

1

THE PLATFORM SOCIETY AS A CONTESTED CONCEPT

INTRODUCTION

Since the onset of the platform in 2007, the “Airbnb experience” has quickly spread across the globe, where it is currently the market leader in online hospitality services, enabling people to lease or rent out their private spaces. With over 22,000 apartments and flats per year being advertised on the site, Amsterdam has become one of the popular destinations for Airbnb users in 2018. The upsides are clear: citizens can earn a sizeable income by offering their private space to accommodate tourists, and tourism euros benefit the local economy. The city council has also been confronted with the downsides.¹ With popularity came irritation: besides garbage, noise, and rowdy tourists annoying individual citizens, the city was alarmed about safety issues. Private hosts quickly discovered Airbnb as the easiest and cheapest way to rent out their property year-round, triggering concerns of fairness and an uneven playing field for entrepreneurs in the hospitality sector.

While hotels are strictly licensed with regard to safety concerns and contribute to local taxes, platforms like Airbnb defy any label that renders them part of the formal sector: they own no real estate and do not employ hotel staff, so they do not have to comply with the city’s rules and regulations. The platform merely enables “hosts” and “guests” to connect online. Repeated requests from city managers to get access to Airbnb’s host data, in order to enforce local regulations, were rejected on grounds

of users' privacy protection. After months of intense negotiations, the city's management finally struck an agreement with Airbnb: in December 2016, it was announced that the platform would enforce the city's mandated sixty-day maximum stay limit.² According to policymakers, the deal signified a promising first step in exerting the city's governing power to curb the "Airbnb effect" and keep the downtown area livable for citizens.

However, a deal with the biggest platform was not enough because Airbnb has many competitors, including 9Flats, Wimdu, BeWelcome, Couchsurfing, HomeExchange, and TripAdvisor, all of which operate under different conditions. In their quest for a solution, city managers had to walk a tightrope, balancing private gains with public interests—weighing the interests of Airbnb hosts against those of regular hotel owners who were accusing the former of illegal hotel-keeping. Besides guarding a level playing field, there was the question of keeping the city affordable to citizens with rising real estate prices. While joining forces with cities across Europe, Amsterdam started looking at various permanent solutions. In October 2017, the city council implemented a local register to regulate the licensing of online tourist accommodation not listed as official hotels or bed and breakfasts. The register formed the preliminary apex of a protracted negotiation with Airbnb and the hospitality sector—a negotiation that continues until this very day.

The invasion of online platforms in the hospitality sector is just one example of the many battlegrounds in a society where social and economic interaction increasingly happens through a digital infrastructure that is global and highly interconnected (Guttentag 2013; Davies et al. 2017; Stabrowski 2017).³ In this chapter, Airbnb and the disruption of the hospitality sector will serve as a primer to define the stakes of the platform society as a contested concept. We will offer an investigative perspective that pertains to the micro-level of *single platforms*, the meso-level of a *platform ecosystem*, all the way to the geopolitical macro-level of *platform societies*.⁴ Platforms cannot be studied in isolation, apart from social and political structures, as they are all (inter)dependent on a global infrastructure that has been built steadily from the early 2000s onward.

As illustrated by the Airbnb case, the adoption of platforms causes a clash between stakeholders over public values. The values at stake in this struggle are not just economic and social but inevitably political and ideological, which is why we also need to look at the role online platforms play in organizing societies in a globalizing world order. The geopolitics of platform infrastructures informs the ways in which power is distributed, not just market power but also state power. Clashes between US-based platforms, governments, and local communities on both sides of the Atlantic are typically disputes over what public values are at stake, how societies want to protect them, and whether the available regulatory instruments are appropriate to

do so. But before we can address questions of governance, we need to comprehend what constitutes a platform, how the platform society emerges, and on which premises it is being built.

PLATFORM ANATOMY: ELEMENTS OF CONSTRUCTION

In the introduction, we defined a platform as a programmable architecture designed to organize interactions between users. Many people think of platforms simply as technological tools that allow them to do things online: chatting, sharing, commenting, dating, searching, buying stuff, listening to music, watching videos, hailing a cab, and so on. But these online activities hide a system whose logic and logistics are about more than facilitating: they actually shape the way we live and how society is organized (Gehl 2011). Now let us first look more closely at the elements that construct a single platform's anatomy: a platform is fueled by *data*, automated and organized through *algorithms* and *interfaces*, formalized through *ownership* relations driven by *business models*, and governed through *user agreements*. We will zoom in on each of these technical, economic, and sociolegal elements to explain the nature of their governance power, before we explore their mechanisms and effects in the next chapter.

Platforms automatically collect large amounts of *data*—both content data and user data (Driscoll 2012; Mayer-Schönberger and Cukier 2013; Turow 2012; Van Dijck 2014). The collection of data is enabled and shaped by hardware and software; devices people use to access platform services often come equipped with software and apps that can automatically collect data. With each mouse click and cursor movement user data are generated, stored, automatically analyzed, and processed—not just Internet protocol addresses and geolocations but detailed information about interests, preferences, and tastes. Large quantities of data are also collected across the Web through the implementation of “social buttons” and “pixels” (Facebook, Twitter, LinkedIn, Instagram, YouTube, or Google+) on websites (Gerlitz and Helmond 2013).

Data provide the fuel for a growing connectivity between platforms. By means of *application programming interfaces* (APIs), platforms, subsequently, offer third parties controlled access to their platform data, giving them detailed insights into user behavior and metrics—information on which they can build new applications or platforms (Helmond 2015; Langlois et al. 2009; Zittrain 2008).⁵ Since eBay launched the first open API in the year 2000, its ubiquitous employment has arguably transformed the Web into a data-driven, platform-based ecosystem.

Algorithms are another significant technological ingredient defining the connective architecture of platforms; they are sets of automated instructions to transform input data into a desired output (Gillespie 2014; Pasquale 2015). For instance, Google's PageRank algorithms define the relevance of a web page by calculating the number

and quality of hyperlinks to this page. And Facebook's News Feed algorithms determine the content you will be exposed to, calculated on the basis of the online activities of "friends" and "friends of friends" (Bucher 2012). Platforms use algorithms to automatically filter enormous amounts of content and connect users to content, services, and advertisements. Although platform owners may lift a veil on how their algorithms work, they are often well-kept trade secrets and are everything but transparent. Moreover, algorithms have become increasingly complex and are subject to constant tweaking.⁶

Shifting the focus from technological to economic relations, two particularly important ingredients of a platform's architecture are its *ownership status* and *business model*. To start with the former, each platform has a specific legal-economic status; most distinctively, platforms may be operated on a for-profit or a nonprofit basis, even though such labels often leave implicit who stands to profit from a platform's activities.⁷ Airbnb, for instance, is run by a US company with headquarters in San Francisco and satellite offices in nineteen cities around the world; the company is owned by its stockholders, who are, besides its founders, a number of Silicon Valley venture capitalists. Whether a company calls itself "global" or "American" has implications for compliance with regulatory regimes including taxation. Ownership status also has consequences for a site's economic transactions and its social interactions with users. It is relevant for users to recognize owner-consumer relationships, especially because they may change over time. Couchsurfing Inc. is a case in point; the "hospitality site" started in 2005 as the Couchsurfing Collectives, with local teams operating from the United States, Canada, Austria, and New Zealand. When the site changed from a volunteer-based organization financed by donations to a corporation in 2011, many members objected to the shift from a nonprofit "travelers network" to a for-profit "accommodation site."⁸ The switch translated accordingly into the selection of a different business model.

