

BIG TECH REGULATION

**EMPOWERING THE MANY
BY REGULATING A FEW**

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FOREWORD

There is a great deal of debate today over regulating Big Tech, and over the evolution of competition law in France, in Europe, in the United States, Japan, Australia and many other locations. Which is why I wanted to provide a written transcript of a keynote¹ I delivered in Austin, Texas, at the South by South West Festival on March 8 of this year.

The text proposes four possible avenues for regulation. Their originality lies in seeking options that bring the power of the public into play, not to make decisions for Big Tech, but rather to empower the many innovators and the people. Because we cannot regulate decentralised technology with centralised thinking.

The starting point is the unprecedented and persistent concentration of power on the Internet around a handful of companies which, from one pioneering innovation, have built apparently endlessly expanding empires. A core dynamic at work here are especially powerful network effects. They fuel a momentum of attraction and accumulation that procures such massive competitive advantages that the very mechanisms of the market's "invisible hand" and "creative destruction" are being seriously threatened.

To unlock this stranglehold, the four avenues being proposed draw inspiration from existing regulations for governing infrastructure, particularly from telecoms where the network effects issue is well known, and from the financial industry. We are taking what already works as our point of departure, while factoring in the tech industry's singular features. Added to which, we are proceeding in a very targeted fashion, rejecting blanket regulation of the Internet. The first to be subject to a regime of preventative, bespoke and adaptive obligations would be the Big Tech companies identified as having a special stature in the marketplace.

Some of the proposals echo work that Arcep has done: a prime example being those regarding devices. Others are more the result of private reflection, and in no way commit the institution. One example is competition law, which I suggest steering more resolutely towards a pro-innovation agenda. Ultimately, all of these avenues warrant careful and in-depth debate. Therefore, I am particularly pleased and delighted by the external feedback and contributions from distinguished people that are Judith Rochfeld, lecturer of Private Law at the Sorbonne Law School (University Paris 1, Pantheon-Sorbonne), Barry Lynn, founder of the American think tank *Open Markets Institute*, Mehdi Medjaoui, entrepreneur and founder of the *APIdays* international conferences, and Stefano Quintarelli, former member of the Italian Chamber of Deputies.

¹ <https://schedule.sxsw.com/2019/events/PP82780>

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INTRODUCTION

From the edge of the network, from a scattering of garages and dorm rooms, a handful of services made their way from the mind of their makers to each and everyone's pocket. In the blink of an eye, we have seen revolutionary services turn into firms that have grown and mushroomed and, for some, become unstoppable machines.

We, the users of these services, made it happen. We do love them so. They are so easy to use, so well designed, so practical, so free, that we cannot stop using them. These companies are not bad in themselves. Quite the opposite, actually. Because they make our lives easier and more connected, we rely on them more and more. We helped put the Big in Big Tech. We widened their footprint to the ends of earth. We enriched their data. We made their success stratospheric. We allowed them to attract the brightest minds on the planet. We let them into our homes and private lives. We turned them into the overlords of our civilisation to such an extent that they now have the power, and in many cases the incentive, to limit our freedom of choice, to block potential rivals and police the public online space.

Up until recently, we tended to think this was no big deal. The mammoths would invariably be ousted some day by some other tech genius offering an even brighter solution. After all, had we not witnessed the continuous rise and fall of Internet companies since the Internet bubble burst? We have embraced the idea of creative destruction for so long.

| *We have reached a level of "bigness" where any outside innovation is very unlikely to defeat those who now have it all.*

But the truth is that this era is over because we no longer live under the rule of Schumpeterian economics. We have reached a level of "bigness" where any outside innovation is very unlikely to defeat those who now have it all. What are the forces at work here? In a nutshell, it is mainly about network effects.

Let's do a quick sketch of how an Internet platform typically develops.

The first thing a platform needs to do is to attract users. It will offer discounts, crank up on innovation and grabbing attention to win users over. Forge an "alliance with the crowd" (Nicolas Colin and Henri Verdier). It is no mean feat for a platform to get to this point. And it's a tricky situation for a service provider because its attractiveness depends first and foremost on the number of people who are already connected to it. Why connect to Facebook if none of my friends are on it? Why connect to Uber if no drivers are available? Creating a community is hard, and Big Tech have been incredibly good at providing very smart services to attract us.

Once a tremendous effort has been made on the user experience, prices, design, communication, a certain threshold is reached and the Law of Metcalfe kicks in. Network effects are at work. Acquired users attract more users. The community grows naturally, without any additional effort from the platform.

At this point, the platform is freed from competitive pressure. Of course you can leave, but then you leave the community. And where do you go? There is usually no obvious or easy alternative. Search engines are a prime example of this: the more traffic you have as an engine, the more you know what people search for and which link they click on, the more your algorithm learns, the more your service is relevant, the more attractive you are, the more people pay to advertise on your site, the more revenue you generate and the more users you get. Here, the platform may be tempted to shift from attracting users with this nice service, to making money off their back. Think of social media monetising your attention, a ride-sharing service creating scarcity or a voice assistant promoting its partners' products.

The problem is that, whenever we have network effects, we eventually reach a point where the market tips: because of a marginal or temporary comparative advantage, one firm can win the whole market, and firms no longer have an incentive to innovate. This is true not only for the dominant firm but also for its rivals.

At some point, the intrinsic quality of the service provided becomes secondary: new customers simply come to you, regardless of whether you keep on innovating.

As they get bigger and bigger, Big Tech can also accumulate data, purchase start-ups, hire skilled workers, create partnerships, become a default service, and reach an unprecedented scale, while their incentives to innovate shrivel up.

| *The upshot: Metcalfe has knocked Schumpeter out cold!*

Because power attracts power, some could also be tempted to abuse that power. And we are clearly not equipped to handle it properly. We do have some tools, of course: competition law, consumer law, net neutrality, data protection, you name it. But these tools are not enough. They're about limiting the damage, not solving the problem. We need to do more.

Norbert Wiener, the father of cybernetics, called the new industrial revolution a two-edged sword. It is as much a force of emancipation as an instrument of control and violence. So what are we doing to the Internet today? What is it doing to us?

| *Digital technology can only fulfil its promises if power is distributed, not concentrated.*

In my opinion, the basic premise is that we need to delight in technology once again. But digital technology can only fulfil its promises if power is distributed, not concentrated. This is where the Internet does wonders.

And this is where we need Robin Hood, who took from the Rich to give to the Poor: we have to take the power from Big Tech and redistribute it to the many. Control over digital technology must be distributed amongst users, start-ups, civil society. And, for this, we need to add new strings to our bow.

ADDING NEW STRINGS TO OUR BOW

What I'd like to do now is to offer four proposals for a redistribution of power on the Internet.

| *My proposals aim to free everybody from the hands of a few.*

My proposals are regulatory ones. What else would you expect from a regulator? But I would like to insist on one crucial aspect: the proposals I am making all aim to free everybody from the hands of a few. These proposals are not about creating rigid rules that would rein in entrepreneurs. On the contrary, I believe they could help give each and every one of us more freedom and control.

My proposals are designed to complement technological ones. A number of brave people today are committed to developing and implementing solutions to re-decentralise the Internet: the most famous is the "Solid" project from Sir Tim Berners Lee, the "father" of the Web, but there are also many other initiatives based on blockchain, freeware, peer-to-peer and so forth. It won't be easy for these initiatives to make inroads, however, as they will be battling against massive network effects, like a powerful tide throwing you back to shore. This is where my proposals act as complement: to enable alternative businesses and technological solutions challenge and, why not, perhaps one day replace Big Tech.

I. TOUGHER ANTITRUST RULES FOR BIG TECH

Competition law is a vital part of our arsenal. And we owe a great debt to the breakthroughs in US laws in this area since the early 1900s. For a century they made it possible to guarantee that the most powerful could not take control of the markets at the expense of innovation and consumers. But because of the accelerated pace of innovation in the Tech era, and the now greater scale of network effects, antitrust laws are now reaching their limits.

A. EXAMPLE: THE ANDROID CASE

Take a fantastic tool like Google Search, for instance. Google initially secured its prominence in the search market through consumers who were mainly using desktop computers.

