colds or flus across the American northeastern states, allows advertisers to attune their placement strategies of promoted tweets for cough medicine or other pharmaceutical remedies.

The philosophy of data mining through these platforms relies not simply on the idea that online behavior reflects offline social conduct, but on peculiarly hybrid assumptions about online content, explained in chapter 4 as the paradox of “affective economics” (Andrejevic 2011). Analysts often treat content and user data as unmediated, spontaneous utterances from an actual public—results that they can aggregate and interpret; at the same time, the perennial stream of data can be interceded in by owners, advertisers, and, if they make a concerted effort, users, all of whom try to exert influence on online sociality. Users’ definition of content as people’s “spontaneous” creative and communicative online expressions is thus peculiarly aligned with the platform owner’s vision of content as something that needs to be managed and manipulated. Such a philosophy conspicuously parallels the conflation of connectedness and connectivity in the shaping of online sociality: people making connections and constructing communities is a necessary pretext for manipulating and monetizing social data.

In sum, *content* and *content management* have become virtual synonyms in the ecosystem of connective media. Even when the aim of platforms is not to exploit content for monetary gain, as in the case of Wikipedia, content can only be made functional or valuable if it is managed through systems operating on the dual premise of “authentic” yet manipulated processing. Twitter is increasingly considered a polling platform by political trend watchers who continuously want to measure the

use & manipulation
inseparable

real-time sentiments and preferences of electorates; at the same time, though, a variety of interested parties utilize Twitter an instrument for promotion and manipulation. Users need platforms to voice their opinions and creative expressions, while platforms need users to funnel their expressions in presorted formats. Content is spontaneous yet controlled, unmediated yet manipulated. The interoperability of microsystems is dependent not only on the compatibility of algorithms and formats, but also on a shared processing logic.

8.3. FENCE OFF: VERTICAL INTEGRATION AND INTEROPERABILITY

Ownership Structure

In June 2011, Facebook announced a deal with Skype, allowing their users to connect in real time with their friends. One month earlier, Microsoft, which owns a small stake in Facebook, purchased Skype for a reported \$8.5 billion, but the software company hastened to state that Skype would keep supporting all platforms and devices—not only the ones operated or owned by Microsoft.⁶ In April 2012, a month before its IPO on Nasdaq, Facebook took over Instagram to secure its expansion in mobile image sharing. Over the past few years, Facebook has closed partnerships with Zynga, Netflix, Spotify, Rhapsody, and Ticketmaster, thus creating a chain of vertically integrated services, both offline and online. Google further ventured into different divisions while simultaneously strengthening its integration of platforms. In 2010 and 2011, the search giant started the trade and marketing sites Google Wallet (a pay service) and Google Offers (day sales), complemented by Google Shopping and a Google Delivery service. With Google+, Play, YouTube, DoubleClick, AdWords, Picasa, Chrome, Cloud, Maps, Scholar, and a host of other services, the imperium has branched out into practically every type of platform, caching virtually every kind of social, informational, creative, and commercial niche.

The result of these various moves is a gradual development of a few major platform *chains*—microsystems vertically integrated by means of ownership, shareholder, and partnership constructions—that are now dominating the ecosystem of connective media: Google, Facebook, Apple, and Amazon.⁷ The first chain of microsystems, apart from integrating the aforementioned Google platforms, also developed partnerships with Twitter (see chapter 4), Wikipedia (see chapter 7), and Android (operating system for mobile). The second chain ties Facebook to Microsoft, Instagram, Flickr (see chapter 5), and Motorola (mobile hardware). While the Google chain developed its kingdom from online search and Facebook from social

networking, both are trying to control the ecosystem's entries, luring users into their web of platforms.⁸ As we saw in chapter 6, Google wants to be your "gateway" to the online universe; Mark Zuckerberg, in one of his IPO pitches, presented Facebook as a "passport" to the Internet, where every app is going to be tied in with Facebook.⁹ A legitimate question arises: do platform owners fence off competition by branching out into multiple services and engaging in vertical partnerships, forming "walled gardens" to channel online sociality?

motives
for
openness
V. E. Schmidt

This question begs for a techno-economic as well as a political-economic answer. To start with the former: Google, Facebook, and Apple operate from fundamentally different techno-economic principles. Google wants the "social" layer on the Web to remain open so its engines can crawl any type of content regardless of where and in which context it is generated. Facebook does not let Google's engines index its content, except for its public pages. Contrary to the twitterverse, which is fully accessible to Google's crawlers, Facebook fences off access to its pages, as it wants to be an identity provider to other services. By the same token, Apple's content created through its mobile devices (iPhone and iPad) is part of a cultivated garden, and hence impenetrable by Google's search functions; since iTunes is available through the Web, this part can be accessed by Google, but the real data value is generated by Apple's mobile devices. Not surprisingly, Google often presents itself as the natural extension of the neutral Web because the company has a vested interest in openness for its crawlers and for its advertisers, who want to reach customers. With a growing territory of social media land now being walled off by Facebook and Apple, Google gets access to fewer resources for mining purposes.¹⁰

The political-economic view on vertical integration becomes more interesting in light of these techno-economic conditions. If we look at each platform's ownership maneuvers over the years, we can see a pattern of vertical integration emerge. Of all major platforms discussed, no platform has stayed the same since its inception: Facebook and Google have each allied with (or branched out to incorporate) social network services, play and game services, marketing services, and the more general services (search, browsers), as well as software and hardware. Tracking these movements over the years, one might argue these platforms have blurred the boundaries between search, social networking, entertainment, and commerce. Some claim that the "social" Web has created a "nirvana of interoperability."¹¹

A vital question to ask is *for whom* these nirvanas of interoperability are most profitable. As argued in chapter 3, "frictionless sharing" can be mutually beneficial to all platforms working on the same premises.