Business models in the context of platforms refer to the ways in which economic value gets created and captured. In the online world, value gets measured in various types of currency: along with *money* and *attention*, *data* and *user valuation* have become popular means of monetization.⁹ One of the most pertinent myths is that platform services are "free" because many do not charge for their services. Facebook, Twitter, and Google+ are just a few of the many online social networks that are monetized through automating connections between users, content, data, and advertising (Couldry 2015; Fuchs 2011; Turow 2012). The "free" strategies adopted by many platforms have resulted in an ecosystem where the default mode is to trade convenient services for personal information (Schneier 2015). By automatically collecting and processing user data, platforms can target and profile individual users as well as user groups. Needless to say, demographic profiling and consumer

targeting have long been part of mass media's armamentarium to monetize readers' or viewers' information, but the precision instruments offered by data analytics are far more exact and speedy than old-fashioned methods for profiling (Nieborg 2017). Such automated precision facilitates personalized advertising in real time; for instance, Facebook can identify and target women 20–25 years of age living in a particular region who are searching for a new smartphone.

Single platforms can opt for a range of different business models, creating value out of data, content, user contacts, and attention by selling advertisements, subscriptions, and user data or by charging fees; moreover, they can sell data to other companies or governments in need of profiling information. Airbnb, for instance, charges hosts and guests a fee for each booking, while it also sells user data to third parties for targeted advertising.¹⁰ Couchsurfing works with a membership fee rather than a fee-per-transaction and allows members to freely share information among themselves. When the site changed from a nonprofit to a for-profit status, many of its members objected to adopting a business model that relies on data sharing and advertising. A business model is an intricate part of a site's philosophy, which is in turn reflected in its architecture.

Technological and economic elements of platforms steer user interaction but simultaneously shape social norms. Although a platform's architecture affords a particular *usage* and users are often met with a finite set of possible options, they are not "puppets" of the techno-commercial dynamics inscribed in a platform. Through its interfaces, algorithms, and protocols, a platform stages user interactions, encouraging some and discouraging other connections (Helmond 2015); for example, inserting a "like button" in the right-hand corner of an interface activates more "liking" than an insertion in the left-hand corner. Indeed, one could argue that any major platform is a recalibration laboratory where new features are constantly tested on users (Benbunan-Fich 2016). When Facebook received a lot of criticism concerning its binary approach toward soliciting information about gender and sexual orientation, the company responded by including a range of "other" identity options, including the possibility for users to defy any categorization. Not only did this change make economic sense, eliciting more refined customer information, but it also actively influenced social norms by expanding the conventional binary options.

Another important element in platform-governing methods is its *user* agreement, usually called "terms of service" (ToS). These pseudo-legal contracts define and shape the relationships between users and platform owners, but they are often long, difficult to understand, and subject to constant change, which is why many people check the box without even looking at this "agreement."¹¹ The ToS does a lot more than just define service conditions: it can be used to impose norms or values with regard to privacy; it may also state which privileges platform owners

have vis-à-vis their customers. For instance, in November 2016, Airbnb put forward an antidiscrimination policy, adding the rule that hosts may not “decline or impose any different terms or conditions on a guest based on race, color, ethnicity, national origin, religion, sexual orientation, gender identity, or marital status” (Airbnb Terms of Service 2016). Another added rule was that users allow platform operators to perform background checks by consulting public databases, including public records of criminal convictions, to cross-reference a host’s and guest’s personal information. Airbnb is under no obligation to unveil what it learns about its user, other than what the company is legally bound to disclose.¹² So ToSs are important instruments for platform owners to “govern” their relations with users, partners, clients, and other (legal) parties. By the same token, these managerial adaptations to public sentiment beg the question of public legitimacy: platform companies often have to respond to public opinions and react to legal or regulatory demands by adjusting their policies.

Taken together, these technological, economic, and sociolegal elements of a platform’s architecture inform the dynamic of platform-driven sociality. Deconstructing the anatomy of a single platform helps us understand how its combined elements govern users and user practices. But although each platform is a separate entity with a unique combination of features, it can only operate as part of a larger ecosystem.

THE PLATFORM ECOSYSTEM: BUILDING AN INFRASTRUCTURAL CORE

Since the early 2000s, an assemblage of networked platforms has evolved that puts lots of power in the hands of a few corporations that nestled themselves at the gateways of online sociality where they control crucial nodes of information services. The epicenter of the information ecosystem that dominates North American and European online space is owned and operated by five high-tech companies, Alphabet-Google, Facebook, Apple, Amazon, and Microsoft, whose headquarters are all physically located on the West Coast of the United States. The platform ecosystem, as we will argue, is moored in paradoxes: it looks egalitarian yet is hierarchical; it is almost entirely corporate, but it appears to serve public value; it seems neutral and agnostic, but its architecture carries a particular set of ideological values; its effects appear local, while its scope and impact are global; it appears to replace “top-down” “big government” with “bottom-up” “customer empowerment,” yet it is doing so by means of a highly centralized structure which remains opaque to its users. We will discuss each paradox in more detail below.

Clearly, the platform ecosystem is not a level playing field; some platforms are more equal than others. We would like to distinguish two types of platforms: infrastructural and sectoral platforms. Most influential are the *infrastructural* platforms,

many of them owned and operated by the Big Five; they form the heart of the ecosystem upon which many other platforms and apps can be built. They also serve as online gatekeepers through which data flows are managed, processed, stored, and channeled. Infrastructural services include search engines and browsers, data servers and cloud computing, email and instant messaging, social networking, advertising networks, app stores, pay systems, identification services, data analytics, video hosting, geospatial and navigation services, and a growing number of other services (see Figure 1.1). A second type are *sectoral platforms*, which serve a particular sector or niche, such as news, transportation, food, education, health, finance, or hospitality. We will return to them in a moment, after exploring the powerful position of the Big Five infrastructural platforms.

Alphabet, the corporate umbrella for all Google services, offers a number of key facilities in the ecosystem: a search engine (Google Search), a mobile operating system (Android), a web browser (Chrome), a social network service (Google+), an app store (Google Play), pay services (Google Wallet, Android Pay), an advertising service program (AdSense), a video-sharing site (YouTube), and a geospatial information system (Google Maps, Google Earth). Perhaps just as important but much less visible are crucial services such as Google Cloud Platform, which encompasses fifty-three services, including Google Compute (Hardy 2016). Verily Life Sciences (formerly Google Life Sciences) became an independent subsidiary of Alphabet in 2015. More recently, Alphabet has invested substantially in artificial intelligence by purchasing the British company DeepMind and Sidewalk Labs, an organization to develop urban innovation infrastructure. Alphabet has also consolidated its hardware division by boosting distribution of its inexpensive laptop Chromebook, which has preinstalled Google software packages—everything from browsers and mail to specific apps.