In the early 2010s, Google was faced with a paradigm shift: more and more, people were starting to use their smartphones to access the Web.

| *To secure its dominance in the mobile era, Google deployed a strategy based on Android.*

For a tool like Google Search, this had the potential to change just about everything, as the change in interface opened the door to new players who could offer new services. To secure its dominance in the mobile era, Google deployed a strategy that the European Commission described very well, and penalised for violating antitrust laws.

Eight out of every ten smartphones in the world run on Android. And when you buy your phone in Europe, Google Search and Google Chrome are already installed on it. Not only that, but Google Search is the only pre-installed search engine (at least until further notice²). And this extends beyond Android phones since, according to reports, Google pays Apple billions of dollars for Google Search to be the default search engine on iOS.

Added to this, on Android you have an entire software suite that is also preinstalled.

² <https://www.blog.google/around-the-globe/google-europe/supporting-choice-and-competition-europe/>

These are apps that you can sometimes deactivate, but which you cannot uninstall. The situation was such that Europe's Commissioner for Competition, Margrethe Vestager said that Google's business practices: "have denied rivals the chance to innovate and compete on the merits".

Because of the accumulation of behaviours that Google had adopted to secure its dominance over the search market, and over the smartphone ecosystem as a whole, the European Commission imposed a record fine on the company in 2018.

B. THE LIMITS OF ANTITRUST AND HOW WE MANAGED WITH IT IN TELECOMS

As impressive as a large fine might be, a decision penalising an abuse of dominant position can only target the past or current abusive practices of a single economic player.

As Big Tech are controlling resources that are necessary for other companies to develop their business, their abusive conduct causes the economy irreparable harm, be it a start-up deprived of launching an innovative solution or a traditional economy player handicapped in its digitisation strategy. This is especially harmful at a time when the pace of innovation is accelerating and when the space that technology, data and AI occupy in all economic sectors is ever expanding.

What we need, to truly defend innovation, is a proactive agenda. My proposal here is to create a specific status for Big Tech and apply preventive rules to them – regardless of the authority in charge.

Let me describe how this could work, using the example of telecoms regulation in Europe.

In Europe, we have a full toolkit of remedies that we can apply to the telecoms operators who enjoy significant market power.

We have a legal framework that requires us to analyse the degree of competition that exists in certain pre-defined markets. If we identify sustained market failures and dominant players in one of these markets, we can impose obligations on them to grant access to their facilities, obligations of non-discrimination, transparency, business separation, price regulation, etcetera, for a limited period of time, and for

as long as healthy market competition cannot be achieved on its own, in the foreseeable future.

This regulation has several practical advantages:

- It allows us to define a small group of players that will be subject to specific rules, in a way that benefits everyone, while avoiding horizontal regulation that would apply equally to an Internet giant and a tiny start-up.
- It establishes an ongoing dialogue with the players, working with regulators on building solutions.
- It provides a range of remedies from which the regulator can choose the most appropriate in a timely fashion to repair the market failures, notably as a preventive and proportionate measure.
- It gives the regulator the ability to adjust the remedies applied over time, thanks to a process of regular review that balances flexibility and security.

C. PREVENTIVE MEASURES FOR “PREVAILING PLATFORMS”

The idea would be to design an equivalent to the regulation we have in Europe to regulate infrastructures such as telecoms and energy networks. But this regulation would be tailored to the Tech era.

| *A preventive approach that would rein in the most prevailing players.*

As we have with telecoms markets in Europe, we could develop a preventive approach that would rein in the most prevailing players. The first step would be to identify which players need to be regulated. Here we require a legal concept to encompass what characterises Big Tech: market power and economic impact. I propose using a concept of “prevailing platforms”, acting as gatekeepers vis-à-vis start-ups and SMEs seeking to innovate and expand their markets, and the source of strong network effects or any other factor that will likely lock in the market.

A second step would be to define the set of obligations that would be applied to this category of powerful players, starting from duly identified “market failures” (barriers to entry, risks over innovation, risks of side market distortions, etc.).

We have to be very careful here, because we cannot simply transpose the regulation we have put in place for telecoms, or for public utilities in general. A platform can of

course be seen as an “infrastructure”, but we need to take into account its particular features, and especially its business model, which, often based on multi-sided markets and free services. Not all of the tools used in the telecom sector can be carried over to this ecosystem, especially when it comes to price supervision.

But I think we could easily apply obligations of access, transparency, non-discriminatory treatment and business separation, which have paid off.
So what might this mean, concretely?

| *In these days when some people are calling for a dismantling of Big Tech, you might call my proposal a “soft dismantling”.*

If we come back to the example of Google and Android, this would mean that they might have to grant access to certain resources such as Search and the Operating System to other companies in a non-discriminatory way—provided the regulator can prove that these companies meet the definition of “prevailing platform” and can justify these obligations in terms of market failure. Of course, security and privacy issues would have to be taken into account to carefully design such remedies. This kind of obligation would undoubtedly have prevented Google and Android from violating competition law, as described earlier.

Other example: Amazon might have to put a specific accounting system into place that would prevent cross-subsidies between its e-commerce, cloud and other businesses. Same thing for the collection of data: the regulator could apply rules to the way that datasets from separate activities can be gathered within the company. So Amazon could continue to expand its operations, but under fair conditions.

In these days when some people are calling for a dismantling of Big Tech, you might call my proposal a “soft dismantling”.

D. FORBIDDING “KILLER ACQUISITIONS”

As an adjunct, I would like to mention Tim Wu who, in his latest work (*The Curse of Bigness*), highlighted the limitations of merger laws. Because merger control laws often focus on the size of the companies and the impact that a merger will have on prices, they do not make it possible to sustain a powerful enough competition dynamic. Tim Wu raises one crucial question in particular: Should we allow a merger whose goal is to eliminate a potential competitor?

It would be up to the companies involved in the merger to prove that they would not harm competition or innovation.

This scenario is as a “killer acquisition”. Nobel Prize winner Jean Tirole proposed a solution to prevent this, notably in reaction to the merger between Facebook and WhatsApp. His proposal is to reverse the burden of proof. So it would be up to the companies involved in the merger to prove that they would not harm competition or innovation. Of course not all companies would be subject to such a rule. Coming back to my proposal to introduce a status of “prevailing platforms”, why not impose such a burden of proof on this category of player when they are purchasing a start-up?

The aim behind this proposal is here to enable the innovation capabilities of the many, by slightly reducing the ability of a few incumbents to expand their activities. It is not an agenda designed to restrict Big Tech per se, because they are already big. The regulatory scheme proposed here is based entirely on detailed market analysis and proportionate remedies. Ultimately, the objective is to promote an efficient market structure that is truly open to new models and new players, and thereby repair the “invisible hand” mechanism.

E. SYSTEMIC SUPERVISION

After this proposal inspired by European rules for telcos, I would like to look at financial regulation and the related regulatory tools. I imagine you all remember the financial crisis of 2008. We had to deal with “too big to fail” banks that had no incentive to behave, and the thoughtless risks that led to the debacle we all know. Don’t you think that, to some extent, Big Tech have reached a point where their responsibility goes well beyond their initial service and market? Look at Facebook and fake news, Twitter and hate speech.

Define a systemic supervision regime for the players that warrant it.

My second proposal is therefore to define a systemic supervision regime for the players that warrant it, a little bit like the one we have now in the financial sector.

It could apply to those that have a systemic dimension, from both an economic and societal standpoint. In which case this would involve identifying those players whose behaviour could have a significant leverage effect on the economy and so-

ciety as a whole (hate speech, fake news, start-ups' access to marketplaces, traffic on the roads, cybersecurity, etc.).

As with financial regulation, the aim is to prevent the risks posed by these players by defining and monitoring processes (e.g. moderating content), conducting stress or other types of test.

| *The obligations imposed would be chiefly obligations of means, and seek to make the players accountable for their actions.*

Under a supervision-based approach, the obligations imposed would be chiefly obligations of means, and seek to make the players accountable for their actions. So it would be up to these powerful players to implement processes capable of containing the potentially harmful effects of the way they operate (e.g. to limit the spread of fake news, to make relationships between platforms and businesses more fluid) and to report to a dedicated public body like the SEC in the US. In this scenario, the role of the regulator is to make sure the supervised companies fully assume their responsibilities, and to provide all relevant information to the public. The regulator may also define several standards: picture, for instance, a standardised alert mechanism for users to report hate speech on social networks.