Facebook, Google, Apple

+ Amazon

Partnerships like the one between Facebook and Zynga are lucrative for both parties: by hooking up to Facebook, Zynga taps into a large reservoir of potential gamers, while Facebook profits from its revenues. Partnerships between moguls Facebook and Apple are based on win-win agreements, not only because their services are largely complementary, but also because they work from the same premise of routing user traffic through their own backyards. Rivals Apple and Google are uneasy partners. Not coincidentally, Apple has displaced the YouTube button from a prominent position on its mobile hardware (iPhone, iPad), so it now has to be downloaded from the app store. And, as explained in the previous chapters, Google's partnership with Twitter is advantageous for parties whose resources and analytic instruments are complementary and whose philosophies with regard to open data crawling match. With Facebook and Google as rivaling farmers and Apple as the third constant gardener, the process of cultivating online sociality is basically in the hands of three—or, if you count in Amazon, four—big players who share some *operational* principles (popularity and neutrality principle, quick turnover, short-lived trends, etc.), while they differ on some *ideological* premises (open versus closed).

But the nirvana of interoperability is not equally welcoming to all platforms wanting to secure a place in the ecosystem. There is no doubt that the nonprofit and certainly the public sector are seriously underserved in the walled Garden of Eden. Indeed, the distinction between for-profit, nonprofit, and public domains has further eroded as the ecosystem got built; perhaps more accurately, building the connective ecosystem substantially contributed to the erosion process already under way in the offline world. Wikipedia and Flickr Commons represent the tiny part of nonprofit land that may be mined under a different license, but their domains are intimately interlocked in the vertical chains. Wikipedia benefits from maximum connectedness to Google, while Google gains from harvesting Wikipedia's metadata—connectivity being a worthless commodity for the nonprofit encyclopedia. Flickr Commons was a daring attempt to carve out a community-oriented nonprofit plot inside the Yahoo estate but led to confusion and inconsistent governance policies. Despite the overpowering incorporation of the social media layer by for-profit companies, we can still find platforms that are loyal to community models, albeit in the niches of the ecosystem. The footprints of early communitarian ideals are visible in many corners of platformed sociality where small platforms have procured their spaces; among the moguls, these footprints too often serve merely as strategic and effectual reminders of the original settler's utopian spirit.

community is
communitarian pattern

privatization —

the ecosystem's relation to public/non-profit

The ecosystem of connective media does not have a separate space for nonprofit or public platforms, fenced off from commercial space. Sociality, creativity, and knowledge are all plaited into the fabric of the ecosystem, where all coding activities and the exploitation of connectivity take place in the same corporately dominated ecosystem. Not coincidentally, network corporations have been eager to “adopt” services that used to belong squarely in the public sphere—think of Google Books and Google Scholar, not to mention Google LibraryLink. Over the past three decades, an increasing number of public services—in America even more so than in Europe—has been outsourced to the corporate sector: power supply, museums, prison systems, education, waste management, and so on. The incorporation of sociality, creativity, and knowledge therefore, continues an offline trend rooted in neoliberalist ideals of free markets and deregulation. At stake in the conquest of this new online space is what constitutes the *meaning* of public, private, and corporate in a seamless nirvana of interoperability.

So to call a platform “social” or liken it to a “utility” is part of the battle to define the corporate in terms of the public and the nonprofit. A utility, in the context of Google or Facebook, no longer means “public” and “neutral,” but “ubiquitous” and “inescapable.” Not coincidentally, Google and Twitter like to present themselves as guardians of net neutrality and the open Internet. They are obviously not Internet providers, but they emphasize the values of openness and connectedness because these are vital to their indispensability. Facebook’s calling for “transparency” and “connectedness” apparently applies to users only, as the company has itself been reluctant, at least up to its IPO, to release any concrete plans for data mining. Yet in spite of their professed community values and democratic rhetoric, corporations like Google and Facebook are adverse to regulators who favor a neutral or public network governed through harmonizing global-local policies for data traffic in order to secure the ecosystem’s interoperability (Schewick 2011; Cowhey and Aronson 2009). Connective media’s giants warn against “overregulation of the technology sector,” which they fear will hamper innovation and entrepreneurial investment, and call for “openness” to be regulated by the market itself (Schmidt and Cohen 2010: 80). Arguing against this neoliberal view are concerned citizens represented by NGOs, who want to hold their governments accountable for information infrastructures, and who want democratically elected authorities to defend their lawful privacy and maintain control over their information. This brings us to the question of governance: who regulates the territory of connective media?

cp. Google merged into the U.S.
— ? the conventional account
of public sector's IT

Governance

The issue of expansive platforms constituting walled gardens—locking in users, fencing off competitors, and incorporating nonmarket space—is, ultimately, a question of control over users' data and content. In the previous five chapters, we have seen how individual platforms regulate user privacy, data ownership, and copyright issues in their terms of use—sets of rules that are prone to frequent modification and have no mandate beyond the particular platform, or, as in Google's case, across its multiple platforms. What happens *between* platforms is part of a political bonanza played out between globally operating companies and government regulators distributed over many countries and different continents. A few big companies having too much control over people's private data has become a serious concern for government agencies and user advocacy groups, all of whom try to defend *public* and *private* interests against *corporate* dominance. But what exactly needs to be regulated in the new realm of online sociality where interoperability is the common creed and the freedom to switch services is said to be only "one click away"?¹² What needs to be governed if users choose the convenience of platform services at the expense of their own control over private data? Most importantly, who controls collective, aggregated data processed by commercial firms?