Next to Alphabet-Google, Facebook dominates data traffic as it controls 80% of the market for social networking services, reaching over two billion monthly users worldwide. Facebook acquired Instagram (in 2012) and WhatsApp (in 2014) because it broadened its original demographic and widened its app suite by adding platforms with appealing visual and messaging features. Together, Facebook and Google control more than 60% of online advertising—the dominant component of many Web-based business models.¹³ Facebook and Google also control a substantial share of online identification services (Facebook Login), an important entrance to many other services. Moreover, through its popular “family of mobile apps” (Facebook, Messenger, Instagram, and Whatsapp), Facebook has gained substantial control over people’s personal information streams.

Another major player in the ecosystem is Amazon, which vents out one of the world’s biggest digital retail platforms, including its extensive logistic network for the distribution of physical goods. It also leads the market for cloud server space and

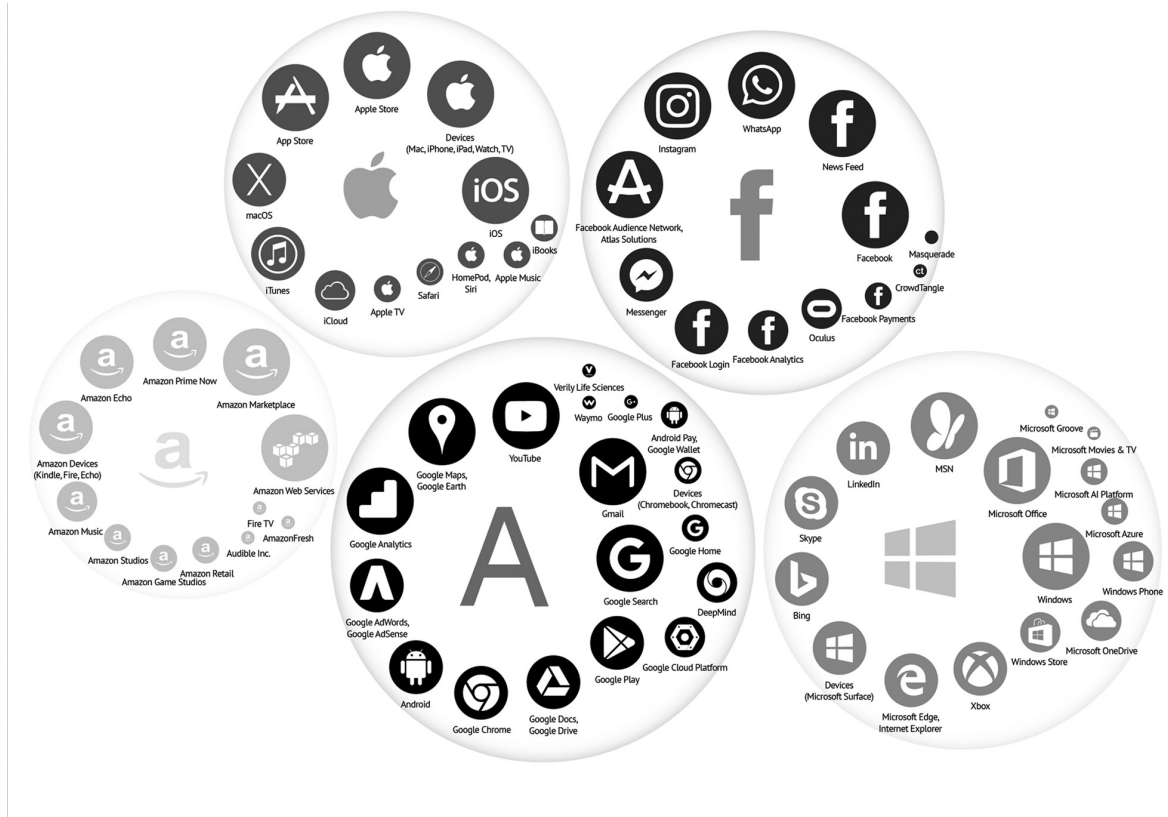


FIGURE 1.1. Schematic illustration of the infrastructural services provided by the Big Five platform corporations. The different services are proportionally represented, depending on their importance for the platform ecosystem (figure designed by Fernando van der Vlist).

software; Amazon Web Services controls more than eighty hubs in various sectors, including services for telemarketing, database management, and analytics. Apple is, of course, a leading producer of mobile hardware (phones, tablets, watches), which harnesses its own operating system and software. The company also runs the second biggest app store in the ecosystem (Apple App Store), offering hundreds of thousands of apps, and exploits its related cloud and streaming services (iCloud, iTunes). Finally, Microsoft grew big on personal computer software in the 1980s and 1990s but has since shifted its focus to online services; LinkedIn and Microsoft Azure (cloud computing) are just two of over sixty platform services operated by the Seattle-based company.

In principle, the platform ecosystem allows all kinds of newcomers to enter; in practice, the unbridled growth of the Big Five's infrastructural platforms has left very little room for competitors to penetrate the *core* of the US-based ecosystem.¹⁴ Virtually all platforms outside of the Big Five constellation are dependent on the ecosystem's infrastructural information services. For instance, Airbnb embeds Google Maps as a standard feature in its interface; it also incorporates Facebook's and Google's identification services to "clear" hosts and guests. The Big Five profit most from the burgeoning development of sectoral platforms and millions of websites and apps integrated with their basic services, enabling the collection of user data throughout the Web and app ecosystem. Digital disruptors like Spotify and Netflix are dependent upon the Big Five's infrastructure: Spotify's services run on Google Cloud, while Netflix relies on Amazon Web Services. Large segments of the media industries, particularly the game industry, are completely dependent on the app stores operated by Google and Apple (Nieborg 2015). The Big Five are rapidly expanding their presence in virtually all sectors, not just by launching their own specific *sectoral* platforms or acquiring successful startups but also by financing constructions, partnerships, or other alliances.¹⁵ Some of the Big Five companies have recently started to branch out into old-style brick-and-mortar businesses or production services.¹⁶

Building infrastructural platforms is, of course, not a corporate privilege; but as of 2018, the core of the Western online infrastructure is completely privatized. Historically, the construction of physical infrastructure—whether railways, highways, air traffic controlling systems, or the Internet itself—was always predicated on a mixture of public and private investments. In today's online world, governments, public institutions, and nongovernmental organizations (NGOs) can, of course, operate their own platforms; but it is increasingly difficult to do so as autonomous actors. Platforms not connected to the ecosystem's core can hardly profit from its inherent features: global connectivity, ubiquitous accessibility, and network effects. Public and nonprofit platforms frequently have to rely on Facebook or Google for their login facilities and search-ranking visibility to gain access to valuable

information and reach substantial groups of users. As it stands now, there is no real public “space” inside the corporately run ecosystem. Infrastructural platforms have started to penetrate existing societal arrangements as the ecosystem is increasingly mingling with established institutional structures. To some extent, governments and public institutions, for their functioning, have all become predicated on the use of private online infrastructures—indeed, almost a turnaround from the industrial revolution of the nineteenth century when infrastructures still depended to a large extent on public investments.

