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## Platforms, power & collectivity

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# Platforms, Power & Collectivity

*Inaugural Lecture*

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*by*

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# Introduction

*Mevrouw de Rector Magnificus, Mevrouw de Decaan, geachte toehoorders, collega's, vrienden en familie.*

How have digital platforms become powerful societal institutions and what does this mean for us collectively? Addressing this question, I will start with three examples, which each show a different side of platform power. After these examples, we will get to the core of my analysis of *platforms* and *power*. The substantive part of my lecture will be concluded with a reflection on *collectivity*.

For the first example, I want to take you to 2017 when YouTube's automated system for placing ads sparked controversy. Newspapers in the UK found that this system connected advertisements for consumer products with videos championing radical and terrorist groups, including the Islamic State (Mostrous, 2017; Neate, 2017). In response, US and UK companies began to pull their ads from the platform. As its advertising business was collapsing, YouTube immediately responded trying to make the platform more "advertiser-friendly". The company gave advertisers the option to exclude broad categories of content from appearing alongside their ads (Caplan & Gillespie, 2020; Kumar, 2019). Categories that advertisers could be exclude, concerned among others "live-streaming video", but also "sensitive social issues", which YouTube defined as "discrimination and identity relations, scandals and investigations, reproductive rights, firearms and weapons, and more" (YouTube, 2020).  So almost anything with any social and political significance.

While these policy changes were friendly to advertisers, they were *certainly* not friendly to YouTube creators, who gain income from their videos through YouTube advertising. Following YouTube's policy changes, *tens of thousands* of creators found their content to be "demonetized", meaning they would receive limited or no ad revenue, even if many people watched their videos (Caplan & Gillespie, 2020). Particularly problematic is that mere commentary on "sensitive social issues'' was already a reason for demonetization. Hence, creators started to refer YouTube's measures as the Adpocalypse (Burgess & Green, 2018; Cunningham & Craig, 2019; Kumar, 2019).

Over the past years, there have been four rounds of such adpocalypses. What I hope this example shows you is that platforms, often guided by economic interests, can decide, from one day to the next, to radically change *how* content can be distributed, and *which* content can be monetized, affecting the livelihood of many thousands of people. In the process, platforms shape and reshape digital culture.

For the second example on platform power, I want to take you to the start of the Covid-19 pandemic. In the spring of 2020, as you might remember, European governments wanted to develop a Corona contact tracing app to able to track the spread of the virus. However, they quickly discovered that they could only do so by collaborating with Google and Apple, the providers of the two dominant mobile operating systems, Android and iOS, on which virtually all smartphones run (Dieter et al., 2021). Particularly Apple's iOS policies presented an obstacle, as these policies prevent apps running in the background from transferring data over Bluetooth, which would make contact tracing impossible (England, 2020). To make matters even more complex, iOS and Android are not necessarily interoperable in terms of exchanging information. Hence, governments needed Google and Apple's help for contact tracing apps to work.

Apple and Google indeed stepped in, launching in April 2020 the Google/Apple Exposure Notification system (GAEN). This system enables data exchange through Bluetooth, as well as interoperability between Android and iOS devices using contact tracing apps. Virtually all European states, subsequently, built their contact tracing apps on this system (Ilves, 2020).

The reason, I'm telling you this rather technical story is that it illustrates the increasing dependence of governments and other powerful societal institutions on the *computational infrastructure* of major platform companies. Of course, using this infrastructure necessarily means granting these companies control over how *vital* and also *controversial* areas of public health take shape (Sharon, 2021). This second example points to a more general trend in which commercial platform infrastructures are becoming indispensable to key public institutions and activities, including health care, education, transport, and information provision (Dijck et al., 2018).

Finally, for the third example, I want to focus on food delivery in China. Food delivery platforms, like other so-called "gig" platforms, are interesting from a platform power perspective, as they shape in detail how couriers do their job. From a labor perspective, these platforms are also particularly important, as they employ large numbers of people, especially during the pandemic. In China, the workforce for food delivery reportedly employs over 7 million people. Most of these people work for Ele.me and Meituan, which jointly control over 90% of the platform-organized Chinese food delivery market (van Doorn & Chen, 2021).