Few government agencies at a national or regional level defend the public interest against corporate dominance or control. The European Commission and the American Federal Trade Commission (FTC) have investigated Google's dominance in the search engine and browser market from an anti-trust perspective. Legal experts have warned repeatedly that a few platform chains are rapidly monopolizing access to, and control of, data.¹³ Indeed, search engines are a crucial instrument for access to distributed data—an instrument that Google's competitors lack or, if they have one, that pales in comparison. As stated above, Facebook's and Apple's strategies are different in terms of fencing off chunks of the ecosystem, and yet, all three companies are closed shops when it comes to their algorithms. For regulators, it would be extremely helpful to know *how* algorithms enable and constrain interoperability. The key to regulation seems to lie in technological secrets that are beyond any regulator's power. In that respect, anti-trust legislation may yield to "trust regulation" in the realm of social media: how can citizens *trust* companies who profess to do no evil and make the world more transparent if they do not themselves comply with self-professed norms of openness and transparency with regards to their algorithms and, by implication, their business models? Antitrust laws that worked for "old" media do not always apply in the same way to connective

challenges of interop. - unidirectional
regulate

media; whereas formerly *companies* were inspected for monopolizing markets, the level of *interoperating platforms* deserves more scrutiny from legislators now that new techno-industrial definitions of vertical integration emerge every day.

A similar expansive focus may be required from legislative bodies and advocacy groups defending *private* interest against corporate control in the realm of social media. Between 2000 and 2008, platform owners dismissed privacy as an irrelevant concern, arguing that users access their service free of charge and have other services to choose from. As argued in chapter 3, Facebook's CEO explicitly declared privacy to be "an evolving norm" and kept emphasizing the value of "sharing" over "protecting." So far, European and American regulators have negotiated specific privacy policies with individual corporate owners—Facebook most prominently among them—testing their interpretation of data use against the law. Beyond an impressive number of privacy violations taken on especially by European courts and regulatory agencies, there are at least three more general problems with individual platform's privacy policies that need to be taken seriously: terms of service are often hard for users to understand; owners can unilaterally change them; and resetting default privacy settings, instead of being "one click away," often requires considerable technical ingenuity. All problems are currently being addressed, but still mostly at the level of microsystems instead of the ecosystem as a whole.

Besides all due emphasis on *individual* private data and privacy policies of *individual* platforms, there has been another gray area of privacy legislation that has largely escaped the attention of legislators: connective data vis-à-vis collective privacy.¹⁴ As observed, platforms are increasingly keen on exploiting aggregated data, while their terms of service contain no or at best vague rules about who has access to aggregated and "anonymized" data or whether platforms might sell this information. Data generated by many users and aggregated by Twitter Trending Topics, Google Trends, Google Analytics, or Facebook Memology are becoming a valuable crop—grown by users, harvested by platform owners, then processed, repackaged, and resold mostly to advertising or marketing companies.¹⁵ Real-time and real-life data, as explained above, are rapidly becoming information commodities. Whereas before the advent of Web 2.0, public agencies used to gather and interpret social data, for instance about unemployment, epidemics, or economic recovery trends, these days Facebook and Google, through their refined social profiling systems, are way ahead of the government and universities in collecting and interpreting those kinds of data. In the current situation, connective media companies have an unfair competitive edge over (public) researchers when it comes to the availability and

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accessibility of Big Data for the assessment and interpretation of social and other trends, which is key to the production of knowledge. It is imaginable that scientists in the future will be dependent on commercial processing firms for obtaining access to social data.

If regulators take their concern over privacy and data protection seriously, they also need to pay attention to *collective privacy*: connective data are used to engineer individual as well as collective profiles of users, which in turn shape the production of sociality, creativity, and knowledge, even if subtly and unintentionally. Jonathan Poritz (2007) points to the large unmapped legal and moral territory where collective privacy is as of yet undertheorized and goes mostly unregulated. Since collective privacy is even harder to define—and therefore harder to protect—than individual privacy, Poritz calls for vigilance in tracking how social media platforms exploit instruments for aggregation and interpretation of data to which they have exclusive access. His concern stresses the urgent need for legislators to look at the ways in which media companies monopolize collective data and sell them back to users or public organizations, a development that is hard to miss.