Some scholars have argued that the Big Five’s infrastructural platforms function more or less as utilities or “superplatforms” because they provide crucial basic information services upon which other sectoral platforms can be stacked or built (Andersson-Schwarz 2017). Indeed, the exchange of goods, services, information, and communication is unthinkable without these platforms as mediators connecting them to users or customers. However, the core of infrastructural platforms is not impenetrable; and other platforms are not exactly “stacked onto” but rather interwoven with or integrated into these core platforms.¹⁷ In their insightful article, Plantin et al. (2016) raise the question of whether the central nodes operated and owned by a few “ecosystem-builders” should be considered platforms, infrastructures, or both. The quintessence of their argument is that all infrastructural services are becoming “platformized,” while the major platforms are turning into infrastructures that are inherently essential.¹⁸ As they conclude, the Big Five platform owners have laid the foundation for a system that offers its users convenience in exchange for control over their data, to the extent that the “total infiltration of basic needs also imposes potentially dire political, environmental and ethical risks” (15). Infrastructural platforms can obtain unprecedented power because they are uniquely able to connect and combine data streams and fuse information and intelligence.

SECTORAL PLATFORMS AND THEIR HYBRID ACTORS

Besides infrastructural platforms, we can also distinguish sectoral platforms, which offer digital services for one specific sector, such as health, retail, or transportation. Some of the best-known sectoral platforms have no material assets, have no sector-specific employees, and offer no tangible products, content, or services; they are merely “connectors” between individual users and single providers. Airbnb serves as a connector between “hosts” and “guests,” who are both called “users.” “Hosts” are not employees or businesses but rather micro-entrepreneurs; and “guests” are not regular customers, according to the quasi-legal definition in Airbnb’s ToS. Even though Airbnb increasingly wants to standardize the Airbnb experience, for instance,

by asking its hosts to apply certain hospitality standards, the connective platform claims it does not offer a regular service like a night's stay in a hotel and so does not consider itself liable for this "product."¹⁹ In fact, Airbnb allows user-generated, informal services to be turned into quasi-formal commercial arrangements.

Connective platforms are dependent on "complementors"—organizations or individuals that provide products or services to end users *through* platforms, interlinking different "sides" and hence constituting multisided markets (Evans and Schmalensee 2016; McIntyre and Srinivasan 2017; Nieborg 2015; Rieder and Sire 2014). Complementors can be organizations that are subject to the regulatory bounds of a sector, abiding to legal rules, professional norms, and labor relationships, such as the Hyatt and the Holiday Inn hotel chains. Public institutions and governments, too, may be complementors; for instance, universities and hospitals can function as providers of sectoral products, know-how, and services. Complementors can also be micro-entrepreneurs, offering their (private) car, apartment, or professional skills—for instance, individuals who host their apartment through Airbnb.²⁰ Legacy complementors can reach a much wider audience through specialized connective services used by potential customers worldwide. In the hospitality sector, Booking.com functions as an online broker between hotel-seekers and brick-and-mortar accommodations offered by big hotel chains as well as small family-owned bed and breakfasts; for these connector services, they charge a transactional fee to hotel owners but not to guests. It is exactly this new class of intermediaries that adds much economic value to platforms but also raises all kinds of questions pertaining to public values such as precarious labor, a fair and level playing field, and public costs. We will return to this extractive relationship below.

The distinction between infrastructural and sectoral platforms is not fixed or set; rather, there is a constant dynamic that drives them toward integration. Infrastructural platform operators are increasingly looking at ways to extend their leverage by expanding into sectoral connectors. Think of Google Apps for Education or Google Scholar, services that are intricately intertwined with, and driven by, Google Search. Apple's Health Kit and Research Kit are aggregator services that tie in patients' and health professionals' data with Apple's infrastructural platforms (e.g., Apple's App Store). Mutual integration, and thus expansion, also happens economically. Tech companies strategically invest in sectoral presence through either acquisitions of legacy companies (e.g., Amazon buying up Whole Foods) or strategic partnerships (e.g., Google having a 20% stake in Uber). What we are seeing in the various sectors is that the Big Five are accumulating technological and economic power from the combination of sectoral and infrastructural platforms. Figure 1.2 illustrates how the platform ecosystem functions almost as a stellar system—a cosmos that revolves around a handful of major planetary stars.

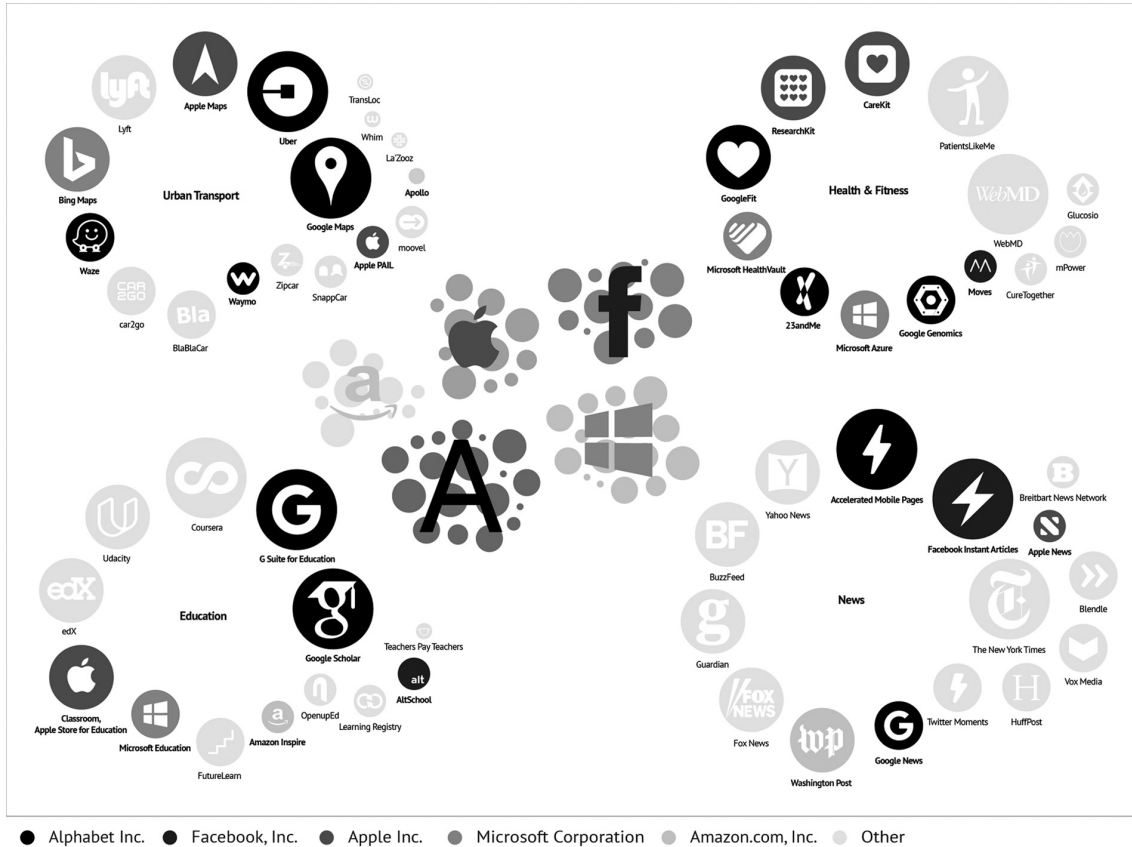


FIGURE 1.2. Schematic illustration of the sectoral platforms developed by the Big Five platform corporations (in bold), as well as the other sectoral platforms and complementors in the four examined sectors (figure designed by Fernando van der Vlist).