These delivery platforms, as research shows, are algorithmically designed to put workers under high pressure to deliver orders as quickly as possible. To keep them motivated, Ele.me and Meituan have fully gamified their payment schemes with bonuses when particular targets are met (Sun, 2019). For example, they hierarchically rank couriers into different levels, determined by a set of criteria, such as on-time rate, customer reviews, and the number of fulfilled orders. When workers reach a higher level, they also receive a higher bonus for each delivery (van Doorn & Chen, 2021). Hence, it is essential for couriers to keep hitting targets. Obviously, this game-like environment is exhausting and stressful for couriers, who are prone to take more and more risks to meet their targets, leading to high numbers of traffic accidents (Shepherd, 2017).

So, this third example shows how platform power can shape in detail the *lived reality* of labor. Optimizing revenue and labor to the max, platforms drive workers to the edge. Of course, such practices are not unique to China, but occur also in other parts of the world, including the Netherlands.

## Platforms & Power

Having set the stage, I will now explain how platform companies acquire such powerful positions and become central to key areas of cultural, economic, and political life. This examination especially draws from two books: *The Platform Society* (2018), which I have written with my colleagues José van Dijck and Martijn de Waal, and *Platforms and Cultural Production* (2022), written with my colleagues David Nieborg & Brooke Erin Duffy.

Before we dive in, we first need to determine what a platform is. What do YouTube, Android, iOS, and Meituan and Ele.me have in common as institutional actors, even though they are operating in very different contexts and in very different sectors? Drawing on insights from various theoretical traditions, particularly business studies and political economy, software studies, and governmentality studies, I have argued with colleagues that we can understand platforms as *markets*, *infrastructures*, and *governance frameworks* (Nieborg & Poell, 2018; Poell et al., 2019, 2021). I will now discuss each of these dimensions.

### *Markets: Winner takes all*

As research in economics and business studies, from the early 2000s onwards, has made clear, platforms constitute so-called two-sided or multi-sided markets. This is insight is key to understanding how they affect economic relations in different societal sectors (Gawer & Cusumano, 2002; Rochet & Tirole, 2003; Steinberg, 2019). Traditional market relations are one-sided with a company providing a product or service to buyers. Think of Unilever producing peanut butter, which is bought by supermarkets, such as Albert Hein, and then sold to customers. Or think of a film studio producing a movie, which is subsequently licensed by movie theaters to be exhibited to audiences. Or think of a taxi company that sells rides to consumers. Platforms typically constitute two-sided or multi-sided markets, they *become* the market, enabling *direct interactions* between consumers and content and services providers.

A classic example of a two-sided market is a game console platform, such as Xbox and Playstation, which connects game publishers with gamers. The company that produces and develops the console does not buy or license the game but provides the platform on which the game can be run. It functions as a matchmaker (Evans & Schmalensee, 2016). A game console platform that also lets advertisers target users becomes a multi sided market, connecting gamers, game publishers, and advertisers.

Over time other goods and services have become drawn into such multi-sided platform markets. Think of music, created by musicians, produced, and distributed by record companies, and traditionally sold through record stores. The development of music

streaming platforms, such as Spotify or Apple Music, has changed this. Right holders, which can be individual musicians, now upload music to the streaming platform. Only when users play this music do right holders receive royalties. We can also think of food couriers and taxi drivers, traditionally employed by restaurants and taxi companies. Now they offer their services through delivery and ride hailing platforms, where they get paid for the gigs they complete.

When multi-sided platform markets first emerged in the early 2000s, many commentators and scholars considered these as vehicles of democratization (Bruns, 2008; Jenkins, 2006; Shirky, 2008). The idea was that platform markets allow individuals, from musicians to journalists to taxi drivers, to be more autonomous, that is, to become independent entrepreneurs, directly selling their content and services to consumers, bypassing traditional gatekeepers, such as legacy media organizations and incumbent taxi companies.

The research I have done with colleagues over the past decade has greatly complicated this story of empowerment. Along with other critics, we have pointed out that platforms are *not* simply matchmakers, or neutral intermediaries. Instead, they are incredibly powerful economic, financial, and political actors in their own right (Dijck et al., 2018; Gillespie, 2018; Srnicek, 2017). This is the result of how multisided markets work. These markets are subject to so-called network effects (Evans & Schmalensee, 2016; Rochet & Tirole, 2003). For example, a social media platform (Facebook, Instagram) that attracts a lot of end-users, becomes more attractive for other end-users, as they have more friends, family, colleagues to connect with. With more end-users joining, the platform, subsequently, becomes more attractive for content and services providers, as they have more potential consumers to target. More content and service providers, in turn, makes the platform more attractive for other end-users and so on.