Business Models

The balancing act between obtaining user data and selling them is even more discernable in the ways in which connective media companies have been monetizing their new services. From the very onset, the most central business principle for the emerging ecosystem has been the notion of “free.”¹⁶ The word has meant quite different things: content generated gratis by users, content distributed free of charge by platforms, and content untainted by mainstream media, commerce, or government interests. Early adopters of social media were particularly charmed by the concept of mutual gifting—services in exchange for user-generated content—and this concept made them averse to paying fees in whatever form. When collectives were replaced by corporate and nonprofit platforms, the mutual gifting idea kept lingering, but “free” also came to mean something else: “paid for” not in actual money but in users’ attention as well as their profiling and behavioral data. Attention was the most conventional resource to be monetized in the form of selling screen space for advertising and product promotion; refined demographic clusters of user data offered great potential for mass customization.

The monetization of data connectivity gave a new twist to all conventional business models while also enabling novel ones. Advertisements

ad → recommendation

previously catapulted indiscriminately toward mass audiences could now be delivered as personalized messages straight into a user's personal social space. The technique of automatically issuing customer recommendations through online friends gave rise to a novel category of "frustomers." And the ability of some tools, still under construction, to track and interfere in real-time trends and the use of predictive analytics for customer recommendations meant a big challenge to marketing departments. Customization seems to have become less the art of soliciting customers' needs than the science of engineering their desires. Indeed, the "free" content advocated by early Web 2.0 enthusiasts comes at a price, albeit a price that is not equally valued by all users. Many online users welcome personalized ads and customized services as the ultimate convenience, whereas others repudiate them as a blatant invasion of privacy and a "locking in" to services they do not appreciate. Depending on what ideological position you take on this issue, the original proposition of "free" is either a blessing or a curse.

And yet it is very hard to reverse this business principle on which the ecosystem was founded, now that most users have gotten used to "free" content. It has also irrevocably affected conventional media business models, such as membership fees or paid facilities. In recent years, a number of platforms began testing the option of charging fees for content (the *Wall Street Journal*) or charging premium services in addition to free use; this "freemium" model—described in chapter 5—often coupled payment for extra services onto promises of ad-free deliverance. Many platform owners are interested less in paid memberships than in "free" customers; in exchange for free services, they require the use of their data—a deal that is arguably more profitable than the collection of fees. In that sense, a user is simultaneously a resource provider, a product, and a customer. Buying into the "free" deal, users barter away privacy for convenience and facilities. Users who are fully aware of the price they pay may also adjust their norms to the conditions of free content. A recent study on the monetization of privacy tested how much people were willing to pay for services they could also obtain in exchange for private information; the results showed that approximately one-third of the experimental subjects were ready to pay more if the service provider promised not to use their data for marketing purposes.¹⁷

However, even if a substantial number of users prefer this option, it is doubtful whether they will be given the choice. For one thing, many platforms refuse to offer such option; while some offer freemium models in exchange for ad-free services, this does not mean they do not track or exploit user data for other purposes. Digital tech and advertising companies—most

free more rewarding than paying customers

interests in erasing boundaries
—the charm of Latour

prominently Google and Facebook—are adamant in defending their business models against legislative moves, both in the United States and Europe, to introduce “do not track” options in the law. Other companies, notably Apple, Microsoft, and Twitter, take a different stance and have begun to offer their customers the possibility of not being tracked, turning the option into a competitive edge.¹⁸ But the biggest problem that haunts those customers wary of bartering their privacy for online services is probably the opacity of business models that are typically partly hidden in the (proprietary) algorithms companies deploy. More often than not, we do not know *how* connectivity is exploited. Business models are the stakes in a dispute between owners and users over the monetization of content and online services: who provides what to whom at what price? Most big platform owners refuse to give users full disclosure about their techno-economic mode of operation. With products turning into services wrapped in algorithms that are constantly tweaked, it is virtually impossible to know what you buy for what price.

Those who tout the nirvana of interoperability have a vested interest in erasing boundaries and rendering its operational logic invisible: distinctions between automated algorithms (bots) and human users; distinctions between consumers and friends; distinctions between user content and promoted narratives; and boundaries between for-profit, nonprofit, and public organizations. User empowerment is dependent on knowledge of how mechanisms operate and from what premise, as well as on the skills to change them. So users find themselves in a double bind. On the one hand, they are considered agents in the production process who can quit any time, hence depriving a platform not only of a customer but also of a (data) provider. On the other hand, they are consumers who have too little knowledge of platforms’ operational and economic logic to understand how they are “locked in” by the walled gardens of online social space. As some activists argue, the ecosystem of connective media calls for a new user rights movement that centers on user—not consumer—empowerment.¹⁹

One could argue that the ecosystem could be optimized if users were offered ways to “opt out” of the system or if they could at least switch platforms without paying the switching costs in terms of losing one’s entire online personal networked data; or, at the very least, if those concerned about their personal privacy and control over their data were offered a simple way to adjust the default settings so as to prohibit platforms from tracking their data. However, when it comes to the possibility of opting out, we are confronted not only with techno-economic hurdles, but also with social norms and the ideological imperatives and cultural logics that scaffold them.

user v. consumer

8.4. OPT OUT? CONNECTIVITY AS IDEOLOGY

Back to Pete Alvin, who tried to quit Facebook because he was irritated by the site's new interface. His failure to find a quick exit certainly was not owing to his lack of technological skills: an experienced user of online platforms, he is literate enough to push the right buttons. In this respect—finding it difficult to exit despite technological literacy—Pete is far from alone. Researchers at Carnegie Mellon University tested the skills of users in controlling their settings on social media platforms and found that *all* experimental subjects had problems customizing their privacy settings, even if they used special tools made available for this purpose. As the report, aptly titled *Why Johnny Can't Opt Out*, concludes: "None of the nine tools we tested empowered study participants to effectively control tracking and behavioral advertising according to their personal preferences" (Leon et al. 2011: 18). The problems with opting out are not restricted to Facebook but are endemic to the space of connective media, to such an extent that the current approach to self-regulation of opt-out mechanisms, according to the researchers, is fundamentally flawed. Apparently, it is easier to encode sociality into algorithms than to decode algorithms back into social actions.