Although Figure 1.2 reveals the infiltration of Big Five infrastructural platforms in specific sectors, this representation is unfixed. This is partly due to the volatile dynamics of this system: the status of platforms is subject to continuous change, a process we call “platformization.” The terms “infrastructural” and “sectoral” platforms, “connectors,” and “complementors” should therefore best be understood as roles and relationships that particular actors take on, rather than as fixed categories. These roles also shift over time and through contexts. For instance, Uber can be understood as a connector when it matches drivers and passengers through its stand-alone platform. However, Uber also finds itself in the role of a complementor when its service is offered as one of many transport providers through an integrated transport platform. If it were to offer its reputation system or mapping data to third parties, it would take on a role as an infrastructural platform. These labels are relevant nevertheless as they express specific power relations in an emerging platform ecosystem.

Platformization then refers to the way in which entire societal sectors are transforming as a result of the mutual shaping of online connectors and complementors. In chapters 3 through 6 of this book, we will zoom in on four specific societal sectors that are currently undergoing platformization. And rather than providing a “fixing” taxonomy (what kind of platforms *are* they?), we will focus on a “functional” taxonomy: identifying platform mechanisms and the mutual shaping between players (how do platforms *work* in specific contexts?). In doing so, we provide an analytical prism that reveals the dynamics *between* infrastructural and connective platforms and *between* connective platforms and complementors.

Identifying the various types of platforms and their interlocking functionalities is far from trivial. For one thing, a functional taxonomy of platforms could be useful to help guide legislators in updating their regulatory frameworks, for instance, with regard to antitrust or competition law. The potential for vertical integration between infrastructural and sectoral platforms is endless, as is the creation of path dependency for users and consumer lock-in. Some platforms’ near-monopoly status in the infrastructural core coupled onto sectoral platforms’ dominant positions make these companies become “fluid”: they introduce a new type of organization, defying classic definitions that are tied to sectors. In order to understand this new dynamic, we need to inspect how infrastructural and sectoral platforms interrelate: sometimes this mutual strengthening works on a technical or computational level, sometimes on a governance or ownership level. More importantly, accumulation of power typically happens *between* sectors as data streams can be manipulated *across* sectors via infrastructural platforms that are sector-agnostic. Think, for instance, of Google’s search and advertising services that can be coupled onto its educational platforms.

Such functional taxonomy could also help politicians and governments decide what responsibilities tech companies carry vis-à-vis their online services and products.

Many governance systems in western European nations depend on a division between infrastructure and sectors, but platforms deliberately blur these categories. Airbnb calls itself a tech company providing a connective service to users in a particular sector, for which it claims to carry no liability or responsibility. As we will explain in the chapters ahead, Airbnb is not the only connective network platform defying the existing societal order. Uber long rejected the epithet “taxi business,” hence bypassing regulation that applies to the transportation sector. And Facebook, until 2017, refused to call itself a media organization because it does not produce news content, even if over 40% of its American users receive news through the social network’s News Feed (Napoli and Caplan 2017). Setting themselves apart from complementors in specific sectors apparently warrants these platforms’ separate status.

However, connective platforms cannot and should not be considered separately from social organizations, sectors, and infrastructures; on the contrary, they have become paramount to the functioning of economies as well as democracies. The very term “complementors” raises the question of *who* complements *whom*: obviously, connectors are dependent on “complementors”—be it businesses, individual citizens, institutions, or governments—to provide the necessary content and services to run their businesses.²¹ Uber needs individual drivers with cars. Airbnb needs individual homeowners with real estate. Facebook needs news organizations to produce (accurate) articles. Coursera needs universities with teachers. And all of them need brick-and-mortar, physical services provided by legacy companies, local communities, or national governments. The supply of transport relies on highways, railways, and traffic controllers; streets need to be cleaned, and security for tourist accommodation needs to be enforced; educational platforms could not operate without teachers funded by states or universities. In other words, for their economic success, corporately owned and operated connective platforms are highly dependent on private *and* public investments (Mazzucato 2013).

The instrumental perspective on connectors as mere “enablers” of social and economic activity has thus given way to a new category of hybrid actors: platform operators and users. These terms’ “in-betweenness” seemingly warrants connective platforms’ bypassing of regulations which are grounded in a societal order reigned by familiar binaries: market versus state, consumer versus citizen, private versus public, for-profit versus nonprofit. Much of our institutional and legal frameworks are still predicated on these binaries, although one may argue that the separation between private and public, market and state, for-profit and nonprofit has never been clear-cut. Indeed, since the late twentieth century, a growing belief in the efficiency of markets has led public institutions such as hospitals and universities to open up to market forces. Nevertheless, it is safe to say that even if the marketization of public sectors started long before the advent of platformization, the emergence

of the online ecosystem has accelerated further blending. The deliberately hybrid status allows platform operators and users to bypass regulation or escape professional norms and standards to which most sectors are subjected, either by law or by custom, thus creating a legal and social gray area to negotiate their position with regulators and legacy competitors. Figure 1.3 sketches the tension between market, state, and civil society actors—a tension that, as we will argue later in this chapter, revolves around *values*.

Governing the platform society cannot simply be left to markets, if only because its infrastructure has come to penetrate all sectors, private *and* public. Governments have always played distinctive roles in the regulation of market sectors, locally and nationally; they have also allowed for self-regulation, outsourcing enforcement to professional organizations.²² Vice versa, governments and public institutions have always cooperated with commercial parties to perform their public jobs. In the platform society, though, these relationships are becoming increasingly complex and