As a result of these network effects, we can observe strong winner takes all dynamics: only one or two platforms tend to dominate particular sectors: YouTube dominates video sharing, Apple and Google dominate the app economy, and Ele.me and Meituan dominate Chinese food delivery. These platforms become almost *unavoidable* for end-users and content and service providers. Whereas many news organizations might, for example, not like Facebook very much. To draw online readers to their news sites, where

they can be monetized, these organizations feel the pressure to be active on these platforms. Thus, can a see a huge concentration of economic and financial power in a few platform companies (Dijck et al., 2019; Poell, 2020).

Crucially, there are also winner take all dynamics at play *within* platform markets. Winner takes all dynamics occurs because platforms tend to make content and content providers that generate a lot of engagement prominently visible, which, in turn, generates more end-user engagement. Consequently, individual content and service providers, find it very difficult to become and remain successful in platform markets. There are certain individual creators that from time to time become winners, breakout stars. However, sustaining their success requires access to substantial resources, including talent agencies, partner programs, data tools, and brand recognition. This effectively explains the prominent position of resource rich legacy media companies, such as Disney or Bloomberg, News Corp on social media platforms. Thus, rather than democratization and empowerments, we see a concentration of power (Poell et al., 2021).

To conclude the reflection on platform markets, I would like to briefly reflect on the *culture* of platform economics. This is important for our thinking about collectivity and politics. Although it is clear by now that platformization leads a concentration of power, strikingly the narrative of individual empowerment and entrepreneurialism through platforms continues to persist (Bishop, 2020; Cotter, 2019; Duffy, 2017). I would like to argue that it continues to persist because it fits perfectly in today's political economy. Platformization is continuous with much longer and broader political-economic developments. The liberalization of markets and the breakdown of collective welfare state arrangements in the West from the late 1970s onwards has set off, as has often been argued, a process of economic and financial individualization. The modern citizen is expected to think and act as an entrepreneur, bearing full responsibility for their own economic welfare and financial well-being (Harvey, 2007; McRobbie, 2016; Neff, 2012). From this perspective, the primary function of the state is *not* to ensure basic economic security for its citizens, but to ensure the optimal functioning of the market and to activate citizens to take care of their own welfare.

Platforms can be considered as the ultimate instrument of this endeavor, as they hold the promise of individual economic empowerment. However, as the opening examples

show, relying on YouTube, Ele.me, or any other social media or gig platform for one's economic welfare means putting yourself in a highly precarious position. The key point to take away is that both the promise of individual economic empowerment through platforms, as well as the difficulty to *actually* make ends meet in the platform environment is *continuous* with the development of the wider political economy.

### *Planetary-scale computation*

On to the second dimension. Platforms should not only be considered as markets, but also as *infrastructures*. Normally, when we say infrastructure, we think of railways, roads, the electricity grid and so on. Platforms are data or computational infrastructures, which increasingly function, as we have seen in the example of the Covid contact tracing apps as private-public infrastructures, fulfilling a key societal role. Before diving deeper into how they constitute infrastructures, it is important to see that platforms in this regard also correspond with the wider political-economic developments, I just sketched. An important element of the liberalization of markets has been the privatization of public infrastructures (Birch & Siemiatycki, 2016; O'Neill, 2019). Think of the privatization of the railways, of postal and telephone services, and of hospitals. But we can also think of public or semi-public institutions, such as universities, increasingly run as companies, focused on maximizing market share, engaged in large scale real estate development, and relying for an important part of their operations on commercial infrastructures and services. Platforms as private-public infrastructures fit perfectly in this political economic story.

Platforms constitute data or computational infrastructures. The Internet started in the late 1960s in the US as a public infrastructure, connecting major academic research institutes and military bases (Abbate, 2000). The Internet is still for an important part public, but increasingly major platform companies, like Google, are also investing in the underlying infrastructure of the internet, laying cables across oceans (Mims, 2022). And, even more importantly, these companies are building huge data centers around the world (Semuels, 2021). This commercial platform infrastructure is completely unrivaled in the digital realm.

In public debates, these data centers have rightly been called out for their large electricity and water use (Glanz, 2012; Hogan, 2015; Parikka, 2015). A major data center uses up to 100 megawatts of electricity, which is enough to power 80,000 homes. But make no mistake, we are all in this together, we all rely on this infrastructure to work, communicate, entertain, and consume. Platform infrastructures are amazing and have become essential to us. Without data centers it would be impossible to watch videos through YouTube, series and films through Netflix and Disney Plus, order rides and food through Uber, and we certainly would not have been able to continue working and studying from home throughout the pandemic using Zoom and Microsoft Teams.