The political counterpart of the question why Johnny can't opt out is why Pete Alvin can't opt in: why are platforms not legally required to offer opt-in instead of opt-out defaults when it comes to privacy settings and information shared with third parties? The simple answer is that such an option would impede commercial exploits. Legislators have negotiated hard to reach deals on this issue with platform owners. Facebook came under fire again, in the fall of 2011, for implementing a facial recognition tool that allowed users to tag faces and identify photos from their friends as an opt-out feature for its European users. In November 2011, the FTC reached an agreement with Facebook to make all its *new* privacy control settings opt-in. This sounds like a victory for the regulators, but it is really just another chapter in the stretched-out negotiation over information control. Corporations do everything to make their default accepted as the norm, as norms define habits and users do not usually question what is "normal."

As Pete Alvin experienced, opting out is hampered not only by built-in technical or commercial hurdles, but particularly by social impediments. The pressure of peers, friends, and colleagues to stay in the realm of online connectivity turned out to be immense. Apart from the automated "miss you" messages that Pete received from unwitting Facebook contacts, he was surprised by how many of his actual friends bugged him about his decision

network effects

to leave the comfort zone of platformed sociality. Discussing the pros and cons of online platforms, Pete's arguments were met with various degrees of ignorance, resistance, and indifference. After having explained his reasons for quitting Facebook and discussing the larger implications of online connectivity for privacy and public interests with several people, Pete realized it was tough to dispute a norm that had become so pervasive among users they could hardly see his problem. Why not share everything? Why care about (targeted) advertising in their social space if using this space was free? Why not simply appreciate personalized advertising, even if uncalled for, as an extra service? Why worry about protecting private data if you have nothing to hide and if many people around you voluntarily disclose a lot more intimate personal details than you do? Many values that Pete had once taken for granted—privacy, a public space untainted by commercial interests, the right to know who controlled a certain social space—were no longer self-evident among his peers. He seemed the exception, opposing the norm.

Even within his own family, Pete felt the pressure of normative values, particularly the values of belonging and being popular. His wife Sandra, for one thing, was constantly worried about upping her Klout score: to interrupt her social networking activities on various platforms, even for a few days, would result in a substantial decrease of her rating, and this might hurt her business success, she feared. Both teenagers Nick and Zara were unable to resist the pressure of their peers and claimed they had to keep playing CityVille and frequenting Facebook if they wanted to be invited to parties or belong to the "cool" at school. For many of the plugged-in, opting out is not an option: it would mean opting out of sociality altogether, since online activities are completely intertwined with offline social life. Pete's worries, far from being a nostalgic longing—he refused to think of "real" offline sociality as an idealized state of the past—were morally if not politically motivated. The space he previously considered to be "his own" was now to a large part controlled by technological and commercial forces, causing a disconcerting feeling of disempowerment, in contrast to the empowerment he had felt when first joining a platform back in 2002. What happened to sociality? How come these norms and standards had altered so drastically and yet so unobtrusively?

It is one thing to disassemble individual platforms as sociotechnical constructions, following human and nonhuman actors in their pursuit of shaping social activities with these tools. It is quite another thing, though, to "reassemble the social," as Bruno Latour (2005) advises: to link microsystems onto the ecosystem in order to understand the normative structure underpinning platformed sociality. The power of norms, in the area of

sociality, is much more influential than the power of law and order; Foucault's work on disciplining citizens and normalization, invoked in the first chapter, is still quite relevant when trying to account for this phenomenon. In less than a decade, the norms for online sociality have dramatically changed from emphasizing connectedness to aligning connectedness with connectivity and using these terms interchangeably. There is a remarkable predilection among social media enthusiasts for borrowing concepts from the public domain to tout the qualities of online platforms: common good, community, utility, sharing, "you," user participation, consensus, and, last but not least, the term "social media" itself. "Social" has become an umbrella term that hides more than it reveals, which is why I prefer the term "connective media."