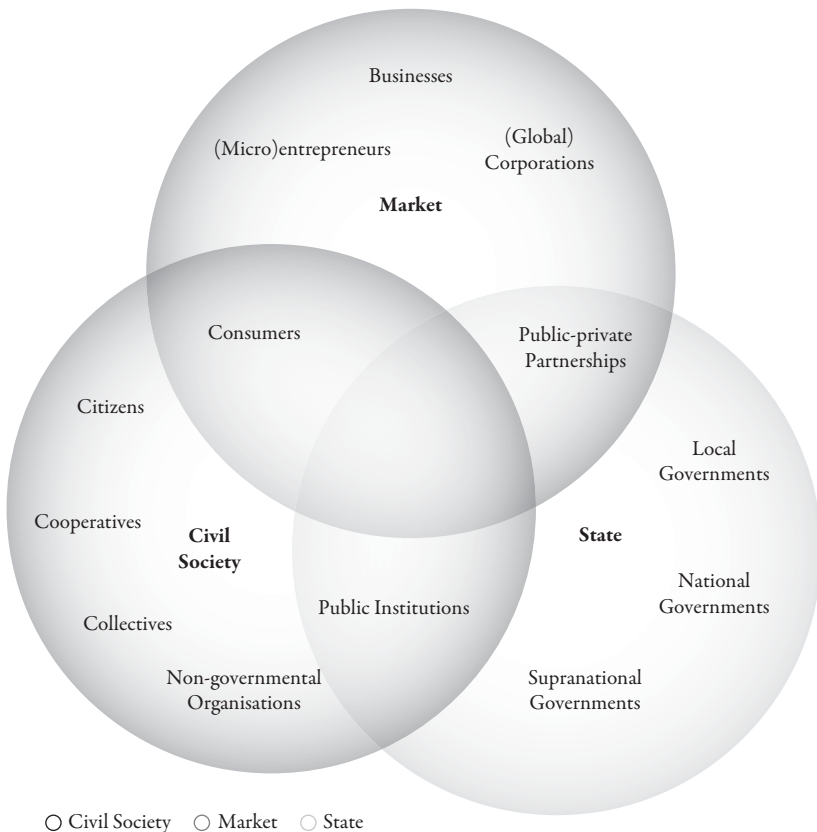


FIGURE 1.3. Schematic representation of the actors from market, state, and civil society who shape the platform society; private and public actors cannot always be sharply distinguished and are partly overlapping (figure designed by Fernando van der Vlist).

interdependent. As legal scholar Julie Cohen (2016) observes, “Markets are fluid and interconnected, information services sit within complex media ecologies, and networked platforms and infrastructures create complex interdependencies and path dependencies” (375).

We should not accept the hybrid or fluid reality of platform ecologies as an excuse to get rid of presumably obsolete distinctions between public and private, state and market; on the contrary, these distinctions are still very meaningful when it comes to grounding societal orders. Now that a large part of the world is getting used to an infrastructural ecosystem which is principally designed, owned, and operated by global private corporations, we need to be extra vigilant as to what happens to public values and the common good. The ecosystem itself—the way it is cemented in its architecture of algorithms, business models, and user activity—is not neutral; on the contrary, the ideological tenets inscribed in the ecosystem’s architecture put a formidable stamp on what constitutes public value and whose interests are served. In chapter 2, we will explain in detail *how* these mechanisms work *to what effects*. First, we need to explain in more detail what we mean by “public value” and how this is contested in a platform society.

PUBLIC VALUE AND PRIVATE INTEREST

“Public value” is the value that an organization contributes to society to benefit the common good (Moore 1995). The common good is often translated in a number of propositions that are achieved through collective participation in the formation of a shared set of norms and values (Bozeman 2007). Needless to say, public values and the common good are historically and ideologically variable; they are the stakes in a democratic debate about the foundations of society. Creating public value is not the sole privilege of the public sector: any type of actor mentioned in Figure 1.3 can contribute. Ideally, the creation of public value for the common good should be the *shared responsibility* of all societal actors—companies, citizens, and governments alike (Helberger, Pierson, and Poell 2018). State actors and public institutions, though, are historically the designated custodians of the common good in most Western democracies. Governments have cemented democratic values into laws and regulations that they are entitled to endorse, even if some parts of maintenance and enforcement are outsourced to the private sector. Protection of the common good is partially entrusted to independent institutions, which are subject to public scrutiny. Some agreed-upon social norms and public values are assigned to professional routines or ethics codes—think of journalism or health research. And, last but not least, a large number of civic society organizations independent from market or state work toward defending the common good.

In the platform society, the creation of *public* value toward the common good is often confused with the creation of *economic* value serving a nondescript amalgam of private and public interests. Corporately owned and operated platforms often claim their online services benefit “the public” in general, without specifying their own interest (Hoffmann, Proferes, and Zimmer 2016). Indeed, such claims are nothing new: throughout the twentieth century, media giants and pharmaceutical companies have cloaked themselves in a declared public benefit when it comes to information or health services. Online platforms have adapted and expanded this argument by claiming they can substitute for the role that governments and communities play by assisting the self-organization of people online. Platform enthusiasts tend to foreground broad societal concerns while implicitly pushing an ideology concerning the role of states versus markets. Read, for instance, the following endorsement of Tyler O’Neil, an Uber proponent who works for a prominent conservative think tank, The American Enterprise Institute, and who champions platforms as a novel entity:

Rather than *push top-down efforts* to keep cars off the road—like narrowing streets, roping off certain lanes for carpools, or taxing drivers with hefty fines—Uber takes a *bottom-up approach* by providing consumers who *care about reducing emissions* with more opportunities to carpool, using their smartphones. . . . big government policies are far from the best way to steward the earth. Instead, companies like Uber are charting a new course—*empowering customers* to make their own decisions and choose their own ways to make *the world a better place*. (O’Neil 2015, emphasis added)

What we see in this endorsement is a double attempt to push private interests under the flag of public value and the common good: “top-down” and “big government” are pitted against “bottom-up” and “empowering customers” in the joint effort to reduce carbon emissions. Uber is positioned as a neutral connector, facilitating citizens in achieving a common goal. Implicit in this perspective is the claim that private parties like Uber are better at defending the common good than governments that are inefficient and cumbersome—big government standing in the way of efficient and effective governance. “Platforms” appear to be a synonym for “efficiency”; by virtue of their alleged leanness and openness, they can make “the world a better place” because they get rid of costly overhead and enable citizens to act as independent, autonomous individuals. Such a statement typically reflects a neoliberal articulation of the state as the enemy of private individuals and businesses.

The promise here that connective platforms are better than states and legacy companies at creating not just economic value but public value gives ammunition to the argument that they rightfully disrupt societal order and claim the new ecosystem

as an opportunity to liberate users from the shackles of “big business” and “big government.” Peculiarly, supporters like O’Neil tend to present the platform ecosystem as a new vehicle *run by users* rather than by operators; they also tend to present the platform ecosystem as inherently transparent, even if this system hides its algorithmic black boxes and business models from public scrutiny.²³ The embalming promotional rhetoric implicitly dismisses democratically governed institutions and regulation as inefficient obstacles to a platform utopia—a political–ideological subtext that presumably informs the right to create a legitimate hybrid category of platform operators and users.

It is often difficult, if not impossible, to tell a platform’s dedication to creating public value by solely looking at its promises. Platforms often claim they serve the common good: they want to make neighborhoods safer, enrich the tourist experience, make children smarter, or diminish waste and energy use by stimulating the exchange of lawnmowers between neighbors. It is important, though, to investigate these claims. When analyzing a major paradigmatic shift such as the platformization of society, it is inevitable to recognize the plurality of values, their justification logics as well as the diverse conceptions of the common good attached to these logics.

Pursuing such an analysis, we need to understand platform infrastructures, economic models, and discourses as *performative*. As we will show throughout this book, platforms do not simply connect social and economic actors but fundamentally steer *how* they connect with each other. In this process, platforms construct new value regimes and economies. Such an observation corresponds with how economic sociologists discuss the performativity of market infrastructures and economic models (Boltanski and Thevenot 2006; MacKenzie 2007, 2009; Stark 2009). Their work shows that economists not only analyze and model economic processes but, in doing so, contribute to the construction of these very processes. Furthermore, economic sociology explores how the materiality of technical infrastructures matters in the operation of markets, demonstrating, in the tradition of actor–network theory, that these infrastructures effectively become key economic actors. Software systems, stock tickers, and graphical representations are more than just “measuring” instruments; they structure economic transactions and the production of economic value. In a similar way, online platforms intervene in and reshape value regimes and economies.