BARRY LYNN

Barry Lynn directs the Open Markets Institute. Previously, he spent 15 years at the New America Foundation researching and writing about monopoly power. He is author of *Cornered: The New Monopoly Capitalism and the Economics of Destruction* (Wiley 2010) and *End of the Line: The Rise and Coming Fall of the Global Corporation* (Doubleday 2005).

Lynn's writings on the political and economic effects of the extreme consolidation of power in the United States have influenced the thinking of policymakers and antitrust professionals on both sides of the Atlantic. His work has been profiled on CBS and in the *New York Times*, and his articles have appeared in publications including *Harper's*, *the Financial Times*, *Harvard Business Review*, and *Foreign Policy*. He has appeared on CBS, PBS, CNN, the BBC, NPR, MSNBC, C-Span, and the Christian Broadcasting Network, among others. Prior to joining New America, Lynn was executive editor of *Global Business Magazine* for seven years, and worked as a correspondent in Peru, Venezuela, and the Caribbean for the *Associated Press* and *Agence France Presse*.

DEMOCRACY OR MONOPOLY

— BARRY LYNN

Democracy, every citizen understands, requires getting the rules of voting and representation right, and building systems of checks and balances to ensure that no one person or group can concentrate power within government. What we too often forget, however, is that democracy also requires getting the economic rules right, and ensuring that competition in the political economy does not result in gross inequalities in wealth and control.

In fact, many of the most important early fights for democracy centered precisely on establishing a rule of law able to guarantee commercial and property rights.

When the English Parliament moved to reign in King James in the early 17th Century, they took away his power to reward supporters with monopolies, such as over the manufacture of tin or the trade in wine.

When Americans declared their liberty in 1776, they were rebelling not only against the taxes imposed by Parliament, but against the control over their markets exercised by the British East India Company.

In the 1780s, when Americans began to distribute the public lands of the new nation, they banned speculators and restricted purchases to 160 acres, not only to prevent concentration of wealth, but to promote independence and self-rule among citizens.

And the U.S. Constitution, with its careful balancing of powers? Yes, one goal was to avert the rise of the political demagogue. Another was to prevent the landlord and banker from being able to capture control over the state.

Today, as we face up to the awesome degree of power and control already concentrated by Google, Amazon, and Facebook, we should keep two ideas foremost in mind.

First, these monopolists pose the gravest set of threats to our democracy and fundamental liberties since the end of the Second World War, or from the American point of view, since the Civil War.

Second, we have all the tools we need to deal with these threats while also ensuring our ability to fully enjoy the technologies over which these corporations have captured sway. These are – precisely – the antimonopoly principles and laws developed over four centuries of battle for democracy and individual liberty.



The idea that platform monopolists like Google, Facebook, and Amazon threaten our democracy and our liberties has grown swiftly over the last year or so. In the United States, this fear has been expressed by presidential candidates, leading members of Congress, and regulators, as well as by a growing list of civil society groups.

There is no one main concern. Rather, citizens cite a fast-growing list of threats that are fundamentally political in nature. These include:

- Destruction of the free press, as Google and Facebook exploit their middleman positions to divert advertising dollars into their own vaults and away from both traditional and online native news publishers.
- Amplification of lies, misinformation, and propaganda, as Google and Facebook rent out the manipulation machines they built to capture advertising dollars to almost anyone willing to pay for their services.
- Private censorship of speech, as Google, Facebook, and Twitter arbitrarily sup-

press certain points of view, in ways that leave speakers with no reasonable form of recourse.

- Destruction of commercial liberty, as Amazon, Google, and others exploit their control over the marketplace, in ways that destroy the ability of sellers and buyers to deal directly with one another, in open and democratic markets.
- The mass expropriation of citizens' businesses, as Amazon, Google, Uber, Monsanto, and other platforms take advantage of their middleman positions to simply displace smaller retailers and manufacturers, and to transform formerly independent actors such as farmers and taxi drivers into captive contractors.
- The impoverishment and enthrallment of working people, and even many professionals, as monopolists concentrate control over the markets for certain skills, then exercise monopsony power over people selling those skills.
- The destruction of the ability of the public to function as a public, as the filter bubbles and personalized pricing systems of the platforms destroy the ability of citizens to share even basic forms of information with one another in practical ways.

Each of these problems alone is cause for extreme alarm. In combination, they are truly terrifying.

The good news? In every case, the problems are not the result of some ineradicable characteristic of these technologies and these corporations. Rather, the problems are the result of our failure to apply the same basic rules to these intermediaries that we applied to almost every essential intermediary in history.

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In recent months, there's been a lot of talk about simply breaking up the platform monopolists. Such rhetoric is politically useful, to attract attention to the issue, and to state in simple language that citizens indeed have the power to deal with the threat. It's also right; restructuring these corporations will be an important part of the solution.

There is, in fact, nothing today that prevents us from forcing Facebook to spin off WhatsApp and Instagram. The same is true of Google; there is no reason for YouTube and Maps to be under the same ownership structure as Gmail, Chrome, and search. Or for that matter for Gmail, Chrome, and search to be held by the same corporation. It is easier yet to break up these corporations vertically, such as by simply banning Amazon and Google from competing with any company that depends on their platforms to get to market, be it book publishers, travel reservations services, or clothing manufacturers. India is already moving in this direction.

In every instance, we soon will take such actions. But there are important limits to what we can achieve through such restructuring. Yes, power would be more dispersed than today. But we will still be left with platforms that continue to wield almost unlimited power over companies that depend on their services.

As we move towards making the 21st century political economy safe for democracy, it is vital to understand that Google, Facebook, Amazon, and a growing number of other corporations, have become fundamental to our ability to conduct politics and business, and to share ideas and information with one another. They have become, in short, utilities.

Accepting this fact, in turn, points us to what has always been the single most important goal of antimonopoly law, which is to prevent utilities from taking advantage of their middleman positions to discriminate in the pricing or quality of the services they provide to sellers and buyers.

The most obvious way to ensure such neutrality is through direct public control over these platforms. But such a solution raises a wide new set of challenges, such as how to keep information collected by these platforms out of the hands of the state.

Fortunately, there are many other ways to neutralize the power of essential monopolies that have been proven time and again. Rather than focus on the structure of corporations and markets, these approaches focus instead on behaviors, specifically how corporations get to price the essential services they provide, and who exactly gets to price a particular product or good to the end customer.

The most powerful such tools are Common Carrier laws, which require providers of essential services to provide the same pricing and terms of service to every customer, no matter their size or power. In the United States, citizens in 2015 won an important victory exactly on this front, when the Federal Communications Commission imposed "Net Neutrality" rules on telecom corporations such as Comcast and AT&T.

Over the years, citizens have applied such laws to the corporations that controlled every other important intermediary service, be it communications like the telegraph and telephone, transportation like railroads and airlines, and the provision of electricity, water, and gas. We can trace similar rules – as they were applied to ferries, bridges, stagecoaches, and inns – back to Roman times.

For much of U.S. history, citizens also used various forms of pricing law to buttress such common carrier regimes. Among the most effective are the "Resale Price Maintenance" (RPM) regimes designed to allow the producer of a good or supplier of a service to control the price to the end customer. By largely eliminating the ability of the intermediaries to engage in loss leading and other predatory behavior, such regimes greatly reduce the ability of financiers to use trading companies to concentrate control over entire marketplaces.

In combination, common carrier and RPM regimes, by making it much harder for intermediaries to manipulate interactions between buyers and sellers, also increases the incentive for retailers to focus on providing better service, and for manufacturers to focus on making better products.

The time has come for the citizens of all democracies to move beyond the idea that we can tweak and tax the platform monopolists into good behavior, be it in how they manage our communications, our information, or our businesses. As every previous generation has done, we too today must impose a set of rules that ensures their actions never again endanger our democracies or our personal liberties. The sooner we act, the easier the task will be.