Opting out of connective media is hardly an option. The norm is stronger than the law; if not, it would be too hard for any regime to control its citizens. That is why Facebook, Google, and other major competitors constantly wield the rhetoric of openness and transparency. Characterizing privacy as an evolving norm, Facebook's Mark Zuckerberg really pushed sharing as the gold standard. In one of his television appearances, he responded to a critical question asked by PBS interviewer Charlie Rose about Facebook's embattled privacy settings: "Google, Yahoo, Microsoft—they are all collecting information about you behind your back. We do it very openly, very transparently. They have way more info about you than Facebook has. On Facebook, at least you have control."²⁰ Google, for its part, accuses major competitors like Facebook of building closed systems that no one can penetrate. To some extent, these ideological battles are fought out in the open. But most of the normative stakes are hidden: buried in the defaults and algorithms of each platform's interface design; in the filtering of users and content; in ownership strategies and governance policies; and last but not least, in business models. Although each platform is different, all platforms operate from ideological tenets that appear remarkably compatible and complementary and yet difficult to recognize as a cogent system of principles: the principles of popularity and neutrality, connectedness and connectivity, quick turnovers and constant data flows, winner-takes-all and interoperability, a user-ranking ecosystem and a star-ranking Hollywood. The ecosystem of connective media does not reflect social norms; interconnected platforms engineer sociality, using real-life processes of normative behavior (peer pressure) as a model for and an object of manipulation (popularity ranking).

"Opting out" requires awareness and vigilance on at least two levels. First, it requires permanent alertness toward platforms and companies and how they operate. How do platforms code certain forms of sociality, to

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what ends, and for whose benefit? There are several nonprofit organizations, aside from regulatory public agencies, whose aim is to guard the public and individual's interest vis-à-vis corporate stakes, such as Bits of Freedom (Amsterdam), European Digital Rights (Brussels), and the Electronic Frontier Foundation (San Francisco). Several consumer protection organizations, such as the American Center for Digital Democracy, defend consumers and promote media education to empower consumers. Most advocacy groups and regulatory bodies that have been around for a decade or more have stepped up their vigilance in recent years as the landscape of platform providers has gotten increasingly crowded and more complicated. As we have seen in the previous chapters, questions of privacy and information control are premised on historically changing and ideologically informed definitions of the public, the private, and the corporate. Regulatory control and watchdogs are of vital importance when it comes to guarding the legal infringements of private space or the commercial invasions of public space.

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The second level of awareness and vigilance pertains to social and cultural norms. From my reconstruction of the histories of individual microsystems, I have tried to distill a process of *normalization*—of how certain meanings of “sharing,” “friending,” “liking,” “trending,” and “following” managed to gain a dominant meaning. The culture of connectivity has manifested itself in the intense negotiations among platform operators and users over the meaning of online sociality and creativity. Disassembling five big platforms, taking apart their techno-cultural and socioeconomic actors, I have tried to reveal how code, interfaces, users, content, governance, and business models formed the tools to shape the new ecosystem of connective media. Reassembling sociality takes more than putting together a sum of its parts: harder than recognizing power strategies and instruments is pinpointing the norms that undergird culture. Normalization commonly takes the shape of the obvious, of what is implicit in structures, defaults, or rhetoric. It takes an effort to disclose what is considered evident: of course you “like” Facebook, of course you participate in online sociality unless you are old, odd, or underage. Connective media have almost become synonymous with sociality: you can check out any time you “like,” but you can never leave.

Particularly now that a generation is coming of age for whom social media simply seem to be a given—an infrastructure they do not question—it is important to make explicit the ideological structures that undergird microsystems and their ecology. Many of the mechanisms and economics explained in the previous chapters are as of yet underexamined and call for more and more thorough critical inspection. There is an urgent need for

sustained media education, not just in terms of teaching youngsters how to code, but also how to think critically. A critical history of the first decade of connective media is just a primer. While the ecosystem is evolving with few global players as its prime movers and shakers, we will soon be facing the emergence of more advanced intelligent systems in which networks define the production and distribution of (social and scientific) knowledge. In order to ensure future generations have a core of critical and knowledgeable citizens in their midst, we need to teach information literacy enriched with analytical skills and critical judgment.

Having said that, it is crucial to emphasize the rich cultural diversity of platforms that still populates the Web, as well as to point to the enormous reservoir of mostly young enthusiastic users who work on a balanced ecosystem and a diversified online sociality. Besides a few big players that dominate the ecosystem—and which have formed the focus of this book—there are many smaller, specialized, both profit- and nonprofit-based platforms that seem to be pushed away from public view. These platforms are very important, as they cultivate specific niches; in fact, they warrant another book. A new generation of activists, entrepreneurs, and “creatives” is taking the social Web to the next level: some of them regard the layer of connective platforms simply as an infrastructure to build on; some are quite critical of how Facebook, Google, and Twitter steer their online relationships, and they take on the challenge of working with or around them. In both ideological views, cultural diversity is vital to a thriving ecosystem.

Meanwhile, in the Alvin home, Pete’s and Sandra’s distinctive viewpoints have led to fierce discussions—debates about the impact of social media on society and on their everyday lives. Their deliberations have led to a compromise about how to feed their teenagers a healthy diet of engaged enjoyment and pragmatic criticism in their daily use of connective media. Pete teaches them about walled gardens and cultivating private space, while Sandra is more inclined to show her enthusiasm for growing networks and harvesting connections. It is a workable compromise, prompting Pete to choose a simple, age-old motto to counterbalance the corporate credos of doing no evil and making the world transparent: *Il faut cultiver notre jardin*. The ecosystem of connective media needs watchful caretakers and diverse gardeners in order for it to be sustained. A critical history is just a first step toward such sustainable future.