It is very important to articulate *which public values* are at stake in *specific contexts* and relate them to *specific interests*. As we have seen in the example of Airbnb, the interests of citizens, city managers, users (hosts and citizens), and platform operators are often contradictory. Platformization raises typical consumer concerns, such as safety, accuracy, and privacy, which often clash with the values of platform operators, who are interested in generating user data and extracting monetary value out of online connections. Individual interests and value systems may also clash in their

different roles: an individual can be a host or user at the same time, loathing the excesses Airbnb guests create in some parts of the city while benefiting from the platform as micro-entrepreneurs or when they are tourists themselves in other cities.

Beyond individual consumer concerns, some wider societal values enter the negotiating battle—values like fairness, equality, collectivity, independence, and democratic control. For instance, who should pay for enforcing public policies concerning safety and security? Airbnb has started to collect tourist taxes from its customers, like regular hotels do; but hotels also pay (local) property taxes to cover a range of collective expenses, which is something Airbnb does not do because it does not own property. And hosts, while paying property taxes on the houses they own, do not pay the commercial tax rates charged to hotels. If Airbnb rentals do not contribute their fair share to local tax revenues, citizens rightfully complain about Airbnb putting an undue burden on their taxation. The city's clash with platform operators and users exemplifies how *connective* platform strategies may undermine the *collectivity* of social structures.

The implications of platformization often reach beyond the local level, affecting a nation's welfare and its sociolegal order. For instance, more temporary rentals in downtown Amsterdam inevitably raise real estate prices, benefiting homeowners in affluent urban areas. Airbnb tourism may hence lead to more economic inequality between citizens because homeowners profit more than renters in public housing and because most revenue generated from tourists does not flow into low-income or suburban areas. In addition, access to affordable housing may be limited if housing prices and rents increase due to a mounting pressure on the local housing market (Stabrowski 2017). So besides fairness in taxation and antidiscrimination, there are other societal values to be accounted for, including affordable housing and mending economic disparity.

The questions *whose interests* a platform's activity serves, *which values* are at stake, and *who benefits* are central in disputes concerning the creation of public value in the platform society. Local governments play an important role in this negotiation, first and foremost as regulators or enforcers but also as significant stimulators of public value. For starters, local authorities may design a comprehensive approach to an entire temporary housing sector, rather than regulate single hospitality platforms or merely focus on illegal hotels. In Amsterdam, some policymakers argued the city could take advantage of online platforms by introducing a flexible zoning-cum-licensing system that helps diminish the wealth gap between citizens. For instance, if the city wants to uplift its suburban and economically disadvantaged neighborhoods, why not grant hosts in those areas a ninety-day permit and restrict the crowded downtown areas to thirty or even fifteen days? Another suggestion was to have a number of large cities develop software that offers the functionality of Airbnb and mandate all

short-term rentals to be arranged through this city-owned-and-operated hub (Orsi 2015). In other words, local governments can actively shape the realization of public value through platformization if they take an active and comprehensive approach.

A platform society is not a given but a dynamically evolving societal arrangement where public values are constantly shaped by different actors. Ideally, the platform society is a negotiable social contract that holds all parties accountable to its creation and enforcement. Shared responsibility may be a noble ideal, but it is not a reality. The current struggle about the platform society's values and common good happens simultaneously at local and national levels, not just within sectors but also across and between sectors. Some value contests are typically fought out at the city level, while others warrant national intervention. For instance, connectors' tendencies to withdraw from sectoral responsibilities by refusing to employ workers or contribute to social benefits (e.g., Uber drivers) may lead to undermining societal values such as solidarity and a level playing field. National articulations of public value and the common good can obviously be different from local ones, urging for more alignment. By examining various local and national clashes and relating them to supranational and global contestations over public value and the common good, we try to disclose underlying patterns informing these discussions.

THE GEOPOLITICS OF PLATFORMS IN A CONNECTIVE WORLD

Analyzing the platform society at the micro-level of single platforms and at the meso-level of the ecosystem is vital to understand the macro-level of geopolitics. To understand the global dimension of platform power, we need to take into account how these levels are intertwined. The world of online geopolitics is divided in roughly two political-ideological hemispheres, each of which is governed by its own ecosystem, cemented in economic models that are opposites. The majority of successful infrastructural platforms that channel the world's online social and economic traffic are either US or Chinese. Few of the core platforms originate in western Europe or Russia, and hardly any of them were built in Africa, Latin America, Australia, or Southeast Asia.²⁴

In geopolitical terms, the power of the infrastructural core of the platform ecosystem dominated by the American Big Five is counterbalanced only by a China-based ecosystem, operated by a handful of Chinese players, most notably Tencent, Alibaba, Baidu, and JD.com—companies whose products and enterprises are for an important part controlled by the state.²⁵ The American and Chinese ecosystems dominate their own geopolitical spheres and are rooted in opposing ideological views (Ramos 2013). In the American (or Anglo-Saxon) market model, corporations ally with consumers to embrace free market principles and to minimize government interference, while civil society interests are negligible. The Chinese model

favors corporate platforms indirectly controlled by the government—a form of state capitalism where citizens, NGOs, and other civil society actors play a subservient role in the negotiation of public values. Over the past years, American technology companies have tried to make an entry in the Chinese system, but when they did break through the “Chinese firewall” they were faced with censorship and hacking issues.²⁶

While acknowledging the huge and mounting importance of the Chinese ecosystem and its players in an online world, this book concentrates on the North American ecosystem and more particularly on its impact in Europe and the United States. Over the years, the US-based Big Five tech giants have more or less successfully expanded their platform services into Europe, Africa, and Asia.²⁷ In western European countries, there have been a number of legal and normative skirmishes between American platforms and governmental bodies in charge of regulating market sectors or social arrangements (Jin 2015). These clashes have spurred a series of interrogations concerning the power of platforms vis-à-vis the power of governments. When platform operators clash with governments, these conflicts virtually always embody an ideological confrontation concerning public value or the common good.