II. DEVICE NEUTRALITY

A. DEVICES ARE SHAPING OUR INTERNET EXPERIENCE

At some extent, Big Tech regiments our lives. And one of the ways they do it is by virtually choosing the services we can access.

| *The more convenience a device delivers,
the more choices it is making in our stead.*

In the 2000s, ISPs took hold as the digital economy's potential gatekeepers. This was true of Comcast and of mobile operators that blocked VoIP on mobile for years. We created net neutrality rules to fight against this type of practice. But net neutrality only targets ISPs. And their behaviour is only a tiny part of the problem. App stores, operating systems and devices have far more influence over our choices than ISPs. They decide the restaurant search app you can use, they push certain recommendations, they force you to use a certain search engine. And the more convenience a device delivers, the more choices it is making in our stead.

This is a phenomenon that could well accelerate with voice assistants: the voice user interface reduces the options that can be given to users. The most telling examples are when your hands are busy elsewhere, whether driving the car or cooking. When you ask your voice assistant to "put on the radio, buy butter, order what I need to make a ceviche" you are, by default, surrendering to the machine's choices, to a limited number of options, to the trade agreements the vocal assistant has made.

Added to which, we are in a situation where app stores have the power of life or death over businesses.

We at Arcep experienced this directly as a simple user. We had taken part in the development of an app that was initially refused on Apple's App Store. Why? Because the App Store didn't see what purpose it could possibly serve for users.

The story attracted media attention, and the app was eventually allowed on the App Store. But what about all those apps that are rejected without warning, without justification? To whom can their makers complain?

One interesting example is the case of apps that allow you to manage the time you spend on your phone. There was a time when some app stores refused to carry them. The apps complained publicly, and reappeared. But now that we are seeing

device manufacturers developing their own time management apps, we are viewing this story in a different light.

From the user's standpoint, it is the company selling you the device saying: I decide how you spend your time on your device. For a start-up, this behaviour can be severely damaging.

Added to which, OS providers often prevent you from installing apps that come from somewhere else. Let us simply ask the question whether an app store like F-droid is really any less safe? Why are we discouraged from installing apps off developers' sites? There are no doubt myriad legitimate reasons. But are we not allowed to have alternatives? Can we not have the choice? By the same token, why can't we have several search engines on app stores? Can it not be up to us to decide which apps we can uninstall? In other words, even for 1,000 euros, your phone doesn't really belong to you.

B. RECLAIMING OUR FREEDOM TO CHOOSE AND INNOVATE

Arcep produced a full report on the issue. We believe that very simple remedies could allow us to regain our freedom of choice.

To begin with, we need to expand net neutrality to players other than telcos, especially to devices: they are the faucets of the Internet, where networks are the pipes.

We need to expand net neutrality to players other than telcos, especially to devices.

Concretely, this would mean that users must always have the choice of which services and applications are on their device, be it the voice assistant, the browser, the search engine or any application. Of course there could be options installed by default, but with a built-in right to skip it. And there could still be exceptions, for instance rules to ensure the phone's security or to guarantee the proper functioning of the device, but it would have to be done in a transparent, non-discriminatory and proportionate way.



STEFANO QUINTARELLI

Stefano Quintarelli is a serial entrepreneur and former professor of information systems, network services and security. Founder of the first Italian Internet service provider, listed on the stock market and sold to British Telecom, he has played a pivotal role in the founding and development of the Italian internet ecosystem. An active business angel, he works as advisor to international investment funds.

He was member of the Italian Parliament in the XVII legislature, member of the Commission of Internet rights of the Chamber of Deputies, leader of the Parliamentary intergroup for Technological Innovation. He is a recurrent contributor to the Pontifical Academy of Sciences, Chairman of the steering board of the Italian Digital Agency, Expert of the High-Level Expert Group on Artificial Intelligence of the European Commission and a member of the Leadership council of the Sustainable Development Solutions Network.

Author of many articles and contributions and speaker at several conferences on digital technology, regulation and competition; his interest is the intersection between technology, regulation and markets.

A QUEST FOR COMPETITION IN DIGITAL MARKETS: THE CASE FOR DEVICE NEUTRALITY

— STEFANO QUINTARELLI

The concept of neutrality was first coined by Tim Wu in his seminal paper "*Network neutrality, Broadband discrimination*" (2003). The basic issue addressed by the paper was that those who control an essential resource through which consumer make choices, should not exert their controlling power in order to determine such users' choices, as this would have detrimental market effects and ultimately would stifle innovation. The concept of "net neutrality" policies is hence closely linked to the promotion of fair competition.

"The basic principle behind a network anti-discrimination regime" – Tim Wu wrote – "is to give users the right to use non-harmful network attachments or applications, and give innovators the corresponding freedom to supply them". He proposed an anti-discrimination principle that tried "to strike a balance: to forbid broadband operators, absent a showing of harm, from restricting what users do with their Internet connection, while giving the operator general freedom to manage bandwidth consumption and other matters of local concern."

Exceptions would be authorized when necessary to implement legal obligations and ensure network security for instance. As stated by Tim Wu, *"a total ban on network discrimination, of course is counterproductive. Rather, we need distinguish between forbidden grounds of discrimination, those that distort secondary markets, and permissible grounds, those necessary to network administration and harm to the network."*

The paper also proposed removing artificial limits on software and services use for these platforms would enhance the ability of owners of computers and smartphones to select third-party software in preference to those preferred by the original manufacturer, ... Users could additionally remove or replace manufacturer-provided software that has characteristics they do not need or want, such as privacy-invasive add-ons or programs that seek to lock users into one service (such as a particular telecom provider, or messaging or voice communication system).

This principle of ex-ante regulation described as a freedom of choice for the user (with limitations for mandatory, integrity and security reasons) would have casted its effects at the competition level, striking a balance between users' rights, operators' rights, and regulatory costs.

Limitations on network equipment software?

Tim Wu referred to network equipment's software. At the time of the writing of the paper, he could not refer to other limitations on the users' behaviors at the user device level like we know today as the vertically integrated platforms, tightly closed and controlled via the App Store, did not exist until 2008.

Back then, for users, the normal way of operation was to procure software from any source, install it on their devices and remove the software they didn't like. This was a consequence of some notable antitrust cases for bundling of applications to operating systems (e.g. media player and internet explorer) and the antitrust authorities found those behaviors anticompetitive and ruled to end that vertical integration.

But this user freedom of sourcing, installing and removing software from their devices was denied on some smartphones and limited on others.

Introducing a device neutrality principle?

While being a member of the Italian Chamber of Deputies, I proposed a bill that effectively extended the pro-competitive safeguards that we came to know as “net neutrality” principles to the user’s device introducing the “device neutrality” principle.

As for network neutrality, device neutrality is a principle expressing users’ rights that would cast its effects at the competition level, striking a balance between users’ rights, platform operators’ rights, and regulatory costs.

Under Network Neutrality principle, traffic discrimination for anti-competitive purposes could have always been pursued by Antitrust, but in difficult to prove, long and costly cases. Under the “net neutrality” principle, allowable behaviors are codified ex ante and a judicial path that is simpler and more direct than an antitrust lawsuit is introduced, while imposing that security and integrity is not affected.

All of us, when thinking about computers, think of a world in which programmers can write the programs they want, how they want, and then distribute them on the channels they prefer, giving them to whoever wants them, with the economic conditions that they decide themselves, unilaterally. The same goes for services.

Similarly, we think of software that we can acquire through any channel, from any provider, under economic conditions determined by him, and that we install (or uninstall) on any computer. However, this is also a romantic and unrealistic idea. Although this is still the case for traditional computers, it is no longer the case for most of the devices that people use to connect to the Internet. The neutrality has been violated at the device level.

An emergency to take action?

The freedom of choice and installation that computer science has known since its beginning has been interrupted with the introduction of the iPhone, which has limited the installation of software exclusively to those apps that are present on the App Store.

With the advent of Windows 10, the Microsoft terms of service guarantee the computer giant a very wide right in terms of, remotely, installation and uninstallation, of software on computers.