27. In an interview (Kamir and Niesyto 2011), Israeli Wikipedia developer Dor Kamir explains how the NPoV principle and the No Original Research (NOR) principle are sometimes at odds. For instance, in Hebrew there are several optional names for the territories known in English as the West Bank and the Gaza Strip, and yet choosing a "neutral" or new name is impossible because it would violate the NOR principle.
28. The Wikimedia Foundation is a nonprofit charitable organization "dedicated to encouraging the growth, development and distribution of free multilingual content, and to providing the full content of these wiki-based projects to the public free of charge." See <http://wikimediafoundation.org/wiki/Home>. Last checked May 28, 2012. The board of trustees has the power to direct the activities of the foundation and also has the authority to amend the corporate bylaws. At full membership, the board has eighteen trustees, including one seat designated for Jimmy Wales.
29. Wikipedia's Mediation Committee (MedCom) is "a panel of editors who resolve disputes about the content of Wikipedia articles by providing formal mediation." It was established in January 2004, with the Arbitration Committee, and it is the "the last stage of formal content-dispute resolution on the English Wikipedia." See http://en.wikipedia.org/wiki/Wikipedia:Mediation_Committee. Last checked May 28, 2012.
30. See Wikipedia Mediation Committee and Mediation Policy. Available at http://en.wikipedia.org/wiki/Wikipedia:Mediation_Committee/Policy. Last checked May 28, 2012.
31. For the Wikipedia Arbitration Committee/Policy. Available at http://en.wikipedia.org/wiki/Wikipedia:Arbitration_policy#Admissibility_of_evidence. Last checked May 28, 2012.
32. See Information about Facebook's Community Pages. Available at <http://www.facebook.com/help/?page=168393039888715>. Last checked May 28, 2012.
33. See Google Cache, 2007, a blog by Russ Jones, an Internet search-engine optimization specialist, presenting himself as a "Google watcher." Available at <http://www.thegooglecache.com/white-hat-seo/966-of-wikipedia-pages-rank-in-googles-top-10/>. See also "Wikipedia Traffic, Mostly from Google" article featured on the Softmedia Blog, May 15, 2008, <http://news.softpedia.com/news/Wikipedia-Traffic-Mostly-from-Google-85703.shtml>. Last checked December 14, 2011.
34. See "Wikipedia Wins the Google Lottery—but Why?" *Guardian*, Technology Blog, February 18, 2010. Available at <http://www.guardian.co.uk/technology/blog/2010/feb/18/wikipedia-google>. Last checked December 14, 2011.

CHAPTER 8

1. Yonoo, an app powered by Mozilla, was introduced in 2011; similar apps connecting social media platform input are surfacing every day.
2. Google's CEO Eric Schmidt used the concept of "augmented humanity" when delivering a talk about his vision for the next decade at the Digital Life Design conference in Munich in January 2011. He anticipates computers getting smart enough to help humans on everything from translating speech to driving cars. See the techno-blog Mediabeat, January 27, 2011. Available at <http://venturebeat.com/2011/01/27/eric-schmidts-talk-on-age-of-augmented-humanity-at-dld-video/>. Last checked June 12, 2012.
3. The term "switching costs" stems from microeconomics, where it refers to any impediments to a customer's changing of suppliers (Shapiro and Varian 1999).

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- With regard to social media, the costs of switching are not so much financial as psychological, social, and emotional: if you quit Facebook, for instance, you may lose a large network of contacts built up over many years. To many critical users, switching costs may be a major barrier as long as they cannot take their personal data and network to another supplier.
4. For Indymedia Independent news centers, see <http://www.indymedia.org/nl/index.shtml>. Global Voices is an international network of citizen journalists and bloggers that follow current affairs in the global blogosphere; see <http://www.global-voices.info/>. Diaspora is "an international community of people who are passionate about making the social web work for everyone" and which gives users control of their data. See <http://diasporaproject.org/>. Last checked June 12, 2012.
 5. As Internet researcher Eli Pariser (2011) argues, the dynamics of personalization and customization cause so-called filter bubbles: algorithmic induction "can lead to a kind of information determinism in which our past clickstreams entirely define our future" (135). Because users are locked into a flow, they tend to click on content preselected by platforms and reaffirmed by their friends' clicking behavior. Filter bubbles give us an emotional world, because strong feelings and emotions are more easily shared than more important but complex or unpleasant pieces of content, which will subsequently be blocked out (Pariser 2011: 150–51).
 6. See the takeover announcement "Microsoft buys Skype" on the tech-site Geek.com on May 10, 2011. Available at <http://www.geek.com/articles/geek-pick/microsoft-buys-skype-20110510/>. Last checked June 12, 2012.
 7. These four platforms also go by the acronym of GAFA. As explained in the first chapter, I have limited my focus to SNS and UGC platforms, and therefore Apple and Amazon are beyond the scope of this book. As will become clear in this chapter, though, it is impossible to reflect on major chains in the ecosystem without including Apple—which is increasingly including software and apps in its hardware imperium and builds partnerships with social media sites. For instance, in June 2012, it was also rumored that Apple was interested in buying stakes in Twitter. Amazon, for its part, connects to a host of vertically integrated services, but its core business is to provide offline businesses, such as Toys "R" Us and Target, with online sales and marketing services.
 8. As two *New York Times* reporters observed, the two competing moguls are changing the way people engage in online activities: "Facebook's moves sharpen the battle lines between the social networking giant and Google, the search giant, because Facebook is trying to change the way people find what they want online. Searching the Web is still the way most people discover content—whether it is news, information about wedding photographers or Swiss chard recipes. Facebook is trying to change that: in effect, friends will direct other friends to content. Google has its own social network product in Google+, but it is far behind Facebook." See S. Sengupta and B. Sisaro, "Facebook as Taste-maker," *New York Times*, September, 22, 2011, Technology section. Available at <http://www.nytimes.com/2011/09/23/technology/facebook-makes-a-push-to-be-a-media-hub.html?pagewanted=all>. Last checked June 12, 2012.
 9. See S. Sengupta, "Facebook's Prospects May Rest on Trove of Data," *New York Times*, May 14, 2012, Technology section. Available at <http://www.nytimes.com/2012/05/15/technology/facebook-needs-to-turn-data-trove-into-investor-gold.html?pagewanted=all>. Last checked May 30, 2012.