As stated before, the American platform ecosystem comes with a specific set of norms and values inscribed in its architecture, encoded in data policies, algorithms, and business models. Inscribed in the corporate ecosystem is a libertarian set of values, where individuals have the prime responsibility to organize their own lives in self-selected communities, with few obligations toward state-organized collectivity. These ideological values often remain implicit until platforms meet resistance, particularly when trying to penetrate sectors and markets *outside* the United States. Most European countries tend to prefer a society organized by government and citizens in cooperation with private companies and civil society actors, where public values are guarded by public institutions and collective arrangements are mired in the solidarity principle. But what does the permeation of the American-based platform ecosystem mean for democratic public values in countries on both sides of the Atlantic? And how can democratic values, sprouting from European social-democratic traditions, be sustainably anchored in platform societies?²⁸

Our focus in this book is not so much on developing a normative governance model for the platform society but rather on analyzing negotiations in the process of platformization in order to reveal underpinning mechanisms, patterns, and stakes. In western European countries, the clash between neoliberal market values and democratic collective values constantly plays out on local and national levels. Local and national clashes pitting platform operators against governments have been taken all the way up to international courts. In recent years, there have been various face-offs between European governing bodies and American platform owners over public values

such as privacy, security, and citizens' right to control their own data.²⁹ The ideological values injected through the ecosystem are both validated and contested by users, citizens, and regulators. We cannot simply cast aside western European models of societal organization as "outmoded" or "disrupted"—even if they are in many ways ill-equipped to govern the new platform-based society. Instead, we try to reflect more profoundly on the shared responsibilities of all actors in organizing a platform society, raising and answering questions of accountability and democracy, of transparency and trust.

As described in this chapter, the platform society involves an intense struggle between competing ideological systems and contesting societal actors. Therefore, the main question driving our research—*what role do online platforms play in the organization of public values in American and western European societies?*—is a step up to addressing a more urgent issue: *who is or should be responsible and accountable for governing a fair and democratic platform society?* Responsibility and accountability do not solely rest with the institutional and legal frameworks that scaffold societies. Companies, too, share this responsibility. When Uber defines itself as a "digital service," it thus escapes the accountability that comes along with being a sectoral employer; but it also evades a social responsibility for paying collective dues to cover social security or pensions. Underlying this tactic is an ideology that individuals have to fend for themselves. By the same token, Alphabet's vertical integration of infrastructural and sectoral platforms (and horizontal integration of platforms) allows Google services to elude the antitrust regulatory restrictions that governments have put in place to prevent monopolies and thus protect consumers (Taplin 2016). Questions of accountability and responsibility address both corporations and states, consumers and citizens (Broeders and Taylor 2017). They apply to all levels: from the implementation of single apps in particular contexts, such as schools or cities, to the supranational level of the European Court.

Inquiries concerning responsibility and accountability specifically address large platform operators. Who is responsible for the distribution of extremists' ideas through social media (Herrman 2016)? Who is responsible for the circulation of misinformation? Who is accountable when citizens start fighting after a user has distributed a call to arms? Who is to blame when a medical app relying on user-generated data turns out to be inaccurate? Who can be held accountable, if not liable, when young children get inundated with online ads for sugar-coated sweets? In recent years, some of the major platform operators have come to realize they can and should be held accountable, if only because they could lose the user's trust. The platform society is not an ideal world order in which companies are perfectly able to regulate themselves and users are all equally engaged to support the common good. It is not a society where technology renders economic and social traffic perfectly transparent so that governments can withdraw. On the contrary, platform societies,

to some extent, are becoming opaquer *because* social and economic processes are hidden inside algorithms, business models, and data flows which are not open to democratic control (Pasquale 2015).

The Big Five companies that constitute the infrastructural core of the ecosystem upon which the platform society is built have a special responsibility in this respect. Over the past ten years, they grew big by avoiding or bypassing institutional and governmental structures. The platform society's most valuable players are not famed for their commitment to public value or the common good (Manjoo 2017b). In Europe, particularly, the Big Five have been taken to court on antitrust charges (Google), preferential tax treatment (Apple), and breach of privacy rules (Facebook) (Scott 2017). Many of these court fights have to do with platforms usurping a hybrid status; many of them also rely on legal exemptions that were put in place in the 1990s in order to spur innovation in what was then a budding, immature market (Foroohar 2017). However, the Big Five companies can no longer take for granted their initial treatment as affable start-ups working in the interest of individuals and communities. Instead, they increasingly present themselves as social actors that may have private stakes in the ecosystem but that have responsibilities akin to governments when it comes to procuring public value. In February 2017, Mark Zuckerberg published a manifesto that laid out his world view as a businessman-turned-statesman, spreading the message of public value to Facebook's two billion users worldwide:

Today we are close to taking our next step. Our greatest opportunities are now global—like spreading prosperity and freedom, promoting peace and understanding, lifting people out of poverty, and accelerating science. Our greatest challenges also need global responses—like ending terrorism, fighting climate change, and preventing pandemics. Progress now requires humanity coming together not just as cities or nations, but also as a global community. . . . *In times like these, the most important thing we at Facebook can do is develop the social infrastructure to give people the power to build a global community that works for all of us.* (Zuckerberg, 2017, emphasis in original)

Facebook emphatically presents itself as a “social infrastructure” that helps people to build a “global community.” Remarkably, though, the manifesto does not mention any other actors involved in this transformation. No established institutions or governments are apparently involved in keeping global peace and fighting terrorism; no civil society groups are mentioned as participants in a global community. And, since the remainder of the manifesto deals mostly with the need for a healthy news and information ecosystem, it is remarkable that Facebook's chief executive officer omits the role of established news organizations that are responsible for a large chunk of the

content distributed by the platform. Ignoring important *institutional* pillars of trust—whether state or market—makes one wonder how Facebook, as one of the most influential platforms in the ecosystem, expects to negotiate important public values such as the accuracy and independence of news with societal actors.³⁰ Once again, it is crucial to scrutinize these claims in terms of private (corporate) interests and public value: whose interests are served, and what public values are at stake in this claim?

As platformization continues to penetrate more sectors of society, the distinction between private and public is increasingly glossed over as an irrelevant societal classification, whether applying to individuals or to collective entities. Another disconnect that should trigger critical inquiry is major platforms' innate interest in *global* markets and worldwide reach of customers, while ignoring, bypassing, or battling *local*, *national*, and *supranational* levels of social organization. Of course, such preference for a global user base of individual consumers epitomizes operators' interest in the economic value of scaling, rather than in the public value of civic engagement. Notwithstanding their differences in scale and scope, city councils and government agencies increasingly team up with global corporate platforms to tackle urgent societal problems like urban safety, efficient transportation, optimal healthcare, or affordable online education. Local regulators and city councils are understandably more interested in the immediate local impact of platforms rather than the way global platforms affect the national or supranational world order in the long run. However, these levels are inextricably intertwined. Uber's attempts to disrupt a local urban transportation market are also attempts to tip the balance from state power to corporate power. And Facebook's claim to create a global community, while perhaps laudable in itself, betrays an expansive neoliberal world view that implicitly questions the relevance of governments and states in organizing liberal democracies.

The very institutions and professional organizations that were once instated to anchor trust and sustain democracy no doubt need to be upgraded to meet the new challenges of a platform society. But before they can do so, governments and public institutions need to understand not just the dynamics of platforms and how they work but the ideological premises on which they function as well as the social implications of their operation. Addressing those larger questions of responsibility and accountability requires a fundamental understanding of *how* the platform ecosystem works. Therefore, in the next chapter we will lay out an analytical instrumentation that helps dissect the technical, economic, and social dimensions that drive the platform ecosystem. Understanding how platform mechanisms reshape societies may in turn help us understand how societies can govern platforms. Platforms are too important to leave their regulation to self-labeled operators and users; civil society, citizens, and governments have big stakes in a fair, democratic, and responsible platform society.