Of course, the catalogue of software products available for iOS (the operating system of the iPhone and iPad) is endless, but applications that do not comply with Apple standards are not allowed. Apple exercises control over all applications that are installed on its devices; it censors the content of applications in the store; it li-

mits possible selling prices to certain predetermined values and, last but not least, withholds a commission of 30% on the sale price (and since the distribution is entirely immaterial distribution, this impacts tax collection in the user's home country, with obvious fiscal effects).

This state of affairs cannot be circumvented by installing an "alternative store", because it should first be installed through the App Store; and it is not possible to find an "alternative store app" in the App Store because Apple's rules obviously prevent it. It is also not possible to install an alternative store in another way, because the iOS platform allows installation to happen through the App Store. In order to install alternative software, this technical protection must be removed using a very complex process called jailbreak. The process of "breaking this jail" is contractually prohibited by the iOS operating system's Terms and conditions.

Courts have found some users guilty of violating intellectual property protection rules by applying a jailbreak to their device to allow them to install the software of their choice. Intellectual property protection rules, such as copyright (created to protect the authors of cultural products) are used in this field to ensure the closure of a system. In this way, traditional freedoms of users are denied, competition is penalized on a crucial part of the software (the stores), and content and usable apps are limited. As a programmer, do you want these contents/services to be accessible? Then you have to sell them through Apple.

The right to install any software that used to exist has now been taken away from users and programmers. This same right has instead helped consolidating, in a very short period of time, new oligopolistic positions in the digital dimension, which, in the meantime, has become the main user interface for economic and social relationships.

Hardware manufacturers, from enablers, have benefited from a lack of pro-competitive and pro-user regulation to become very quickly intermediaries who hold the control of the user experience in their hands. And this goes much further than what you would accept in other areas.

Imagine you live in a big condo whose doorman decides who gets in, gets a fee of 30% on new entrants and if these new entrants are of any particular interest for you. You would never admit such behaviors except for security reasoned or for some good reasons that would be given to you and that you could contest. Otherwise you would consider your home as not being yours but under the control of the doorman. And you would be right. Your home, in reality, is yours only to the extent that the rules established by the doorman allow. As time goes by, our devices become for all of us the main user interface of the world. But we don't "own" them.

Conclusion

It is a consolidated fact that the Internet is the instrument of expression and economic activity that has recorded the highest rate of development in the history of humanity. This has been made possible to a significant extent by its basic principle of operation, which allows each user to reach every other user with their communications, without any interference from third parties.

The idea of "neutrality" is that those who govern access to a resource cannot use their power to intervene in consumer choices, altering or limiting them. This is now consolidated for the network, also defined in European rules. But it is not yet so for the hardware devices, the tools with which we inform ourselves and maintain social and economic relations (which previously we did in a material way by moving atoms around).

In an interview on Glixel, Tim Sweeney, the founder of Epic Games who, among other, develops the hugely popular Fortnite game, said:

"There's a lot going on that's wrong. Apple has a monopoly on iOS hardware. That's fine. But they shouldn't be able to tie that market to a monopoly on distributing software, on collecting in-app revenue from software. I should be able to go to a web page and download a new Epic game to my phone without Apple's approval. I should be able to use Confederate flags, if that was our design choice, in our product." ¹

This point about "confederated flag" is a reference to the very strict publishing guidelines that all developers who want to distribute their app to Apple devices via the App store, must abide.

"All these hardware companies - Google does that. Microsoft is trying to do it with the Windows Store. They're in the early stages. There should be laws and principles against that. All these platforms should have to be open. If the platform maker wants to provide their own store, they can do that. They can curate it, censor it all they want. But it cannot be the only store. That is not an acceptable outcome in a democracy." ²

¹ <https://urlz.fr/aaPh>

² <https://urlz.fr/aaPh>

III. DATA AS COMMON GOOD

Data sharing can also be an interesting remedy. It can help to better serve the general interest. If we think of transportation and city management, Waze data becomes very interesting. Think of public health, and the data we provide to a vast array of services become even more interesting. After all, data collected by Big Tech often come from the crowd, meaning you and me. So why to keep them locked in a silo, for the exclusive use of the concerned companies? Crowdsourced data should belong to the many!

| *Crowdsourced data should belong to the many!*

Data sharing mechanisms could also be used for competitive purpose. Economists have shown³ that, in data-driven markets, data sharing would allow us to regain our capacity to innovate: “Data sharing (voluntary, or not) eliminates the mechanism causing data-driven markets to tip.”

This is no small issue: it would amount to protecting the innovation economy and ensuring that innovation is not the sole dominion of a small handful of people. This is why the idea is catching on more and more. One of Germany’s main political party’s actually made it part of their platform for the EU elections.

This raises a number of practical questions, of course. But we believe it is an avenue worth exploring. And many are currently exploring it. Which is a good thing as, with the use of AI and machine learning, the data owned by a small handful of players are becoming ever more crucial.

This type of solution would apply to data other than personal data. They would be aggregated and anonymised. Data sharing does not interfere with data protection as they are each pursuing different goals.

³ <https://prufer.net/2018/07/02/mandated-data-sharing-in-data-driven-markets/>



JUDITH ROCHFELD

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Judith Rochfeld has published numerous articles and books in civil and Digital Law (data, identity, e-commerce) and related to common goods, including the book on Civil Law *Les grandes notions du droit privé* (PUF, 2013) and, with Valérie-Laure Benabou, *A qui profite le clic ? Le partage de la valeur à l'ère numérique* (Odile Jacob, 2015). She has co-edited, with Marie Cornu et Fabienne Orsi, le *Dictionnaire des biens communs* (PUF 2017) and has just published *Justice pour le climat. Les nouvelles formes de mobilisations citoyennes* (Odile Jacob, 2019).

SHARING DATA: WHICH MODELS?

— JUDITH ROCHFELD

From France to the United States via the European institutions, the United Kingdom and even the Netherlands, a consensus exists based around a two-fold observation. First, we are currently witnessing the ground-breaking phenomenon of the concentration of data in the hands of Big Tech. Second, this accumulation plays a role in creating significant barriers to the entry of markets occupied by these companies, thereby serving to harm innovation.¹

The current concentration presents major risks for the pluralism of information and content that we enjoy and which we have access to via these sole ports of access (Cambridge Analytica, the filter bubble, hierarchical indexing according to private algorithms, etc.).

¹ See, for example, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2927018

Why has this concentration occurred? The reason is that, due to the remarkable quality of their services, we love to frequent their various sites and applications and we are constantly drawn back to them, leaving behind a multitude of traces which allow these giants to find out everything about our tastes and behaviours and to transform them into huge reservoirs of data, segmentation and predictability, providing a multitude of opportunities for recommendations, targeted marketing, etc. This knowledge of us and this accumulated data consolidate the power of Big Tech in equal measure as they contribute to the improvement of their services and render us captive to them, as well as everyone around us (network effects).

But how do we tackle this situation? The aim is not to deprive ourselves of these extraordinary services. Like Sébastien Soriano or Viktor Mayer-Schönberger and Thomas Range, we do not believe that dismantling is a solution: *"killing today's digital superstars would simply generate opportunities for new ones to emerge"* ²; nor that depriving ourselves of the benefits collectively deriving from the size of these companies, in terms of capacity of financing, research, vertical integration or innovation, is any better.

On the other hand, in order not to let this situation continue, data sharing is increasingly emerging as one of the solutions that could be offered: in fact, it is proving to be a necessity. However, we must immediately point out that the expression "data sharing" covers very different scenarios depending on the data concerned, the recipients and the end purposes in question.

Firstly, in terms of the data concerned: public data constitutes data from public entities which is shared ("public data openness", a concept which is already being implemented on the ground); private data is data which is accumulated by the big key players in Tech, who should be asked to make the data interoperable or even to allow access to other parties; non-identifiable data or, conversely, personal data subject to the famous GDPR (with, in this case, the specific problems of respecting the rights and liberties of the persons concerned in the circulation of the data). With regard to the recipients, again the sharing could be carried out with private entities, public entities, between private entities, etc. And lastly, with regard to the end purposes: the aim could be to free up innovation, competition and entrepreneurial capability; or the importance of reviving pluralism of information and content could also be considered. It is therefore a matter of reversing the situation whereby these big platforms have become the sole recipients of data, skilfully carrying out their hierarchisation based on algorithms of various kinds (commercial, persuasion, etc.).