The development of platform infrastructures is closely connected to the growth of dominant platform markets. The economic dominance of the major platform corporations is underpinned by these large computational infrastructures. In this regard we can think of platform companies as mobilizing infrastructural power (Dijck et al., 2019; Helmond et al., 2019; Plantin et al., 2018). Not just end-users rely on these infrastructures, but so do many other companies, as well as public institutions and societal organizations. Zoom (as a company), for example, relies on Amazon Web Services (AWS), which has also become essential for larger scale academic data research, as well as for news and other types of websites. AWS provides many services including analytics, storage, compute, and application services all build on its global data center infrastructure. Another example of essential infrastructures are mobile operating systems and app stores. As people around the globe primarily access the internet through mobile devices, mobile operating systems and app stores have become key infrastructures for many companies and public institutions, who offer their content and services through dedicated apps. Furthermore, we can think of YouTube and Facebook as infrastructures to distribute and monetize content, crucial for cultural producers, from news organizations and game publishers to individual creators (Poell et al., 2021). All this is enabled by huge investments of platform companies in data centers around the globe.

Thus, commercial platforms have become core infrastructures in contemporary society. From a public or societal perspective, this is deeply concerning. As the contact tracing app example already showed, it is difficult if not impossible to provide digital services without relying on commercial platforms. This is especially true when operating at

scale, for example when confronted by a crisis, such as a pandemic. Commercial platforms provide *planetary-scale computational infrastructures*, which have no public digital equivalent (Bratton, 2021). In other words, an essential part of our infrastructure is designed and governed to maximize profits, targeting individuals as consumers. We lack a public digital infrastructure geared towards supporting citizens as collectives, designed and governed to serve public goals.

### *The Automation of Governance*

This leads to the third dimension of platforms: governance. What does it mean to be governed through commercial platforms? As markets and infrastructures, platforms enable connections, but they also control or govern how those connections take shape. In the introductory examples, I already gave you a sense of what such governance entails.

In my research with colleagues, we have argued that platforms employ three modes of governance, which each have major implications content and service providers and for end-users. The first mode is what we call *regulation*, which can be defined as the *setting of standards, guidelines, and policies* (Poell et al., 2021, 84). This is effectively governance through infrastructure, which is not a form of governance that has received a lot of scholarly or public attention so far. Apple, for example, actively regulates the type of apps which can be distributed through the App Store and it also determines what kinds of user data these apps can get from the platform. As such it could decide that apps running in the background cannot transfer data over Bluetooth, making contact tracing impossible without Apple's active collaboration.

The second key mode of platform governance concerns *curation*, which refers to the *categorization and ordering of content and services on platforms* (ibid.). Platform curation is especially transformative because it is largely automated, relying on algorithms, "coded instructions that a computer needs to follow to perform a given task" (Bucher, 2018, 2). Typically, content and services which generate the highest *user engagement* or the most *positive user* feedback are algorithmically made visible, this is what you see on Facebook feed, Twitter timeline. As such, platforms establish regimes of visibility, determining what is considered relevant or irrelevant (Bucher, 2012; Cotter, 2019). While there are

differences between how platforms select, as a rule commercial platforms design their algorithmic systems to maximize profit, and not to serve the public good or the wellbeing of those that work through the platform. As we have clearly seen in the Chinese food delivery examples at the start of the talk.

Finally, platforms govern through *moderation*, which refers to the *pre-screening, rejecting, removing, sequestering, banning, downgrading, or demonetizing of content and accounts by platforms* (Poell et al., 2021, 96). The Adpocalypse is a prominent example of the impact of moderation. Given the scale at which major platforms operate, moderation is notoriously hard. On YouTube for example, no less than 30.000 hours of video are uploaded every hour and on Instagram more than a hundred million pictures each hour. Most of this content is algorithmically moderated, especially removing nudity and violence. Given the scale at which platforms operate, it is not surprising that they have often failed to get it right. On the one hand, major platforms have famously failed to moderate problematic content, leading to the widespread circulation of disinformation. On the other hand, platforms constantly remove content that most people agree should not be removed. Facebook, for example, has removed images of breastfeeding, as well as the iconic Terror of War photograph (Dijck et al., 2018; Gillespie, 2018). When such moderation failures trigger a public backlash, as famously happened in the case of the Terror of War picture, platforms try to correct their moderation procedures. Breastfeeding and the Terror of War photograph can now be shared on Facebook. Of course, this does not change the fundamental point that platform companies increasingly determine what can and cannot appear in the public realm.