10. Early June 2012, Apple's CEO Tim Cook announced that Apple had reached an agreement with Facebook to weave the social network deeper into Apple's mobile devices iPhone, iPod, and iPad, for instance by allowing people to share photos through Facebook without having to open a separate Facebook app.
11. The term "nirvana of interoperability" was used by Ted Cohen, a consultant and former digital executive, when commenting on the announcement that Facebook had made agreements with a number of media companies to develop a way for a user's profile page to display whatever entertainment he is consuming on those outside services. See B. Sisario, "Facebook to Offer Path to Media," *New York Times*, September 18, 2011, Business section. Available at <http://www.nytimes.com/2011/09/19/business/media/facebook-is-expected-to-unveil-media-sharing-service.html>. Last checked June 12, 2012.
12. Google's deal with browser Firefox to make Google Search its default browser led to an investigation by a U.S. Senate antitrust panel. In September 2011, Google's chairman, Eric Schmidt, testified before the panel that the Internet is the ultimate level playing field where users were "one click away" from competitors. The "one click away" adagio has been Google's consistent antitrust defense: the company that has 84 percent of the search market, cannot be a search monopoly as long as a user can click away to other search engines and browsers.
13. Law professor turned regulator Tim Wu (2010) warned that, in a relatively short period, a group of new monopolists has reined in big chunks of the Internet—Google controlling search, Facebook social networking, and Apple content delivery. According to Wu, media history shows regular patterns in which short periods of relative openness are followed by stagnant periods when one or two corporate winners employ the "master switch" to fence off their systems to competitors.
14. The United States lacks a comprehensive data privacy law. The European Union has a Data Protection Directive for its member states, regulating the processing of personal data and the free movement of such data to protect individuals. In 1995, the U.S. Federal Trade Commission (FTC) issued a set of nonbinding governing principles—the Fair Information Principles—for the commercial use of personal information. Although they provide guidance for drafting privacy policies, they do not mandate policy.
15. "Memology" refers to the study of how "memes," or new ideas and trends, spread on Facebook. See Facebook Memology Blog. Available at <http://www.facebook.com/blog.php?post=215076352130>. Last checked June 12, 2012.
16. For an introduction to the promises and benefits of the "free" model, see Anderson (2009). An interesting and critical review of Anderson's ideas is M. Gladwell, "Priced To Sell. Is Free the Future?" *New Yorker*, June 6, 2009. Available at http://www.newyorker.com/arts/critics/books/2009/07/06/090706crbo_books_gladwell. Last checked Jun12, 2012.
17. See European Network Information and Security Agency (ENISA), "Study on Monetizing Privacy. An Economic Model for Pricing Personal Information." Published February 27, 2012. Available at <http://www.enisa.europa.eu/activities/identity-and-trust/library/deliverables/monetising-privacy>. Last checked May 30, 2012.
18. Interestingly, Apple lashed out at Facebook's and Google's refusal to insert a "Do Not Track" option, and compared its own services favorably to its competitors. An article on the Apple Insider blog comments: "Because Apple earns its revenues almost entirely from hardware sales, it doesn't have the same

Hence ? Cookie on Apple/Firefox not working?

motivation to track users as other browser makers and Internet service providers do. Even Apple's own iAd network gains only limited benefits from reporting user behaviors, making it easy for Apple to offer legitimate opt out options. In contrast, Google, Facebook, Yahoo, Mozilla and Microsoft have made advertising and user tracking a key linchpin of the business model behind their browser software and online services." See D. E. Dilger, "Google, Facebook Working to Undermine Do Not Track Privacy Protections," *Apple Insider*, March 30, 2012. Available at http://www.appleinsider.com/articles/12/03/30/google_facebook_working_to_undermine_do_not_track_privacy_protections.html. Last checked May 30, 2012. Twitter announced on May 15, 2012 that it would offer a do not track option on its site, which means that Twitter will stop receiving page-visit information as users surf the Internet.

19. A group by the name of Consumers International calls for a different type of consumer rights activism by social media users. "Connected and part of the conversation, we're fast evolving from passive recipients, to active participants in the media of the masses." See Consumers International Blog, December 2011. Available at <http://consumersinternational.blogspot.com/2011/12/three-social-media-challenges-for.html>. Last checked June 12, 2012.
20. Interview with Facebook's Marc Zuckerberg and Sheryl Sandberg on *Charlie Rose*. Broadcast by KQED World, November 11, 2011.