Nevertheless, while the aim is clear to see, the form that this sharing must take may be difficult to imagine and enforce.

² Viktor Mayer-Schönberger, A Big Choice for Big Tech: Share Data or Suffer the Consequences, Foreign Affairs, September/October 2018

However, advances have already been made in certain sectors, which inspiration can be drawn from. For instance, French and European law have made “public” data openness compulsory (including data generated during the performance of public service delegation contracts and the use of subsidies, as well as company data transmitted for statistical purposes³). Measures are also being adopted in more specific domains. In addition to the measures existing in banking on a European scale, the new French law on mobility sets out provisions on the sharing of transport data, while the Delegated Regulation of 2017 organises the accessibility and reuse of static and dynamic data “on travel and traffic” in order to improve passenger information. On the basis of these experiences, what are the models that could be introduced?

A first line of approach would be to consider data as essential infrastructures, or even to think along the lines of essential patents in order to provide access to other parties. The joint report of the French and German competition authorities of 10 May 2016 takes this approach (not excluding personal data, provided that access to this type of data is compliant with the GDPR). The application of these theories would obviously be subject to the essential nature of the data. The data must be vital for the exercise of a specific, unique activity, i.e. non-reproducible for a cost and within reasonable time limits nor able to be substituted with an alternative set of data. Subject to these conditions and on this basis, dominant companies would have to enter into licence agreements to the benefit of requesting parties in return for a remuneration that is “reasonable and proportionate to the legitimate costs incurred for the supply and dissemination of the relevant data”. It could also be considered that this is the logic at work in the aforementioned law on mobility, the data in question being data on “travel and traffic”⁴. These agreements would also restrict “the possibilities of reuse as little as possible” (law on mobility again). In keeping with the “*progressive data-sharing mandate*” supported by Mayer-Schönberger and Range, such measures could also be implemented in proportion to the market share of the company in question: the bigger the market share, the greater the quantity of data that it would have to share. This would potentially affect all companies with a 10% market share.

Undoubtedly, the difficulties of this first line of approach cannot be ignored. The implementation of such measures would necessitate, firstly, the mobilisation of substantial resources by the competition and data protection authorities and also the courts⁵. Secondly, the data that must be shared would have to be defined, along with the conditions of the sharing. It is fitting here to mention one of the recommendations of Laurent Cytermann for whom the role of regulator would be significant (unlike Mayer-Schönberger and Range, for whom the role should be limited to the identification of the market shares and, where appropriate, enforcing the order to share). Lastly, unless an agreement is reached at the European level, such measures would

³ Law no. 2016-1321 of 7 October 2016 for a Digital Republic, Articles 17 et seq.

⁴ Article 8 of the Delegated Regulation of 2017.

⁵ Trans Europe Experts, “Adaptation of the rules of competition and economic regulation”, Response to the consultation organised in the context of the Convention on the new digital regulations, objective 4.

only be binding on companies based on national territory. As Laurent Cytermann claims, the e-Commerce Directive, as it stands, actually appears to prohibit imposing the obligation to share data on a company based outside the national borders: the European Commission would tend to consider that sharing affects the activity of the companies concerned. We can only therefore appeal for any legislative action in the matter to be taken at the European level.

A second line of approach, particularly pertinent for markets not yet foreclosed by the major players (connected cars, smart cities, etc.), would consist of setting up a “neutral server”, managed by an independent third party and bringing together pools of categories of data collected from professionals, said pools being made available to operators which wish to gain access to them in accordance with a harmonised architecture and format and secure circulation. This would require Big Tech to make their data packages available, would enable competitive balance to be ensured and the non-discriminatory nature of data access to be guaranteed: all players could access the same data according to the same terms and conditions; any innovators, in particular the smallest ones, would be able to access data which they would have had difficulty accessing on a contractual basis (B2B sharing).⁶

It is even possible to imagine collective and multi-stakeholder governance of this server and the data pools involved. Organisational steering is again implicit for transport data, for which sharing is organised by law, in accordance with principles, and is implemented via national access points, with ARAFER being appointed with the power to settle disputes. In the same line of thinking, consideration is being given to data which will be generated in massive quantities by connected cars: this may give rise to multiple service proposals (relating to the wear and tear of tyres, driving, etc.) and the organisation of a neutral platform of data pools is proposed.

However, what are the limits that must be placed on this? Laurent Cytermann has plotted out several limits, which can also be identified in the aforementioned Law on Mobility⁷. Firstly, the entrepreneurial freedom of the major players should be preserved, in particular by not depriving the company that is required to share data from using its own data. The same should hold true for business confidentiality: “in sharing, the absence of threat to industrial and business confidentiality (a company should not be forced to communicate data that harms this confidentiality)” must be guaranteed. Lastly, a calling for remuneration for sharing can be added to the mix (or “the absence of compulsory non-remuneration for exchanges”).

On the other hand, the firm rejection of data ownership (at least for personal data) would not be an obstacle: recognising the distribution of usages of data does not presume the link of the data in question to the person to whom it originally related.

⁶ Clément Emine, “Data openness and personal data protection: the example of the connected vehicle”, Master’s dissertation “Digital economy and e-commerce law”, 2019.

⁷ Laurent Cytermann, The sharing of data, an issue of general interest in the era of artificial intelligence, Law and European Affairs, 2018/1, pp. 65 et seq.

Ultimately, we must lobby, firstly and for the contracts set up around dominant key players, for an understanding of the data as essential infrastructures by the national monitoring authorities and the European institutions. Secondly, for contracts not yet set up around these types of key players, we must push for the establishment of “neutral servers” at the European level. Pursuant to the first drafts of the work programme of the next European term of office, such evolutions could arise in the Digital Service Act. In drafting the outlines, the Commission will not be starting from scratch. The work carried out at the European level or in the Member States will be useful for the creation of a new European roadmap.

IV. API-DRIVEN REGULATION

Still with the aim of redistributing the power of the few prevailing platforms, further remedies can also be envisaged. Today, it is the Big Tech companies themselves that decide whether other developers can log on to contribute or collect data from their platforms. They have complete freedom over API (application programming interface) development, and so over other platforms' and services' right to interconnect with them. And there is a long history of services like Google Maps making a radical change to their APIs and so having a major impact on the ecosystem that relies on them.

| *Recognise start-ups' right to interconnect with Big Tech.*

My fourth proposal is to recognize start-ups' right to interconnect with Big Tech. This right would not be absolute, of course, notably for the protection of users themselves. We need only think to the Cambridge Analytica scandal. But let me give you two examples where such a right could really make sense.

A. MULTI-HOMING AND INTEROPERABILITY

One of the Internet's greatest riches lies in the range of services it lays at our doorstep. We all have multiple messaging services on our phones, for instance. We hang out on a variety of social media sites. As a result of which, we live in a multihoming world. This world brings diversity, but is also more complex to manage.

For companies, this makes things even trickier. Take a restaurant owner or a driver, for instance. Their ability to be on several platforms at once is materially and contractually limited. Which creates strong ties of allegiance with the platform they are on. Rather than doing away with relations of domination, we are merely creating new ones.

| *Open their interfaces to other comparable services in order to make them interoperable.*

One use case of API-driven regulation would be to require platforms to open their interfaces to other comparable services in order to make them interoperable, or at the very least to facilitate users' ability to multi-home. This could mean that a per-

son using one service could communicate with people using a different service. Interoperability is the best way to deal with network effects. It prevents power being concentrated in the hands of a single player, by distributing it between competitors and users. This is, after all, the central idea behind the Internet's architecture. This is also the cornerstone of telecom rules. Without it, a Sprint subscriber wouldn't be able to call an AT&T subscriber. Thanks to interoperability, outsiders could have access to customers or resources hosted by an incumbent platform, and so develop their business much more easily and quickly.

Of course, we would need to be careful not to hinder any one service's ability to innovate. We could thus think of this in terms of strata: we would have shared and interoperable, common communication building blocks, and each platform offering users its own set of benefits.