Coming back to the larger political economic transformation, I have sketched throughout this talk. Governance by commercial platforms strongly corresponds with the development of the market as the key coordinating institution in society. The rise of platform markets and governance is the last step in this development. Crucially, the automation of governance can be seen in correspondence with long-term degradation of expertise. Over the past century, the authority of experts, whether teachers, scholars, doctors, or journalists, has increasingly been questioned. Culturally we have moved away from the idea that expert evaluations and decisions carry more weight than those of laypersons. The automation of governance by platforms is also based on the idea that we

don't really need human experts to make fundamental decisions. Going forward, the division of labor between human experts and automated systems will be a key political issue, as automated decision-making is proliferating beyond platforms. This is one of the topics I will work on in the years to come with colleagues at the UvA. We can see the application of machine learning algorithms in a wide variety of areas from health decision-making to security and from the justice system to transport. Take for example Tesla's Full Self Driving system, in which the human driver is expected to be alert at all times, but it is the algorithmic system that does the driving. Currently, these applications still involve a division of labor between humans and algorithms, but as automated systems become more sophisticated, one could see humans being taken out of the equation altogether.

## Collectivity - A Critique of Individualism

Hopefully it is clear by now: *it's all politics*! Our challenge is to make the values underpinning commercial platforms and our contemporary political economy explicit. Nothing about platformization is inevitable. Neither is a society primarily organized around the market a natural state of being. Other arrangements are possible. Our current situation is the result of decades of neoliberal politics, which have proven to be the perfect environment for commercial platforms to become key institutional actors.

Consequently, changing how platforms intervene in society is first and foremost an institutional question or problem, and not one of individual choice. The idea that each of us can always *choose* to leave YouTube, Facebook, Twitter, get rid of our smartphone, use an alternative for Zoom, Teams, and Microsoft Office, is attractive, but it is also a *deeply problematic* idea. As I have made clear, platformization should be seen as an institutional process in which winner-takes-all markets are established, in which planetary-scale infrastructures are developed, governed and controlled in correspondence with commercial rather than public interests. In this institutional configuration, commercial platforms have become *unavoidable* institutions, for which there is often no viable alternative. Available alternatives often lack the funding and the necessary infrastructure to operate at scale.

Intervening in the heart of contemporary societies, commercial platforms are vehicles of the market, designed to target individual consumers, commodify and optimize our daily activities, and develop ourselves as brands. This is exhausting at an individual level. Entrepreneurs in platform markets, from delivery workers to creators and from journalists to academics, are under constant pressure to optimize and maximize their output. Yet it is also unsustainable at a societal level. The current disinformation crisis has demonstrated as much.

What is needed is a strong public institutional response. To change how platforms take shape and how they intervene in society, we need to act collectively. This cannot be the work of individuals or even of individual institutions, but this needs to be taken up by coalitions of institutions: trade unions, universities, cultural institutions, NGOs, and so on. Such coalitions are in a much stronger position to negotiate with commercial platforms to ensure that their infrastructures and governance framework are developed in correspondence with core public values and objectives. And we need such coalitions to potentially build and support public platform infrastructures. A great example of such a coalition is PublicSpaces, which recently held a conference here in Amsterdam. The initiative involves a wide range of societal partners, committed to providing an alternative software ecosystem that serves the common interest and does not seek profit.

Trying to mobilize a strong public response, we are, however, potentially confronted with a number of challenges. First, we should prevent going from a tyranny of the market to a tyranny of the state. Building a public platform infrastructure should be the work of coalitions, a pluralistic, democratic effort, as is PublicSpaces, rather than top down state intervention, even though state support is always needed. Second, historically collective arrangements have often been exclusionary, shutting out those that lack rights. Whatever collectivity is built, it cannot be for the happy few, but it needs to be fundamentally inclusive. Finally, pursuing a strong institutional response, we need to be aware that the analysis I have presented today is very much a tale from the West, from Europe and the US. This does not mean that it is wrong, but it does mean that it is *specific*. We should be careful not to project concepts and solutions from the West to the rest of the world, as if these concepts and solutions are universal (Chakrabarty, 2008; Chen, 2010). And we need to

support the development of theory from around the globe. Again, this should be an inclusive collective effort.

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**Thomas Poell**

Finally, I need to mention Jeroen de Kloet as a mentor and friend. Jeroen makes academia fun. He describes writing as punniken (spool knitting). The academic events he organizes are great with good food and nice drinks. I'm trying to do the same.

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