Interoperability could also give users real control over their data. In Europe, we have the General Data Protection Regulation (GDPR), which introduces the right for anybody to obtain a copy of their personal data from any digital company. In future, combined with interoperability, this could allow you to transfer your data directly from one service to another or to operate different services using self-hosted data.

B. THE RIGHT TO BE REPRESENTED BY A BOT

In a Ted Talk, Albert Wenger of Union Square Venture put forth the idea of being represented by a bot. He explains that this bot would be a software programme that contains information on how we want to interact with platforms. For this to happen, platforms would need to open APIs to the bots in question.

I personally see it as a digital ID card that would contain all of our consents, the information we agree to share, the type of services we agree to use, the platforms on which we want to share our content, etc.

Our relationship to platforms would be flipped: it would be up to the platforms to seek out the content that we have agreed to publish on those platforms.

We would have complete control over all of it. We would decide which platforms we want to interface with. We would be the keepers of our data and managers of our choices. While the platforms would have to allow us to interface with them. This would breathe new life into innovation, as new platforms would not be hamstrung by the behaviour of existing ones.

Lastly, as Albert Wenger said so well, our relationship to platforms would be flipped: it would be up to the platforms to seek out the content that we have agreed to publish on those platforms. This reversal of perspective is important. They would come to us; we would not go to them.

In other words, it is a complete reversal of the relationship of sovereignty. And this is exactly what we need to see across the board: redistributing power to the people.



MEHDI MEDJAOUI

Mehdi Medjaoui is a software entrepreneur, European commission expert, API industry conference organizer, book author, consultant and international lecturer about the programmable Economy. He is the founder of ALIAS, a company helping users to get back their data, visualize them, manage them and self-monetize them via a compliant GDPR token.

Previously, Mehdi Medjaoui has founded *APIdays* conferences, a major series of conferences on business and technology as regards the API economy. It is held in 9 countries and the main edition attract 3,000 practitioners every December in Paris. He has also been the co-founder of *OAuth.io*, an identity API company for developers, that has been acquired in 2017 by a Japanese/American software vendor.

Since the last two years, Mehdi Medjaoui is an invited professor at HEC MBA for a mandatory class about "Entrepreneurship with Deeptechs" and European Commission Horizon 2020 expert on Government sector and Public APIs. As an API Economist for large software vendor, he has co-authored *Continuous API management* (O'Reilly, 2018). He is also the founder and president of The Maintainers.

THE TITANS OF A NATION: REVERSING OUR RELATIONSHIP WITH THE BIG TECH PLATFORMS

— MEHDI MEDJAOUI

A century after the dismantling of Standard Oil¹ and in a world where data is the new oil², how can we replace the Big Five of Tech that now hold the monopoly? To what extent can these companies' models be decentralised and what technical means can be used to this end? In other words, how can a company with a silo mentality be transformed into a company with a culture of peers?

¹ https://en.wikipedia.org/wiki/Standard_Oil

² <https://www.economist.com/leaders/2017/05/06/the-worlds-most-valuable-resource-is-no-longer-oil-but-data>

To publish is to exist: transitioning from an *on-demand* to an *in-demand* economy

Digital platforms are based on the principle of information asymmetry which allows them, as shown by the economics Nobel prize-winners *Aberkov*, *Spence* and *Stiglitz*³, to acquire greater value than others on the market. By capturing the attention of large numbers of users in this way⁴, they are in control of the information relating to demand and thus position themselves as intermediaries with their offers. For example, a platform such as Uber monitors the demand of users, knows where they are, where they want to go, and at the same time knows the number of drivers available, the traffic, the most congested areas, etc. Uber has a full understanding of the level of demand and acts as the intermediary for drivers who obtain their clients exclusively via Uber's centralised application and must relinquish 25% commission on the final price of the fare in exchange for the service provided.

If, in the future, we move to an in-demand economy, where buyers declare their intentions⁵, needs and budgets on the market, and suppliers offer to meet them without an intermediary platform, an Uber customer would then be in a position to ask: "I have €12 and I want to go from the centre of Paris to the north of the city. What driver can take me?" In this scenario, all drivers can simultaneously bid against each other and/or respond to demand on the network without being controlled by any platform. This would transform the whole relationship with platforms and would create a beneficial effect on the market. The price would no longer be decided by the platform but would be based on actual supply and demand, and would no longer be subject to the 25% commission that Uber takes between supply and demand.

Decentralisation cuts out the platforms in their capacity as middlemen. Following the example of the initial success of the Web, we need an *economy of publication*. When the Web burst onto the scene, each network user was free to easily publish webpages and to navigate from page to page via all the hypertext links, which were all discoverable due to the open protocols designed for such purpose. Let's consider the example of social networks. We publish our data on Facebook and its closed network because the platform ensures *discoverability*. The Californian company thus monopolises our data in exchange for a free service, analyses it and makes it available to advertisers via its advertising sales house, using an asymmetrical model. If we had the means to easily post our photos or messages without using platforms but by directly publishing on the open network, Facebook would then be dependent on our willingness to share our data and we would retain usufruct with third-party applications.

³ https://en.wikipedia.org/wiki/Information_asymmetry

⁵ <https://www.linuxjournal.com/content/intention-economy>

⁴ <https://www.press.uchicago.edu/Misc/Chicago/468828.html>

APIs as a lever of the *great replacement*

To publish something means to make it public so that it becomes *discoverable*. To avoid monopolisation by platforms, users must be given back the technical means of *publication*, just as in the era of the Web, so that users can make their contributions more accessible. In this digital age with its programmable economy, data is *published* via interfaces called APIs (Application Programming Interfaces⁶). These are programming interfaces which allow software to communicate with other software in an automated, programmable manner.

APIs therefore allow an application to recover or send data to another application. For example, the “*Connect With Facebook*” button allows an application to recover a user’s data from Facebook with the user’s consent. The application does not therefore have to ask for the surname, first name, date of birth and list of friends etc., as it directly recovers them via its API. Having the choice of whether to give or not give a third-party application the right to access our data is a mighty power. However, when we provide our data to Facebook, we attribute this right to them and this concentration of value contributes greatly to the creation of the de facto monopolies which platforms have become.

There are two possible solutions for turning the situation around: either a *top-down* solution which requires platforms to ensure API neutrality⁷, which has the advantage of creating a strong impact in a short time without actually reversing the existing business models, or a *bottom-up* solution which facilitates users’ right to be represented by an API, which, while taking longer to put in place and having to cover more ground, gives all the power back to the user.

API neutrality

API neutrality⁸ requires platforms to allow indiscriminate access to their APIs with user data. Any third-party application, therefore, even a competing one, would be entitled to access the data if it had the user’s consent. In the past these platforms prevented many start-ups from accessing their APIs as they had a competing business model, to the detriment of the choice of the user, and this is where the issue of neutrality arises.

The first industry to be bound by API neutrality will be the banking industry. Indeed, as of September 2019, all European banks will be bound by the PSD2 European regulations⁹ to indiscriminately provide access to their APIs to any registered company which requests this on behalf of a user. This is a major reshuffle: any start-up – even

⁶ https://en.wikipedia.org/wiki/Application_programming_interface

⁸ <https://readwrite.com/2017/09/02/making-the-case-for-api-neutrality-pl1/>

⁷ <https://api500.tumblr.com/post/31465739810/what-is-api-neutrality>

a competing bank – will be able to request the complete import of a client's account data. It would simply be a matter therefore of extending this requirement of API neutrality to the Big Five.

The other solution, derived from the Collin and Colin report¹⁰, would be to levy digital VAT on companies which do not redistribute the data via open APIs. The company would pay a digital value added tax on the data only if it is the last consumer of this data. If the company redistributes it to others via open APIs, it would be exempt from this tax.

APIs for all

The other solution, a decentralised one, is the right as an individual to be represented by an API. As Albert Wenger says, this software interface would be our algorithmic representation in the digital world and would manage our contractual interactions with platforms. This would position the individual at the centre with total control and power.

Personal data would stay with users and platforms would have to consult their APIs, requesting access to users' data¹¹. This would resemble a sort of Dropbox, hosted by us or hosted on a domain owned by us, with data readable by humans and software robots. Depending on our predefined choices, applications would or would not have the right to gain full or partial access. And if we share data, we retain control as we can revoke access to it at any time. This is notably the project of Tim Berners Lee, inventor of the World Wide Web, with his SOLID project¹², and the projects of the Indieweb¹³ and Mydata¹⁴ communities.

But in this case, how do we retrieve and manage the data?

Using the GDPR lever as the legal basis *for the overhaul of the data landscape*

All of our clicks, comments, photos, book or restaurant reviews, in short all of our interactions with digital platforms, constitute digital labour. This data represents flows that are accumulated and stored as *digital capital* by platforms¹⁵; it has created incredible levels of value for them.

⁹ https://ec.europa.eu/info/law/payment-services-psd-2-directive-eu-2015-2366_en

¹⁰ https://www.economie.gouv.fr/files/rapport-fiscale-lite-du-numerique_2013.pdf

¹¹ <https://continuations.com/post/172413445510/we-need-mandatory-enduser-apis-for-social-and>

¹² <https://solid.mit.edu/>

¹³ <https://indieweb.org/>

¹⁴ <https://mydata.org/>

These platforms have accumulated this data over many years, but Article 20 of the GDPR will see a major shakeup of the status quo. Each user will have the right to portability of data, i.e. to reimport it in order to share it with other platforms, thus feeding them with data and enabling them to provide an equivalent level of service to the Big Five. In essence, reimporting and reinvesting one's *digital capital* to *data-fund* other key players.

Imagine a user who has retrieved all of their past purchases and requests made on Amazon in their private data storage facility, made available via their *personal* API. A company such as *Fnac.com* could request access to the user's API to recommend better products to them, thereby gaining ground on Amazon's *big data*. This would create a new power balance in favour of users, who would decide which platform they want to give information to, and in return for what experience.

On the condition that this right is accessible to all.

Popularising, Automating, Tokenising and “APling” the GDPR

The implementation of the GDPR has not been accompanied by the technical means to apply it. Nevertheless, a new generation of tools is emerging to manage the relationship between platforms and users in a programmable manner via open and decentralised APIs. These tools enable:

- Automation of the GDPR¹⁶, whereby users are able to automatically exercise their access rights to data or to portability (Article 20.1). Requests for data portability are sent regularly and automatically by email or post to the Data Protection Officer of every company for users to recover their personal data.
- APling data deriving from the GDPR¹⁷. This is where unified interfaces are created for developers so that they can easily understand and integrate these APIs in their applications, which are as well created and as easy to integrate as the best APIs on the market, with an attractive developer experience, in order to access users' data. These APIs must be used by applications but also by platforms such as Facebook, Google and others to integrate users' data.
- Tokenising the GDPR¹⁸, which consists of producing an authorisation token from any interaction or exchange of data between a user and a platform. This token contains an official GDPR contract, which is cryptographically secure and legally enforceable. It is necessary for users in order to monitor the accessing and revocation of their data by platforms.

¹⁵ https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3093683

¹⁶ <https://www.datarequests.org/>

¹⁷ <https://blog.octo.com/concevoir-une-api-rest-conforme-au-rgpd/>

¹⁸ <https://github.com/progressive-identity/ref>

Relationships between platforms and users are usually created by simple permission tokens, which are merely a randomly generated character string with no intelligent information inside (such as in Google or Facebook Connect which use the OAuth2.0 authorisation protocol). In our case, each permission token is an intelligent token which contains a real GDPR contract, with all necessary legal notices such as:

- The uses of the data in the context of the contract
- The uses of the data in the context of the consent
- The recipients of the data

In the event that these contracts are public, it is then easy to check them to find out whether a platform has legally had access or not to the data. Users are able to see which contracts and permissions are active via a simple decentralised interface and are also able to revoke them in a single click.

The first case of usage? Personal assistants

VoiceLabs, a collaboration set up by Karel Bourgois, brings together voice technology companies to create data sets that are open and accessible to searches in the French language. The collaboration invites users to exercise their right to GDPR portability in the face of the Big Five, which own the principal voice applications such as SIRI, Google Now, Alexa and Cortana. In this way, users can export a copy of their voice data, and give access to it to facilitate VoiceLabs searches, thus allowing healthier competition with the Big Five.

“We only destroy what we replace”¹⁹ said Danton

Replace the Big Five? If only it were that simple. Those who have tried to replace the existing platforms in a decentralised way have often failed in their attempts. This is because decentralisation is not an end in itself: its cost on the user experience must be offset by its beneficial effects. Will users accept having to install programmes on their computers for each usage? Or paying for hosting and bandwidth? Will they understand how to use a private key? And what benefits will they seek in return? All of these questions must be answered if we truly want to revolutionise our relationship with platforms and keep the individual at the centre of the agenda.

¹⁹ <https://urlz.fr/asfN>

CONCLUSION

As it stands today, we can penalise and play sheriff, but this is not what we need. We cannot continue to function the way we did last century, using only policing tools. We need to think differently. We need to think like the Internet, the instrument of our emancipation. To this end, I'd like to refer to Yochai Benkler, the author of "the Wealth of Networks"⁵. Recently, in an interview⁶ he gave to a French magazine, he sketched out a very sound exit strategy from the current balance of power. Yochai Benkler says that, "we need to play three-dimensional chess, like on Star Trek". Which means "we need to be rooted in all three dimensions: government, the market and the commons". The solution is not one or two-dimensional. It is three-dimensional.

This means that government needs to accept that it cannot control everything. We cannot govern the Internet, a decentralised network, in a centralised fashion.

| *It is we, as individuals, who are the wealth of the Internet.*

To meet our objectives, we need to find our footing in the wealth of the network, starting with the fact that the Internet's wealth is located at its extremities. It is we, as individuals, who are the wealth of the Internet. And it is we, the people, the businesses, the commons, who need to mobilise or be mobilised to achieve the goals we have set for ourselves.

For this to happen, the State must serve as the guardian of openness, and nothing more. It needs to allow, to act as an enabler and reduce its restriction and penalty-based involvement to a bare minimum. But enabling does not equal abdication. I'm sure you've understood by now that the idea is not to leave people at the mercy of big corporations nor to give back control to the State. I would especially like to insist on the fact that my proposals are not rooted in "soft laws". As far as I'm concerned, the distinction between soft law and hard law is no longer relevant. This is not a question of balance of power between the market and governmental bodies. API regulation and data sharing, to name but a few, are not likely to happen on their own! If we want to empower the many, we still need a few well targeted, coercive measures.

| *If we want to empower the many,
we still need a few well targeted, coercive measures.*

⁵ https://cyber.harvard.edu/wealth_of_networks/Main_Page

⁶ <https://usbeketrica.com/article/a-l-ere-post-snowden-on-ne-peut-plus-se-voiler-la-face>

The ultimate aim of my proposals is to empower the people, start-ups, civil society—not the State. But to achieve this, we still need regulation. A new breed of regulation, designed to redistribute power to the many. A rallying cry for the ages, and why I call my proposal: “Robin Hood regulation”.

DIGITAL NEW DEAL

THE NEW DEAL THINK TANK

The aim of the Digital New Deal think tank is to shed as much light as possible on the developments at work within the phenomenon of “digitalisation” (in the widest sense of the word) and to develop concrete courses of action for French and European companies and decision-makers. With the expertise of the various contributors and their insertion in the public debate, the work of the think tank will be able to play a part in the development of a French and European understanding of digital regulation supporting the implementation of a balanced and sustainable framework.

The Board of Directors

The members of the Digital New Deal Board of Directors are all founding members. They come from various backgrounds while having direct contact with the digital transformation of companies and organisations. Given their shared interest in digital issues, they decided to deepen their debate by creating a formal framework for production and publication within which they can dedicate their complementary experience to serve public and political debate. They're personally involved in the life of Digital New Deal.

An executive officer (Arno Pons) is responsible for strategic steering with the founding chairman (Olivier Sichel) and supervises a project manager (Louis Magnes), that coordinates all the think tank's activities.

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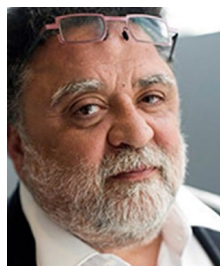
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